Sociological Landscape
Theories, Realities and Trends

Edited by Dennis Erasga

SOCIOLOGICAL LANDSCAPE – THEORIES, REALITIES AND TRENDS

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Meet the editor

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Contents

Preface

Sociology is a curious discipline. Its objects of attention are both the taken-for-granted and the exceptional. It looks at the *everyday experience* and the *extraordinary events* as problematic; suffused with simultaneous and conflicting yet flourishing negotiations. Moved by this insight Peter Berger opened up his famed book with this poignant statement: "It can be said that the first wisdom of sociology is this: things are not what they seem…. Social reality turns out to have many layers of meaning. The discovery of each new layer changes the perception of the whole."[1] Thus, the sociological perspective exposes these layers and people who possess such outlook become competent social actors as they can navigate the social world with less friction and create sociological possibilities when there seems none.

From the title one can charge that the present volume is rather an unusual attempt to introduce sociology not as an academic field, but a form of *visuality*. As a visuality, the idea of a landscape as an analogy came into my mind. A landscape is a terrain which can be imagined (for those who have not seen the place they wish to visit), and upon arrival, the visitors actually see and feel the three-dimensional presence of the place-its many sights, sounds, and smell. The flux of such sensory experience generates a unique set of knowledge that may become a permanent fixture each time that person visits the place and even everytime the place comes to mind- a sort of mental *post it*. Visuality is a powerful *modus operandi* because it can be a frame of mind and a form of consciousness that generates practical actions.

The corpus of chapter essays collected in the present volume represents the kind of visuality just described. In their own capacity, they provide the flavor of feelings *albeit* textual that color the way readers view and feel sociology. This concern is particularly significant bearing in mind that some of the potential readers have neither formal nor deep encounter with the discipline or its subfields (e.g. economic sociology, historical sociology, environmental sociology etc). Each essay gazes on a specific terrain and from there either imagines it, traverses it, or explores its boundaries expecting to see what is there or what else lies beyond. In any case, each topic is unique in itself, but

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[1] *Invitation to Sociology* by Peter Berger. 1963. Bantam Doubleday Dell.

despite such uniqueness, each contributes to a general appreciation of what the sociological perspective has to offer.

The chapter essays are arranged in terms of their thematic orientation. There is, however, no rigid criterion applied in arranging the sequence of chapter essays per theme. After all, arbitrariness characterizes the choices we make all the time. The themes reflect the nuances suggested by the title of the book: sociology is a landscape that can be *imagined* (theories), a landscape that can be *experienced* (realities), and a landscape that can be *recreated* (trend). The demarcation, however, remains porous in view of the overall objective of the volume - to mine the essays with social knowledge (be it theoretical or empirical) necessary for sociological reflections. Thus, chapters with more theoretical bent are put under the theory section; chapters with methodological penchant and empirical findings are subsumed in the remaining two sections. Clearly, the idea behind the book is more than "peeling the layers" of the social as envisioned by Berger; the aim is to understand *what holds* these layers together and see how the whole looks anew given the fresh knowledge acquired.

Caveats on the prose of the chapter essays and chapter arrangement are in order:

In the tradition of edited books, authors weaved their narratives in a variety of ways, thus giving their pieces different scales of technicality and jargons. Their writing styles are product of any or all of the following: specific fields of interests, research experience, and translation nuances. Each field has its own set of distinctive jargons; more mature researchers are quite skilled in the art words economy and in organizing/developing arguments; while the translation process may inadvertently lose something vital along the way. Intriguing as it might sound- readers may have to fine-tune their reading styles accordingly. Suffice it to say, it is a hallmark of scholars to oscillate within different levels of difficulty and abstractness without losing sight of the goal in mind.

Lastly, although the chapter essays are self-contained and each one can be read as stand-alone, there are *promising areas of commonality* that hold them together. These "common areas"- so to speak- are something that book editor can neither prescribed nor dictate to the reader. Book editors, given the materials to work on before them, can arrange the chapters into arbitrary sections using their interpretation of the book objectives as the organizing yardstick. In the end, it is the readers who, stirred by their own epistemic leanings, theoretical orientations and research requirements, create their own *menu* (or set) of chapters. Using Berger's "layers" and "whole" analogies, the book is judged successful in its intention if its readers are able to *unpack the layers* and in doing so, *construct a new whole* that suits their purposes.

Lest I forget, I would like to offer my heartfelt thanks to two special individuals from InTech: Ms Ana Pantar (*Editor Relations Consultant*) and Ivana Zec (*Publishing Process Manager*) for giving me the opportunity to participate in this rewarding experience. A

special note of gratitude is also extended to each of the chapter author who had to bear a very heavy burden of revisiting their manuscripts, not once, but many times with each visit not only an intellectual challenge, but a test of patience.

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Part 1

Theories

Biopolitics:
Biodiversity as Discourse of Claims

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1. Introduction

My research interest with biodiversity as a discursive phenomenon dates back in 1996 when I was working as a Junior Sociologist at the International Rice Research Institute (IRRI). I was involved with the Institute's flagship project on rice biodiversity- a multi-country component project interested in documenting the cultural dimension of rice genetic conservation at the community and farm levels. I was puzzled by the seemingly oxymoronic juxtaposition of rice and biodiversity. Soon, I discovered that my initial notion of biodiversity is as limited as my understanding of its origin as a concept.

When I was invited to write a paper about biodiversity for this volume, I was tempted to organize my key arguments around the politics of biodiversity (as it has been the original line of inquiry of my previous academic work on the topic). My reason was that the concept has been given birth by political claims of conservation biologists and evolved, henceforth as a form of political activism involving new sets of interest groups. However as an environmental sociologist who has been intrigued by the discursive nature of political claims, I decided to use a title that truly reflects the tricky nature this notion. Tricky because the conventional notion led many of us to believe that the politics of biodiversity was inaugurated by the way it has been used by the international community to promote common economic and political ethos (e.g., Convention on Biological Diversity). I disagree. My position was that the politics of this concept goes as far back as to the very day of its coinage. Tracing the genealogy of biodiversity as a discursive claim is a more strategic and encompassing way of reframing the issues it implicates. Phrased differently, it is my position that the discussion of the biography of the concept we call biodiversity is to highlight not only the politics that goes with it, but to call attention to the sociological relevance surrounding its current usage. Thus the thesis of my chapter is twofold: I submit that:

i. Biodiversity is a politically charged concept as *its birth is politically instigated;*
ii. Biodiversity is a politically charged concept as *it is invoked to further political agenda.*

In order to amplify the major thesis of the chapter, I divided the discussion in two major parts. Part 1 elaborated on the scientific context that led to the naming of this concept. Part 2 highlighted the power play that goes with its current usage. Respectively, the former tackled the genealogy of biodiversity; its birth as a social construction to justify a call for collective

action; while the latter documented how biodiversity as a political *tool* has been appropriated by and forms part of, the discursive armory of three grassroots epistemic communities[1] as they advanced their respective political agenda.

2. Genealogy: The birth of biodiversity

Before 1986 the term "*biological diversity*" or "biodiversity" is non- existent. This word was invented by a group of American conservation biologists in the conference "The National Forum on *BioDiversity*" held in Washington D.C. in 1986. Walter Rosen (who probably coined the term) organized the gathering with the support of Edward Wilson. The activity was under the joint auspices of the National Academy of Sciences and the Smithsonian Institute. The group felt that a new catchword was needed to promote nature conservation and to make people aware of the lurking dangers of species extinction. The neologism apparently was created to replace several other terms, viz. ecosystem, endangered species, natural variety, habitat and even wilderness, that had been in circulation in promoting nature conservation (Nieminen 2001; Sarkar 2002).

2.1 Biodiversity as a scientific activism

As a rare example of scientific activism, biodiversity then was originally conceived to be a scientific tool aimed to achieve certain ends: to prevent worldwide loss of species diversity, to alert the world that species extinction was rapid and problematic and to catalyze and solicit public interests and action (Lane 1999). Biodiversity as an *organizing* concept was invented as a *communicative tool* in the broader political arena. It was conjured up from the need to communicate and act in a concerted effort (Norton 2003). While the history of the term is relatively short[2], it already has sparked distinctive philosophical debates. Some of these are entangled in the very definition of 'biodiversity', an issue, which becomes the hallmark of some of the present political, environmental, and social aporia. To date there has been no universally approved definition of biodiversity within the community of scholars with the exception, of course, of the original one proffered by the organizers of the 1986 Washington convention.[3] Since then, biodiversity as a concept becomes so stretchable a term there seem to be no chances of bringing it back to its original usage.

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[1] Haas (1990) defines *epistemic community* as a "professional group that believes in the same cause and effect relationships, truth test to accept them, and shares common values; its members share a common understanding of the problem and its solution." Naess (2001) improves the concept by both limiting and expanding the category. He limits it by referring to scientists only and expands it by invoking the transnational networks of these scientists. As a network, epistemic community provides a "pool of expertise and authoritative knowledge which is necessary basis for collective action" (p.32). See also Bauhr's (2000) discussion on epistemic communities and international political co-ordination. However, as used in the present paper epistemic community is not limited to scientists and experts, but embraces knowledge claim-makers such as social movement, organization, or advocacy groups.

[2] According to Takacs (1996) the word "biodiversity" did not appear as a key word in Biological Abstracts, and "biological diversity" appeared once. In 1993, biodiversity appeared seventy-two (72) times and biological diversity nineteen (19) times. Now it would be hard to count how many times "biodiversity" is used everyday by scientists, policy-makers, and others.

[3] The conservation biologists may have crudely defined biodiversity as the number and variety of distinct organisms living on earth. The Convention on Biological Diversity in this light is just an *attempt*

2.2 Biodiversity as feature of nature

As if to lighten the vagueness of the term and the confusion it generates among its scientific users, two complementary schemes have been proffered the hub of which are the issues of (i) pinning down a precise definition (i.e. *definitional problem*) and (ii) operationalization of its indices (i.e. *application problem*).[4] These schemes are complementary in the sense that the first served as the take off point of the second. The second approach, on the other hand, did not abandon the optimism of the search for categorical definition. Rather, it fleshed out the ethics and practicality of such process.

2.3 Policy discourse

The first scheme has been advanced in a paper presented during the 2000 London 3rd Policies for Sustainable Technological Innovation in the 21st Century (POSTI) Conference on Policy Agendas for Sustainable Development. The approach divides biodiversity into two parts when analyzing its use in environmental policy namely: (i) biodiversity as a feature of nature (i.e. the variety of species, phenomena, and processes that exist in nature); (ii) biodiversity as a policy discourse (i.e. a concept and a discourse that is used to argue for the need of nature conservation, and in legitimating different conservation policies). As explicitly argued by Nieminen (2001: 2) "Biodiversity as the essential feature of nature is foremost the realm of scientists, it is the realm of scientific measuring, categorization and theorizing. Biodiversity as a discourse, on the one hand, is the realm of policy-making, administration and communication."

Biodiversity along the first divide refers to the pure objective status of the variety of living organisms, biological systems, and biological processes found on Earth. This bias is aptly captured by the following definition articulated by its staunchest supporter- Edward O. Wilson:

> "*Biodiversity…is all hereditary-based variation at all levels of organization, from genes within a single local population, to the species composing all or part of a local community, and finally to the communities themselves that compose the living parts of the multifarious ecosystems of the world.*" *(Wilson 1998: 1-3)*

As a policy initiative, biodiversity is embedded within the "rhetorical resources for identifying the responsibilities, characterizing social actors and groups, praising and blaming, criticizing conventional knowledge or accepting it, legitimizing courses of action or political strategies and for promoting the factuality of otherwise contestable claims" (Nieminen 2001: 3). In other words, biodiversity is a form of social standard that can be used to evaluate human actions in relation to utilization, conservation and management of the benefits of biodiversity.

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to standardize or a result of a *compromise* between divergent but quite similar claims (i.e. the scientific claims).

[4] In relation to this, Sarkar (2002:132) inquires: "The term biodiversity has remained remarkably vague and its measurement equally capricious. Is allelic diversity part of biodiversity? Or only species? What about individual differences? Do we have to worry about community structures? Is the number of species appropriate measure? Do we have to take rarity and commonality into account? Or should we worry about differences between places?"

It must be noted though that whether conceived as an objective feature of nature or as an object of policy initiatives, biodiversity remains to be a '*discursive* (or linguistic) creation' of stakeholders - originally of the conservation biologists and later on of policy makers. It is difficult to pin down an exact definition of discourse. The works of Fairclough and Wodak (1997), van Djik (1997), Jaworski and Coupland (1999) and recently, of Wetherell, Taylor and Yates (2001) attest to this problematique. Generally speaking though, discourse refers to the actual practices of speaking and writing (Woodilla 1998, *see also* Gergen 1998). Hall (1992) posited that discourse is a group of statements which provided a language for talking about – i.e., a way of representing- a particular kind of knowledge about a topic. Hence, when *statements* about a topic are made within a particular context, the discourse makes it possible to construct the topic in a certain way and viewed this way, they are constitutive of identities (Hajer 2003; Norton 2003) as discourse allows something to be spoken of by limiting other ways in which the topic can be constructed (see Foucault 1987; Burr 1995; Parker 1992).

As the social history of biodiversity attests, conservation biologists who invented the term did not merely *describe* what they see as biological diversity; but the very act of description constitutes the object so described. The following quote from the book '*Making Nature, Shaping Culture*', poignantly captured this strong constructivist theme:

> "*Nature exists only through its description, analysis, mapping, and manipulation… What we call as objective reality is constituted by both the actual physical configurations of elements in things and in human conceptual frameworks (theories, definitions, and 'facts')… It is our ordering of the information received by our senses that constitutes the picture of 'all that is' and that we refer to as nature*" (Busch et al 1995: 3-4).

The second scheme muses not so much on 'how' to define biodiversity. Rather it inquires as to 'why' define the concept in the first place. It bolstered the constructivist stance described above by stressing that words like biodiversity do not correspond to pre-existing objects, individuals and categories[5] (cf. Hajer 2003). By act of (usually implicit) choice, the development of a vocabulary of terms to discuss observable phenomena 'constitutes' the objects and categories humans recognize and manipulate linguistically. According to Norton (2003) communicative '*usefulness*', and not '*truth*' should determine our definitions-usefulness implies careful examination of our shared purposes toward which communication is directed, which ultimately leads us back to the subject of social values and commitments.

Within the context of second scheme, we could neither find nor create any '*correct*' definition of biodiversity, for virtually there is none. What we could and must strive for, instead, is to look for a definition that is '*useful*' in deliberative dialog regarding how to protect and preserve biological diversity, however defined. Our categories including biodiversity must be developed from the need to '*communicate*' and to '*act*' together within the broader political ethos (Norton 2003).

Quite obviously, the second scheme interrogates both the possibility and utility of precise definitions. It sensitizes us to the fact that carefully worded definition is not a necessary

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[5] This position is quite similar to that of Escobar (1999) who argues against the possibility of pre-discourse reality.

guarantee that a cooperative discourse would ensue or that concrete actions will be taken. On the contrary, definitions may alienate, either by *silencing* or *relegating to the background*, the local 'voices' of those who may have equal and valid stakes on the very issues these definitions bring about.

3. Claimants: Biodiversity as political discourse

From the conservation biologists to policy makers to the general public the currency of the term biodiversity mutates in unimaginable forms. The concept has become a buzzword that serves to promote the various political, economic and cultural agenda of scientists and decision-makers as well as of individuals, communities, institutions and nations (Escobar 1999). With its usurpation by these new sets of articulators came newer modes of discourse, hence a whole new array of meanings and usage. Biodiversity has become a *masterframe* used by the epistemic communities of various stakeholders. As a masterframe from where all sides draw meanings, biodiversity looses its '*signature meaning*'.[6] A fascinating consequence of this development is the blurring of the distinction between the scientific discourse (of the experts) and the popular discourse (of lay or non-expert) (Haile 1999; Nieminen 2001, Dwivedi 2001). As Eder (1996: 183) observed:

> "Biodiversity becomes a collectively shared ideology undermining the hegemony of science and at the same time seriously weakening the position of traditional environmental organizations and movements as primary mouthpiece of the environment."

At this juncture I would like to showcase three of these epistemic communities – the ecofeminist group, indigenous ecology movement, and the Association of Southeast Asian Nations (ASEAN). Each offers a distinctive perspective using equally distinctive sets of categories and claims. It is not my purpose to present an exhaustive description of each of these epistemic communities, except inasmuch as they relate to the purpose of current discussion.

3.1 Ecofeminism: Women/nature nexus

Ecofeminism is an environmentalist version of feminism. Although a heterogeneous front in itself, ecofeminists are united by a common bond celebrating the *conceptual links* between domination of nature and the domination of women (Moyer 2001). Buhr and Reiter (2002) outlined three of these conceptual links between women and nature such as (i) historical connections (the effects of the Enlightenment and the death of nature; (ii) metaphorical connections (same value dualisms operate to subjugate women and nature); and (iii) epistemological connections (challenges reason and rationality, ways of knowing).

It is within the purview of the third mode of conceptual connection that ecofeminism launched its most radical claim in relation to biodiversity and women. Quoting Rocheleau (1995: 14) Martine and Villarreal (1997) contextualized the link:

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[6] I define s*ignature meaning* here as the intended definition of biodiversity as conceived by those who coined the term, that is, by the group of American conservation biologists, who introduced the term in the 1986 Washington conference. Its signature meaning then was related to the promotion of nature conservation and to make people aware of the dangers of species extinction (Nieminen 2001).

> *"… a particularly interesting discussion arises concerning the conservation of biodiversity. It is generally agreed that the knowledge, skills and practices needed for the conservation and development of plant genetic resources is critical for the preservation of biodiversity, which is linked with sustainability (FAO 1996; Bunning and Hill 1996). Such knowledge, skills and practices tend to differ along gender lines. Some authors sustain that women's knowledge is at the core of sustainability: "As the bearers of knowledge and the practitioners of the science of survival women contribute to and have a major stake in protecting the biological basis of all our future lives and livelihoods."*

> *"While men have generally engaged in cash crop cultivation (usually mono crops) throughout the Third World, women are more likely to be in charge of subsistence crops, which they cultivate in home gardens, a farming system that contains high levels of biodiversity. In Thailand, home gardens managed by women were found to contain 29% of non-domesticated species (Moreno-Black et al., cited in Bunning and Hill 1996). In the Andean region, women were found to plant diverse potato seeds according to their traditional knowledge, in order to combine the desirable attributes of frost resistance, nutritional value, taste, quick cooking time and resistance to blight, while their husbands followed the mostly male extensionists advice to plant only one species (Rea, as cited in Bunning and Hill 1996).*

Extending these lines of argument, ecofeminism declared that since women are *custodian* of a wealth of cultural information about diverse species of plants and animals, any attempts to undermine biodiversity are tantamount to downplaying the epistemological investments of women in the conservation and management of biological diversity (Erasga 2011; *see* Shiva 1993). Concomitantly, any attempts to appropriate, say through biotechnology, or alter that state of affair (i.e. monoculture regime), are considered subversion of that special bond between women and biodiversity (Zweifel 2000).

3.2 Indigenous peoples: Knowledge as identity

Over thousands of years, Indigenous Peoples (IPs) have developed a close and unique connection with the lands and environments in which they live. They have established distinct systems of knowledge and taxonomies, innovations, and ecological practices relating to the management and exploitation of biological diversity on these lands and environments. Oldfield and Alcorn (1991: 4 cited from Warren 1992) clarified:

> *"Much of the world's biological diversity is in the custody of farmers who follow age-old farming and land use practices. These ecologically complex agricultural systems associated with centers of crop genetic diversity include not only traditional cultivars or 'landraces' that constitute an essential part of our world crop genetic heritage, but also wild plant and animal species that serve humanity as biological resources."*

For these reasons and more, IPs' clarion call for radical changes is transformed into a social movement which equaled the tenacity and steadfastness of ecofeminism in upholding their rightful position in relation to biodiversity issues and concerns. Traditional people insisted on the recognition of their unique yet equally valid knowledge claims regarding their culturo-natural resources and the practices surrounding the utilization and management of such resources (Erasga in press; Tauli-Corpuz 2000; *see also* Warren 1992; Davis 2001).

I think the concept of "*indigenous ecology movements*" (IEMs) typified the implications of this sociological development. According to Myer (1998) indigenous ecology movement is not a

single, well-defined entity, but rather a broad rubric used to group a variety of voices, notably Northern environmentalism or Southern indigenous groups. But more than just a movement with alternative set of political and economic action plans vis-à-vis resource management and utilization, IEMs offer different ways of understanding biodiversity especially through their epistemologies of nature as rooted in traditional ecological interactions guided by ways of knowing based on intimate co-existence with nature.[7] Warren (1992:3) stressed:

> *"There are many aspects to indigenous peoples' claim and interests in the natural environment and biological diversity. Indigenous peoples seek recognition and protection of their distinct rights in knowledge of, and practices relating to the management, use and conservation of biological diversity. They also seek introduction of measures to prevent exploitation of their knowledge, and compensation of financial benefits from the use of their knowledge, innovations and practices."*

Clearly, the biodiversity discourse of Indigenous Peoples serves a variety of interests. These multiple interests challenged, first and foremost, the positivist discourse of science that puts premium on objective, and most often, economic features and benefits of biological diversity. IEMs' position transcends this purely utilitarian and opportunistic stance in favor of the spiritual and uniquely cosmovisional nature of human / nature relationship- a relationship that contextually reconfigures the pluriform hybrids of people and their environments. IPs conception of the integrity of the cultural and natural served as a powerful paradigm in creating ecologically sustainable ways of life (Erasga in press).

3.3 Third world: Resource is security

Quite similar in their agenda regarding the political economy of biodiversity, the member-states of the Association of Southeast Asian Nation (ASEAN)[8] have finally launched a new wave of national and regional security discourse that assigns a strategic dimension to nature and the resources it contained.[9] This security discourse is inspired by the Association's "joint endeavors" on sustainable development broadly articulated in its collective "security and development" agenda. In her analysis of this agenda Hernandez noted (1995: 38):

> *"To be sustainable, development in its economic dimension, must be sensitive to its excessive demands on both natural and human resources as well as its negative impact on the physical environment.*

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[7] Two excellent works can be mentioned: One is Escobar's (1999) documentation of the struggle of the *Proceso Comunidades Negras* or PCN (Process of Black Communities)-- a network of more than 140 local black and indigenous communities in the Colombian Pacific region. His analytical frame is called cultural politics. The framework suggests that cultural practices are the measure of defense of both nature and culture epitomized by their very notion of biodiversity as "*territory plus culture.*" Another is Martha Johnson's (1992) edited book entitled *Lore: Capturing Traditional Environmental Knowledge --* where she documented the convergence and divergence of western science and *traditional environmental knowledge* (TEK) in different cultural contexts including Canada. The documentation aims to provide evidence that TEK is not necessarily inferior to science. Rather, it may present an analytical and taxonomic approach operating at a different level of abstraction.

[8] Compose of the Philippines, Viet Nam, Thailand, Indonesia, Malaysia, Brunei Darussalam, Singapore, Cambodia, Laos, and Myanmar.

[9] Development is broadly defined but includes the ecological, social, economic and political dimension.

Within this discursive platform, environmental resources have been assigned with a definitive status that directly impacts on the Associations' burgeoning conception of security. The discursive shift in the status of biophysical environment as "*resources*" unavoidably ushered a new mode of thinking in terms of national vis-à-vis regional cooperation. In this context, biodiversity i.e. biogenetic resources of plants, animals and microbes found in the environment, are no longer seen as neutral elements of a physical border separating nations and their peoples. Environment as container and refuge of biodiversity is no longer perceived as a lifeless frontier demarcating nations and their cultures. Rather, environment and every genetic resource it contains are now considered integral and strategic component of the ASEAN's national and regional security. This new political discourse is based on the emerging definition of political and economic security that sees environmental protection and sustainable development as key organizing principles. Peria's (1998: 5) analysis of the ASEAN's changing notion of the potential of environmental resources rightly concludes that:

> "*Given the growing scarcity of the world's resources and the insatiable demand for it, security should be redefined to include the matter of safeguarding the integrity of a nation-state's natural resources.*"

Notwithstanding, this new perspective is anchored on the insights that given the enormous economic, scientific and strategic potentialities of biogenetic resources,[10] (which are most often found in underdeveloped and developing regions of the world with equally diverse cultural communities), national security is unthinkable without incorporating biological and genetic resources as key factors (cf. Dupont 1994).

Perhaps this new notion of "genetic resource as security" is engendered by a notorious character of environmental problems – transbouderiness.[11] The region as a whole has experienced a series of environmental catastrophes such as deforestation, pollution, migration and climate change.[12] Moreover, regional conflicts may become the palimpsest of these environmental problems. Thus, solving environmental problems besetting the ASEAN-member nations is tantamount to addressing ongoing and potential regional conflicts that go with them.

Overall, the voices of the ecofeminists, IEMs and the ASEAN represent the grassroots discourses of biodiversity both as a feature of nature and as a social construct. Being the latter, they serve as powerful interpretations of how humans relate to nature and vice versa. These interpretations are embodied in their cosmovisions and epistemologies of nature and increasingly inspiring their discourses of development couched on their vulnerable positions within the power-relation contexts.

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[10] These potentialities are enormous in terms of its medical, cosmetics, and warfare applications on top of the economic benefits that go with them. The state of the global bioprospecting initiatives being commissioned by gargantuan pharmaceuticals of North America and Europe epitomized such usefulness of biogenetic materials from diverse species of microbes, plants, and animals (Erasga 2003).

[11] In the case of pollution, transboundary pollution is pollution that originates in one country but, by crossing the border through pathways of water or air, is able to cause damage to the environment in another country (OECD 1997).

[12] The 1997 haze from Indonesia's biggest forest fire is an example. The haze covered vast areas in Malaysia, Singapore and elsewhere in the region.

4. Conclusions

From the discussions above, three complementary conclusions can be derived:

i.   if discourse is political in nature, it follows that environmental discourse is a political conversation / negotiation about nature;

ii.   the *power-inspired construction* and *power-driven usage* of biodiversity concepts alert us to the emerging political nature of environmental discourse in general; and,

iii. biodiversity discourse should no longer be seen in the light of its original usage (i.e. nature conservation). Rather, it must be seen as a sociological construct that defines the emerging status of nature as social entity.

The first conclusion is a necessary implication of the nature of discourse in general. Discourse according to Foucault is the production of knowledge, and ultimately the production of Truth itself. Overlaying this nature of discourse within the frame environmental negotiations could mean this insight: "that when environmental scientists are producing information about and from their researches, they are in a way, producing discourse which is as much political as the knowledge produced by policy makers in the government." This makes scientists as equality political as the policy makers in their particular point of view, agenda and passion to pursue them.

The second conclusion is a necessary implication of the first one. From the discussion above, we see those conservation biologists and their cohorts were acting political when they started mobilizing people to do something about a problem that endangers the survival of people- to stop the immanent lost of species forever. Their activism is a show of how valid their information is vis-à-vis the danger they are alerting the world about.

The third conclusion reinforces the malleability of environmental discourse. On the one hand, when policy makers started concocting policies about the environment, they are claiming something as important as the claims made by environmental scientists. On the other hand, when environmental scientists blamed the environmentally destructive lifestyles and cultures of people, they are factoring in the social to the seemingly purely technical problem. Examples are many: pollution, solid waste, acid rain, and deforestation.

To fully capture the essence of these conclusions allow me to quote a sociologist when he attempted to justify the role of social scientists (notably sociologists) in making sense of our environmental challenges. He writes:

> "What are topics like solid waste, pollution, acid rain, global warming and biodiversity doing in sociology text? The answer is simple: None of these problems is a product of the 'natural world' operating on its own. On the contrary... each results from the specific actions of human beings and are, therefore social issues.... sociologists can make three vital contributions to ecological debates. First, sociologists can explore what 'the environment' means to people of varying social background… Second, sociologist, can monitor the public pulse on many environmental issues, reporting peoples' fear, hopes and fears… why certain categories of people support one side or another on controversial issues. Third, and perhaps the most important, sociologist can demonstrate how human social patterns put mounting stress on the natural environment" (Macionis 1999: 584).

5. References

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Analysing Social Structures

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1. Introduction

Although social structure might seem the most important concept in sociology, and one of the major concepts in social science more generally, it is something of an 'absent presence' with many theorists addressing the issue only tangentially and with sustained attention to conceptual understanding of the nature of social structures attended to by only relatively few authors (Crothers, 1996). The history of the concept of social structure in sociology (and outside) is a topic addressed briefly here only to indicate the historical development of conceptual work on it (see Callinicos, 2007; Crothers, 1996, 2004).

Phases in the development of sociological theory concerning social structure has been described in the references just noted. Many early accounts of social structure depicted a sequence of three or four successive types beginning with hunter-gatherer bands and encompassing empires, and civilisations, together with the unique features of Western modernity. As empirical sociology developed with the work of the Chicago school (and more generally in community studies) in the interwar years more empirically based (but still dynamic) accounts were developed. Immediately before, during and after the world war 2 period the functionalist approach (partially adapted by Merton from anthropological models to better fit with more complex societies) switched attention from over-time change to understandings of how social structures fitted together and how they worked as structures. In particular, structures were seen as often operating 'behind the backs' of the people in them and were laced together in considerable part through 'latent functions' that were not always immediately obvious. By the 1970s, sociological theorists began to distance themselves from some of the determinism associated with previous approaches, and social structures began to be seen as more complex performances that arose out of the interplay between people's agency and the social environments shaping them and in turn being formed by individual actions. The two most prominent of these theorists were Pierre Bourdieu and Anthony Giddens (although many others reinforced this approach) and these were sometimes labeled as 'reproduction, practise or structurationist theorists. Since then, an array of commentary has ensued which has elicited (and partially resolved) many of the difficulties in the analyses of these theorists – Giddens fails to develop a convincing rendition of social structure whereas Bourdieu, which attempting valiantly to overcome some of the dichotomies which constrain sociological analyses, overemphasises structural determinants. Moreover, sharp critique of any collectivist models continue with many sociologists unprepared to admit the existence of collectivities other than as representations held at a micro-social level. Moreover, while 'post-structurationist' approaches (such as the

work of Margaret Archer and Nicos Mouzelis and a range of commentators) seem to have developed sophisticated argumentation, it has yet to be widely accepted. Indeed, there is an argument that – strangely – social theorists tend to shy away from direct treatment of social structure.

Exposition of analytical tools in sociology (as much as any other sociology) needs to be accompanied with rigorous criticism as to their adequacy, but this too has to be eschewed in this presentation. The emphasis rather is on providing tools for use. Sociology might seem to be stymied without a working consensus on what the ontological structures of social structures might be with debate structured by some sophisticated conceptions of collectivities on the one hand (e.g. Elder-Vass, 2010: also Searle, 2010) and vigorous renditions of methodological individualism on the other (e.g. Martin and Dennis, 2010: see also Martin, 2009). A major difficulty in developing adequate conceptions of social collectivities are the arguments deployed against their very possibility: if it is argued that collectivities do not exist in makes little sense to pursue further considerations of them – a self-fulfilling prophecy. And it is possible that ultimately a collectivist position will prevail, but it should not prevail without sufficient weight being given the effort of endeavouring to establish the possibility that collectivities might meaningfully exist. However, it is not entirely the task of an empirically-orientated discipline to worry too much about the philosophical status of its concepts. The empirically-orientated study of social structures need not await the final verdict of its more philosophical associated discussions, although it is good if the two can develop alongside and in interaction with each other.

Unfortunately, the more empirically-orientated study of social structure flows within several channels which are not entirely linked to eachother. Some approaches hold rather different conceptions of the same term - social structure – while others pursue the study of social structure using other terminologies. This chapter provides a schema for bringing to bear this systematic array of concepts for examining the various aspects of social structures.

Social structures are at least somewhat-enduring sets of relationships amongst a group of roles which emerge, are maintained, change and eventually cease. They vary enormously between tightly drilled formations such as elite combat units or sports teams (which operate like highly oiled social machines with their social structure clearly somewhat embodied in the team's physical and behavioural routines) to loosely organised networks or relationships which may operate in subtle and usually unglimpsed ways, but nevertheless are framed by structure. While some social structures are adorned with a massive cultural apparatus or largely focused on the development of cultural goods, others are very lean. Whereas one extreme type is the endlessly interacting face to face groups (e.g. 'primary groups') the other extreme are aggregations where people belong to social categories (sometimes widely spread across space) which shape their attitudes and behaviour but which are not (or seldom) reinforced by interaction – so some social structures are local while others are cosmopolitan. Some are small and others vast in their extension over space and/or time. They differ in the way their 'footprint' is distributed across various micro-level social situations and underlying natural environments. Perhaps above all, different social structures vary in their self-awareness and in their capacity for collective or planned action. An interpenetrating set of social structures are the social forms in which people live out their lives and which to varying degrees are built into specific social formations such as communities or societies.

The chapter draws on the immense array of sociological concepts to provide the array of analytical tools needed to understand the various dimensions of social structures. (A developed alternative is Giddens, 1984. See also Layder 2006; Lockwood, 1992; Lopez and Scott, 2000; Lopez, 2003; Mouzelis, 2008; Porpora, 1987; Sewell, 2005; Tilly, 2008).The key concepts examined in the chapter include cultures and ideologies, institutions, organisations, networks, categories, roles and statuses, resources or capitals, situations, scenes, selves, ecologies, actions and interactions, life-choices and life-chances, and social formations (communities, societies). As well as examining each of these, frameworks are presented about how each relate to each other.

The approach adopted is a 'toolkit' one in which the various perspectives are called upon for examining different aspects of social structure as analyses suggest relevance. My argument is that to successfully understand any social structure, many (maybe all) of these perspectives will need to be brought to bear. To some degree, the perspectives compete with each other, but they are by no means intrinsically incompatible. The tools covered are not exhaustive, but they do cover most of the tools needed to analyse social structures.

The perspectives are presented in an ordered sequence in which foundations are laid and then more particular aspects built on these. The sequence also moves from small-scale to larger-scale and from static to dynamic. However, to some extent this ordering is arbitrary and the perspectives blur. Others might prefer different orders. The tools provide spell out an implicit underlying framework and show how it can be put to work.

2. Levels and processes

The conceptual tools fall into two main classes. The first group are perspectives which allow us to understand the 'architecture' of social structures: how they are built. The following perspectives covered are orientated towards social processes. Having set up the structure, as it were, we can then set the structure to work, to mobilise it into operation and to see how it maintains itself but also changes. Separating out these two perspectives is arbitrary but useful to guide thinking. There are two important contexts which bear on social structures. Social life takes place over time and it is inevitably spatial, and these should be elements in any analysis from each of the perspectives already covered, and since this contextual approach is sometimes forgotten, its importance needs to be emphasised even though since these aspects are integral they are not sign-posted by giving them separate attention.

As well as conceptualising social structures complementary concepts are needed to cover how people feel about the way they are inserted in social structures, and this aspect is handled through discussions of the concepts of social identity and of life-course.

This chapter refers only in passing to the bio-social and ecological-social settings within which social life is lived and concerning which social structural analyses take place. Any 'population' of people is based on the physical/environmental territory within which it lives (including extensions obtained by import and export) and is also embodied within a particular biological set of bodies which have various marked characteristics (e.g. gender, age, maybe 'beauty', 'health', strength etc.) and in turn an underlying genetic structure. It is assumed that social structures will be built on and will actively 'draw on' and be limited by various of these conditions, but these issues are not further addressed in this chapter.

The study of people's lives is not exhausted by social structural analyses. Such analyses merely endeavour to understand what is involved with people's experiences, activities and longer term fates as these are caught up within social structures, but which remain unique to each individual within them.

3. Units

3.1 Levels of units

The sequence builds up from a foundation towards higher levels of organisation:

- situations and scenes
- statuses and roles occupied by people
- social networks and quasi-groups
- groups and organisations
- 'fields' and institutional areas
- societies and cultures
- civilisations and world systems
- social identities.

This hierarchy has been carefully developed and it is argued (although not definitively) that each of these levels have particular properties which separate it from those lying at other levels in the hierarchy.

At each of these levels, the social unit focused on has 'internal' and 'external' features: the elements that make it up and its relationships to other units within which it is contextualized. In a network approach, which is a major way of investigating the latter issue, relations between nodes are studied, not characteristics of nodes themselves. Network linkages within any type of social entity (e.g. between individuals but also between organisations) are possible. This interest in linkages can be taken to **follow** approaches looking at characteristics of social entities (on the grounds that you need to know something about x and about y before you examine their relationship). However, often network analysis is seen as the study of relationships amongst people rather than relations amongst any type of social unit as it is depicted in this chapter.

It is important to note that the various levels do NOT neatly (at least not necessarily) nest within each other in a linked-up hierarchy. Social structures at various levels cross-cut and interweave and may (or may not) have any connection with others operating at different scales or with different trajectories.

3.2 Situations and scenes

The round of everyday life consists in a series of encounters with others in 'social situations' which are in turn often physically embedded in 'scenes'. Goffman referred to this highly encompassing level of social life as the 'interactional order' although broader terms are used by other sociologists. Situations differ in whether or not they are focused or unfocused and are sites in which we perform the day to day manoeuvres and tasks of our lives. Situations shape behaviour since in most we endeavour to present our 'selves' in a good light and to cover up mistakes and difficulties. The whole panoply of concepts developed by social interaction sociology applied very vividly at this level. Some sociologists see situations as so

enveloping that they refuse to recognise the existence of any social units at a 'higher' level that encompass situations and those social integrationists who do emphasise the socially constructed nature of any larger social entity. Situations are embedded in flows and sequences which are partly designed (as in the day to day scheduling of many activities) and partly (and occasionally totally) unplanned and replete with exigencies, which those involved must react to.

Socially-constructed scenes (such as buildings, stages, streets, rooms) are the physical backdrop for situations and can shape these, but they also have a social life of their own since they may be occupied in turn by various groupings which place their own meanings and behaviours on how the setting gets used.

3.3 Roles/Social categories

For many sociologists, the main building-block of social structure is the status-role. The usefulness of this concept is that it links both upwards to more comprehensive social structures (which can be seen as composed of combinations of status-roles), and also downwards to the nitty-gritty of the practise of everyday life (since people often relate their behaviour to the status-role position they hold).

Role analysis is built on the everyday point that we create our own identity and also relate with others in terms of key social characteristics such as our (and their) age and gender, as well as many other more societally-relevant (and also the more fluid situationally-specific) roles.

The concept is borrowed from the theatre, where of course it refers to the characters in the cast which are played by actors. This metaphor is especially stressed by those focusing on the 'playing of roles': i.e. the performance of roles. What is more interesting, I think, is that other aspects of the theatrical metaphor are not stressed. The whole structural context that is indicated by looking beyond the playing of the actor's lines to consider the relevance of the playwright, the plot, and the relationships amongst the characters that the cast conjures up, is not attended to.

There is a central tension within the concept between the 'status-position' aspect of the concept, and the enactment 'role' aspect: between a position in a social structure, and the behaviour and attitudes of a person occupying that social position. Clearly, these are interrelated aspects, and sometimes they are said to be 'two sides of the same coin'. However, the two aspects are differentially seized on by different approaches to the study of social roles: sometimes labelled the structural and the interactional views of roles. (One difficulty with the term 'status' is that its more normal English usage implies a definite hierarchical aspect. In this sociological usage, it does not have this meaning, but this can be confused. Statuses of course can differ in their 'status', since hierarchical ranking is often an attribute of a status.)

A status is a position in a framework of statuses to which are assigned behavioural standards, tasks, and resources. The term has both denotations and connotations: statuses have both relatively up-front 'formal requirements' as well as a tail of less-defined 'informal requirements'. For example, teachers are not only expected to carry out the technical tasks of classroom teaching, but also may have further expectations placed on them of how they should conduct themselves in the community at large.

Any single status relates to several different audiences or complementary status-positions: e.g. school-teacher in relation to school-principal, fellow teachers, students, parents etc. Thus, it can be seen that the slice of the status relating to each separate one of these is a 'role-segment', and the related positions are 'role-complements'. The total set of audiences or role-complements can be referred to as the 'role-set'.

Any person will occupy a range of status-positions at any one time, and even more over time. The set of statuses which a person occupies at one time can be referred to as their 'status-set': for example, consisting of someone who is '..a teacher, wife, mother, Catholic, Republican and so on' (Merton 1968:423). Certain combinations of these tend to be more complementary or more expected. Also, status-sets may be anchored in a crucial 'master-status' (e.g. ethnicity under many circumstances will be a crucial status, age or gender often can be too).

Finally, over time (to anticipate a point to be made in the last of the substantive sections of this chapter), people move in various ways through this social apparatus. Often there are quite regular sequences of roles or of statuses which people occupy one after another. These established sequences provide an over-time link between each component role or status in the sequence. Obvious examples include (especially for males) the sequence of apprenticeship, through journeyman status, to master artisan.

The first main use of status-role theory is as a framework on which to hang sociographic descriptions. Many studies have been carried out on particular statuses, as they are such convenient peg-boards for this. Such studies depict what tasks those in a status perform, and other social characteristics which are assigned to them. Another usage is to develop a role-inventory, in which the array of statuses in a society is exhaustively listed: and often what the tasks of each are. Another common study is to catalogue which tasks are assigned to which statuses (e.g. men v women) across different societies.

But these are but preliminaries for sociological explanations of people's behaviour in statuses. One line of explanation is cultural. Statuses are to a considerable degree a crystallisation of a bundle of norms or rules that is linked to a particular position. Indeed, one line of interpretation of roles is that each is neatly derived from the overall master-values of a particular culture, and as a result of being anchored in this more abstract cultural unity, the division into nicely-complementary roles ensures that society functions smoothly. However, social reality is seldom so neatly organised, to say the least.

Instead, the sociological point is more that those occupying roles are shaped by those occupying the surrounding role-structures. There are at least two main lines of explanation of people's behaviour and attitudes within status-and-role theory. One line of explanation involves people in statuses being 'socialised into' (i.e. learning) their roles, which they then 'internalise' (i.e. when the learning becomes part of their social identity). In this conception, the person learns the 'script' prepared by the social structure for that position, and usually does this so well that, after some fumbling starts, they are able to perform effortlessly on numerous occasions.

An alternative, and complementary, explanation emphasises 'social control' by those in the 'role-set'. The role-complements monitor the behaviour of the incumbent and endeavour to shape the incumbents' behaviour (and maybe their attitudes) to fit or suit the role-

complements' views and expectations. This social control then locks the incumbents into patterns of reasonably acceptable actions.

Alongside the social control aspect is that of social rewards. Role behaviour is as much shaped by reward-possibilities as it is by negative sanctions. In the industrial relations arena, for example, much attention is given the impact of different types of rewards for worker productivity and also morale. For example, piece-rates can induce high output, but at a social cost. Associated with reward is the way of monitoring and measuring performance to allow the rewards to be assigned. This too, can have a marked influence on what happens. For example, amongst university academic staff, research tends to be rewarded, as research output appears to be more readily measured, whereas teaching performance is difficult to monitor and thus reward: therefore academics are more likely to put effort into their research at the expense of teaching or administration in order to obtain promotion.

The operation of reward and control mechanisms is seen as rather more complicated in the 'reference-group theory' approach (e.g. Merton 1968, see also Crothers, 2011). This approach suggests that people more or less actively search out the reference framework they will relate to in occupying a status. Usually the role-complements, perhaps especially those in appropriate role-segments (e.g. for a teacher, other professional colleagues) are the group to which someone orientates themselves. However, they may (also) fix their sights on quite a different reference-group. For example, upwardly mobile people may be more orientated to the views of the strata they are moving into than the strata from which they are coming. Some reference-groups may be abstract 'social categories' (sometimes technically referred to as 'non-membership groups': a rather indecorous term!), or even specific people who are chosen as 'role-models'.

An important point about status-positions is that it is through the ways in which they are organised that wider social structures can be held together or fissures created. Nadel (1957) had pointed out that very often different role-structures do not mesh with each other so that wider social formations are not integrated through them. For example, the age-order and gender-differentiation do not necessarily mesh. However, sometimes particular role-structures have a role in mediating between others (e.g. judiciary, political leadership). One important way in which wider social orders are held together is through the mutual occupancy of statuses in status-sets. For example, it may be by virtue that a decision-maker is both a business-person and a parent and partner that business decision-making may at least be aware of the familial circumstances attending business change.

One implication of the multiple occupancy of statuses, and also of the multiple role-complements focusing on (parts of) particular statuses is that quite a lot of conflict can be induced. In any particular status, and also for the set of statuses, an individual usually has only limited time, and other resources, which must be rationed around all their statuses or the role-segments. In addition, the different values associated with different statuses or role-segments can create strain. For example, principals, fellow-teachers, pupils and parents can all have rather different expectations of a teacher, and it can be very difficult to balance these into a coherent approach. Similarly, at the status-set level, a classic difficulty arises in endeavouring to balance family and work roles.

Merton has listed several mechanisms which provide status or role occupants with ways of handling these pressures. Tensions in role-sets may be handled by social mechanisms such as (as summarised in Crothers 1987:96):

- differing intensity of role-involvement among those in the role-set (some role-relationships are central and others peripheral);
- differences in power amongst those involved in a role-set;
- insulating role-activities from observability by members of the role-set;
- observability by members of the role-set of their conflicting demands upon the occupants of a social status (this mechanism offsets 'pluralistic ignorance': the situation of unawareness of the extent to which values are in fact shared);
- social support by others in similar social statuses and thus with similar difficulties in coping with an un-integrated role-set;
- abridging the role-set (breaking off particular role-relationships).

Similarly, Merton has suggested cognate mechanisms they may handle stress in status-sets (Crothers 1987:94):

- perception by others in the status-set of competing obligations (e.g. employees are to a degree recognised to have families);
- shared agreement on the relative importance of conflicting status-obligations;
- self-selection of successive statuses that lessen differences between the values learned in earlier-held statuses and those pertaining in later statuses;
- self-selection of statuses which are 'neutral' to one another.

A major sociological theme has been that stress arises from awkward combinations of statuses that a person holds. Lenski introduced the notion of 'status inconsistency' which hypothesised that those people occupying 'incongruent' status-sets might suffer increased social stress - or that there might be other consequences that flow from their 'cross-pressure' situation. There are a variety of effects which might follow from 'minority' or 'unusual' situations.

Rose Coser (1991) has moved beyond this stress or conflict view to emphasise the positive opportunities opened up by more complex status-sets. She argues that it is within the very interstices opened-up by complex status-sets that wider degrees of individual freedom can come to be realised. One aspect of this is that people learn more sophisticated social skills - including linguistic flexibility - as they learn to handle role complexity. It may also be that more energy is generated as a result of the interplay between statuses. There are also possibilities for integration and for innovation.

3.4 'Social networks' and 'Quasi-groups'

Network analysis draws out the everyday point that one way of locating yourself in relation to other people is, not just in terms of what characteristics you have (e.g. gender, age), but 'who you know', or more generally what sort of people you associate with. Although others have used this term in different ways (notably Dahrendorf 1968), I portray networks as 'quasi-groups': that is, as a form of social organisation that links people but which need not be as formally organised and clearly bounded as 'proper' groups are.

The root metaphor in this approach is that of webs and graphs. Fischer (cited in Wilson, 1983: 54) puts it well:

'Society affects us largely through tugs on the strands of our networks - shaping our attitudes, providing opportunities, making demands on us, and so forth. And it is by

tugging at those same strands that we make our individual impact on society - influencing other people's opinions, obtaining favours from 'insiders', forming action groups'.

Another, more aggregated, way of conceptualising network linkages is in terms of Bourdieu's concept of 'social capital' (which has also been picked up network analysts such as Coleman 1990: see also Bourdieu, & Wacquant, 1992, Lin, 2001). Social capital is seen by Bourdieu as, in effect, the 'linkage reach' of people, and especially the extent to which they can convert other forms of capital into effective use.

One strength of network approaches is that they detect patterns of social life operating beneath and around more formal structures. For example, working class residential communities may not be studded with links through formal organisations, and, therefore, may appear to the casual observer to be devoid of social structure. Whereas, in fact, they may be quite tightly interlaced by informal social links. Another strength is that network analysis can probe behind surface patterns of links to show indirect paths of contact, mediated through other people or collective units. Yet another emphasis in network analysis is on actual, concrete links between actual units, rather than rather more vague pictures of expectations and possibilities, which is where role analysis often leaves matters.

Network analysts vary in the vigour and exclusiveness of their stance: the most radical denigrate any attention to people's opinions and views, seeing these as emanations of their network position. The **form** of relationships is often stressed over their **content.**

A very important distinction is that between 'network cohesion' and 'structural equivalence'. The two ideas posit quite different ways of examining nodes and their linkages. The network cohesion concept links those who interact with each other: for example, in a medical centre each set of patients, receptionists, practise nurses and doctor form a network based around each particular doctor. However, each of these four types of position are the basis for network links based on the 'structural equivalence' of the people concerned. That is, each plays an equivalent role in 'their' network, and analysis can be built around this similarity. Often these positions are, in fact, also socially prescribed status-roles, but they need not be. Nodes can occupy 'structurally equivalent' positions without this being formally recognised by the culture.

One key idea is the importance of 'weak ties'. As opposed to the 'strong ties' which bind groups together, the much more extended range of 'friends of friends' may be particularly important on some matters. (Network analysis incorporates nodes connected by strong ties, too, but is particularly effective in picking up the looser and lighter web of more extended linkages.) In several studies of how people obtain services (e.g. an abortionist, a job) it has been found that weak ties have been more effective than strong ties. This is because only a limited stock of information circulates within a closed group, whereas the surveillance range of a whole slew of weak ties is far wider. Thus, more widely-flung contacts are likely to hold a much greater stock of information, even if this web of weak ties is not very systematic or efficient in passing that information on.

Another key idea is that of indirect 'connectivity'. Formally separated social units may in fact be coordinated or controlled behind the scenes by a web of interconnections. Indeed, analysts of the economic power elite which is considered to run the business world have developed a variety of models of how interconnectedness is achieved behind the backs of

markets which are apparently populated by a host of independent businesses. It has been shown that there are:

-   controlling effects of an upper class operating through policy think-tanks and foundations;
-   controlling effects of major property-owning families through family trusts;
-   controlling effects through major banks which can be at the centre of groupings of companies; and
-   controlling effects through business empires built up by acquisition as much as merger.

Such links can be measured and their patterns modelled.

Another important idea is that of 'structural balance'. From examining triads of relations among three people (or nodes) it can be readily seen that some triads are balanced whereas others are unbalanced. For example, if A is dominant over B and B dominant over C, the triad is balanced, if then A is dominant over C. Indeed, one might expect this to occur naturally anyway, although empirically there are exceptions which are unbalanced. This type of analysis is interesting in providing predictions about the longer-term stability of groups, based on the characteristics of their constituent triads.

'Structural holes' (Burt 1992) are the gaps in a network pattern, and they provide entrepreneurial opportunities for those in the existing pattern to move into to exploit. This is part of a sociological contribution to understanding the links between firms in markets, although such structural holes can occur in a wide variety of social structures.

3.5 Groups/Organisations

Formally-organised collective entities are a central component in our social experience.

> Our society is an organisational society. We are born in organisations, educated by organisations, and most of us spend much of our lives working for organisations. We spend much of our leisure time paying, playing and praying in organisations. Most of us will die in an organisation, and when the time comes for burial, the largest organisation of them all -the State- must grant official permission (Etzioni 1964: ix).

The original impetus for the analysis of organisations emanated from Max Weber's (1947) World War 1 analysis. A major push for the recognition of collectivities has come from James Coleman. who has argued (1990) that there are two types of 'persons': natural and corporate. Corporate entities are further classified into primordial (e.g. the family) and constructed (e.g. corporations). Whereas primordial entities are composed of fixed positions occupied by unique persons, who are not interchangeable, the modern forms are a structure of positions which can be changed and in which the occupants can be changed. The key change is that the modern organisation is a legal entity, which can act on its own, distinct from its members. This social invention allows for innovations to be much more readily adopted.

But this flexibility is a two-edged sword. On the one hand, the often oppressive primordial structures are broken up and people are allowed more freedom, since they are now socially controlled only in respect of each of their various roles rather than their fixed family-kinship position. On the other hand, since so many natural persons are employed by

collective organisations, their purposes in life are bent to the wishes of these structures. The intense web of face-to-face social linkages that formerly pertained is now reduced, and subject to severe intrusion from collective persons: e.g. schools, advertisers. The relation between collective entities and natural persons is asymmetrical. Organisations are obtrusive and intrusive, and difficult to gain information about or to control. Perhaps the final irony is, that to obtain some leverage over corporations, natural people may resort to agencies such as the state or to trade unions: but these too can be very distant from and unresponsive to citizens' or members' wishes.

There has been much discussion across many areas of sociology about how people loosely aggregated within social categories may become more tightly welded into collectivities or organisations. The classic discussion was that of Marx concerning the revolutionary consciousness of the working class. To enable collective revolutionary action, the working class requires:

- to widely share immiseration;
- to have punctured the dominant ideology which cloaks the reality of their situation;
- to have begun to replace this with a working class ideology; and
- to build up some organisational capacity (e.g. through trade unions).

Merton's views are more general (Crothers 1987: 97, Merton 1968). He distinguishes between categories, collectivities and groups. Members of categories share statuses, and thereby similar interests and values although not necessarily through shared interaction or a common and distinctive body of norms. Collectivities share norms and have a sense of solidarity, while members of groups interact with each other and share a common identity, which is also attributed to them by others. But he does not then go on to provide sociological explanation of how groupings might move up (or for that matter down) this hierarchy of levels.

Each organisation is in some part unique, but also shares similarities in its attributes with other organisations. They interact with other organisations and can bunch together to form further, higher-level (meta-) organisations. They persist, they change, they are born, they die. However, the metaphor does not carry over exactly, as unlike people, organisations can have major bits break off, or be added to, and can interact with people as well as other collectivities. A further, and central, discontinuity with this individualistic analogy is that organisations tend to be multi-layered. Any organisation can be a veritable 'Russian doll' of nested sub-organisations, and there can also be layers of people who are affected beyond the usual organisational boundaries. Social patterns can also crosscut the layers and boundaries of organisations.

> In analysing an organisation, the major independent variables are the formal institutions in terms of which social conduct is organised: the division of labour, the hierarchy of offices, control and sanctioning mechanisms, production methods, official rules and regulations, personnel practises and so on. The major dependent variables are the results accomplished by operations and the attachment of its members to the organisation, as indicated by productive efficiency, changes effected in the community (say, a decline in crime rates), turnover, satisfaction with work, and various other effect criteria. To explain the relationship between these two sets of abstract variables, it is necessary to investigate the processes of social interaction and the interpersonal relations and group structures (Blau cited in Calhoun 1990:17).

Sociologists of organisations have also developed a distinct vocabulary which identifies several further major features of organisations. They are seen as having goals, an internal structure, technology and resources, and a surrounding environment. In pursuit of their goals, they deploy their material and human resources to suit the key features of their technology and organisational framework in order to produce whatever goods and services is their purpose.

Many organisational analysts cleave to a view of organisations as being organised more-or-less rationally: that their goals are provide clear guidance, that decisions are rationally made within the parameters set by the goals, and that the organisation is rationally organised in terms of its means for reaching these goals. This concern of organisations with rationality contrasts strongly with the considerable inefficiency of most other types of social entity. It provides a basis for expecting clearer patterns of similarity amongst organisations.

It has been found that organisations, far from being quite static in their pattern, have changed their practises of management over time. As a result, much of the recent effort in organisational studies has gone into the tracking of changes in organisational form.

3.6 Institutional areas/Fields

An important sociological conception is the image that societies are composed of assemblages of institutions, often arrayed within particular institutional areas (e.g. family, economy, religion etc). In this vision, it is readily seen that the 'content' of each social area differs from that of others, and that this content is particularly relevant to its analysis. Particular central values and norms are seen as flavouring the working of each institutional area. It may also be that particular institutional areas are characterised by particular structural configurations: their environment gives the social forms in a particular area some unique features.

In older sociologies, sometimes a 'billiard-ball' model of societies was used: societies were seen as a set of institutions - the economy, polity, religion, etc - and the relations between each were plotted (e.g. Weber is depicted as exploring the relations between religion and the economy in particular societies).

Bourdieu's image of a field is useful to map an institutional area. He sees the economy, polity etc in modern societies as fields with their own internal logic of development and relative autonomy, although he is also concerned with their interrelations. Each field has its own values and goals, and there is struggle amongst those in the field (employing whatever types of 'capital' they have command over and which have legitimacy in that field) for the right to set the standards, and to exercise power, in that field. In addition, Bourdieu sees linkages between institutional fields, and that fields have their own tendency to both reflect wider society and also to shuck off any too close overlaps from other institutional areas. His approach also allows investigation of the extent to which, in any social formation, there have developed separate fields: it is not assumed that there is any particular menu of institutional areas. However, the mix of available types of capital in a society may structure the range of fields which have a separate existence.

Fields also differ in terms of their organisational arrangements: whereas the formal economy is organised into firms, together with central coordinating institutions such as the stock

market, the family/ household sector of society merely consists of endless numbers of small units with only the most occasional formal organisation claiming to represent the interests of some particular fraction of households.

Other conceptions which are used to understand environing 'fields' include studies of inter-organisational relations and of markets. Inter-organisational relations has become a subject-area in its own right. Many of these studies show how alliances of organisations can be mobilised to work together to shape broad areas of policy development or market operation. For example, the oil industry in USA organised to squash possible governmental flight regulations that would have then exposed commercially secret data on the paths of exploration flights. Another example concerns agricultural workers, stuck with low wage rates, who were able to mobilise their affiliates to put pressure on the networks of the employing super-company, which then eventually raised the wages. Much activity in social formations involves complex, shifting and often fragile relations amongst blocs of organisations.

Another key metaphor is that of the market. A market is a particular type of inter-organisational framework which provides a mechanism through which the operations of the various units can be co-ordinated. This ideal-type model can also be held up against at least partially similar structural alternatives to examine differences in their mode of operation: e.g. command economies. A classic market is supposedly one where there is a range of different units of somewhat similar size, where each has little effect on other units and where there is a good flow of information.

Although the internal organisation of an institutional area may take the structure of being a market, this form is **particularly** appropriate only to the description of economies. Other institutional areas tend to have rather different internal arrangements. Another institutional environment which differs from economic markets is that centred on the government. This sector involves the ordinary public as 'citizens' rather than 'customers' and marches to the beat of rather different requirements. Of recent years, however, new right ideologists have increasingly attempted to subvert these differences and to remake the state sector along the lines of straight capitalism. As well as being an important area of society, a state can be a significant set of organisations leading many other areas of social activity. One important role the State often plays is in rule-setting and enforcement of these rules in the markets which the various other social units are, in turn, embedded within.

Beyond the economy and polity lie other sectors. A third sector is the voluntary and non-profit one, which operates according to yet a further set of rules, but which is also under siege from both governmental and especially capitalist modes of operation. The current 'mixed' operation of some voluntary sub-sectors has been described as a 'quasi-market'. Another institutional area is focused on the family and household operation within communities. There are a wide variety of other institutional areas which might also deserve separate attention.

A useful distinction to invoke at this point is that contrasting 'public' and 'private' spheres. The working of some institutional areas are held to be the concern of many groups (although some are disenfranchised) and there is public discussion about them. But, in other spheres, they are not held to warrant much attention and discussion is suppressed or deflected into private nooks and crannies. In modern Western societies it has been held

traditionally that only men have a voice in 'public spheres' (such as the economy and polity) whereas those spheres in which women's concerns are considered to be dominant warrant little attention. This is slowly changing.

3.7 Societies and cultures

Another very important social unit is something of a shadow standing behind the nation-state (and the national economy) and is often assumed by social analysts to be the most appropriate context for their analyses. Many sociologists have made a particular point of privileging 'societies' as in many historical periods and regions they have been a dominant level of social organisation. Smaller societies are often highly cohesive 'tribes' with sharply demarcated social boundaries and in 'modern times' of the last few centuries (during which sociology was formed) the nation-state was increasingly hegemonic in its sway. Societies (especially those where a state is their leading component) are often considered to focus on social cohesion and personal identities and on the relations with other societies. (However, this is a characteristic of all social well-functioning social structures, albeit accentuated at the societal level.) One empirical test of the functioning of a society is whether or not it would be resilient if major components were destroyed (e.g. in war or natural disaster). Modern large-scale societies are particularly integrated through their political and related processes and through extensions such as welfare states or police states intrude into everyday social life.

3.8 Civilisations and world systems

Over a couple of decades now, Immanuel Wallerstein has built a 'world-systems' framework which shows that under some historical conditions societies are embedded within wider structures. This approach has strong Marxist influences, but has also been strongly influenced by the Annales school of French social historians. The world-systems approach argues that the internal unity and significance of nation-states has been considerably exaggerated. Rather, since the sixteenth century at least, the various European (and later other) nations have been embedded within a wider and expanding world-system which has been girded by flows of trade, capital, culture and people. The possibilities open to particular countries, regions or even individual enterprises are very considerably (often quite overwhelmingly) shaped by their position in relation to the world-system. These positions are discussed in terms of three or four main zones:

- the metropolitan core;
- the semi-periphery;
- the periphery; and
- unincorporated ('indigenous peoples') areas.

The metropolitan core is at the centre of the system and ensures that the system is organised for it to obtain the best value. The core has been traditionally involved with manufacture and service provision and is politically and militarily powerful. The world system is not, however, laced together by political mechanisms, although there may be significant coordinating arrangements (e.g. the OECD) and often there is a 'hegemonic' state amongst those states in the core countries, which then becomes the 'leader of the orchestra' (for example, the role played over many decades by the USA). Instead, the power of the core over the rest of the world-system is wielded, rather more cheaply in terms of the resources

required, mainly by economic means. Empires are much more expensive because more direct state coordination is required.

The semi-periphery mediates between core and periphery, both exploiting the periphery, but also being exploited by the core. Semi-periphery countries may also be vulnerable to being pushed and pulled by the rather different sets of forces affecting them from both core and from periphery. As a result, some of their institutions may be quite volatile. Some of the spaces in the semi-periphery are occupied by countries or regions which are mobile upwards or downwards in the hierarchy.

Finally, the periphery is the rim of countries whose unprocessed resources are extracted by the core and who serve as the relatively powerless markets for core products.

3.9 Social identities

A major part of the identity or self of any individual is their involvement with various social groupings and how they subjectively construct that relationship (a recent sophisticated discussion is in Archer, 2007). Different processes of identity formation take place under different social conditions. In many societies, social identities are closely circumscribed and based on inherited characteristics, whereas contemporary societies often allow a huge array of choice. Identities variously involve roles or more diffuse groupings at any one often various scales and can be highly complex and multi-dimensional. A pervasive conceptualisation of social identities is the way people prioritise in a hierarchy their various identities and the way they relate these together. Identities are also forged thorough the distancing of people from groups they are not members of. Identities are often forged in cementing the boundaries between groups. But it is important, too, to assay the meanings held by individuals of their involvements in various social groupings. Components of identities have different saliencies and different consequences for commitment or even action. In addition to social contexts, various psychological and other mechanisms are important in constructing, maintaining and changing social identities. Moreover, social identities are open to change over time, and in some cases social identities can change very rapidly over time.

4. Social processes

The social processes requiring separate treatment include:

- social construction (setting up the boxes);
- peopling (filling the boxes);
- resourcing (producing from the boxes);
- social maintenance (maintaining the boxes)
- social change (changing the boxes); and
- life-courses (moving through and around the boxes).

4.1 Social construction processes (Constructing the boxes)

Social structures are almost never built anew from the ground up. On the other hand, nor can they readily be seen as fragile frameworks that are freshly reconstructed each day. It is more reasonable to take an intermediate position to draw attention to those social processes

of social construction which provide the more or less stable frameworks that shape everyday social life, and which also legitimate and bolster it. The main framework around which social structures are built is cultural: it is the set of 'constitutional' ideas held about how that social structure is to be put together. This cognitive and moral framework then provides the boundaries and sets the terms within which the social structure actually works. But this point does not imply that this shared cultural framework is necessarily the most important component in how the social structure works.

A general framework was sketched by Berger and Luckmann (1966) which provides some general guidance. More detailed, and empirically-related, material relevant to the processes of structure-building can be cobbled together from several diverse sources such as:

- studies of the sources of organisational arrangements from a 'radical' economic sociology viewpoint concerned to repudiate the more common argument that organisational structure is determined by 'technological imperatives';
- studies, from a Bourdieu-ian approach, of the social construction of a new social category;
- Tilly's concept of a 'contention repertoire';
- insights gleaned from the application of symbolic interactionist, and social representational, approaches to macro-sociological issues.

Tilly has developed the study of 'repertoires of contention' as part of fine-grained research into social movements accompanying long-term trends in modernising societies. He is interested in showing how the possibilities for action in any group are shaped by the range of possibilities that they consider are available to them.

> Any group who has a common interest in collective action also acquires a shared repertoire of routines among which it makes a choice when the occasion for pursuing an interest or a grievance arises. The metaphor calls attention to the limited number of performances available to any particular group at a given time, to the learned character of these performances, to the possibility of innovation and improvisation within the limits set by the existing means, to the likelihood not only the actors but also the objects of their action are aware of the character of the drama that is unfolding, and, finally to the element of collective choice that enters into the events which outsiders call riots, distortions, disturbances and protests (1981:161).

While Tilly has developed this conception in relation to the framing of public protests, my point is that this approach can be used far more widely. In all areas of society, social structures are constrained by the culturally-available imagination of its members. We live in those social structures we can imagine. For example, Benedict Anderson has argued this most decisively in relation to the rise of different conceptions of the nation-state (Anderson 2006/1983).

Several other points have been adduced by those studying social structure from social interactionist or culturological perspectives. In these approaches, attention is directed towards the ideologies which shape people's understandings of their social environment, the symbols which are the vehicles of these meanings and the rituals which act these out, while mobilising supporting sentiments. One significant programme has organised around the concept of the 'negotiated order'. This approach recognises that social life is governed by shared meanings, but emphasises the complex and fragile way in which such shared meanings are put together. It is clear that most social structures are wreathed in layers of

symbolism and studying this is vital to understanding how the social structure operates. These conceptual frameworks are in part constitutive of social structures through the cognitive infrastructure they lay down, and in addition they are highly significant in providing legitimation.

4.2 Peopling processes (Filling the boxes)

Once (as it were) the empty places in social structures are set up, they can be filled with people. Further processes deal with how the people that are recruited for positions are then handled in that position: their sustenance, promotion and disposal! In turn, the types of people who come to occupy a social structure can, by virtue of their own characteristics, have social consequences, since they may well endeavour to shape the structure 'in their own image'. It should surprise no-one that social structures are very often designed (not necessarily at all consciously) with a particular social category very much in mind.

Much interest in peopling centres on how people are recruited into positions. The most basic distinction is between recruitment on inscriptive criteria and recruitment on achievement criteria. In ascription frames, recruitment is fixed by pre-set biological or kinship characteristics, whereas in achievement frames, wider bases of selection criteria are possible. Especially for paid-work positions, recruitment is largely structured on a social class basis, albeit mediated by the effect of schooling and educational credentials. Gender, ethnic and other effects are also strong. Bourdieu has pointed out that this social class basis for recruitment involves the cultural capital obtained from people's home environments, reinforced by the way schooling (largely captured by middle-class intellectuals) is organised to in fact amplify the effects of class-based cultural capitals. The very style and ambience of education institutions operate to reinforce these processes.

Attention also needs to be addressed to the mechanisms through which people may come to hear of jobs to apply for. In his classic network study, Granovetter (1995/1973) was able to show that, for many, the information which yielded a job offer came from relatively remote and chance linkages. After all, the information scanning range of close contacts is more likely to be narrow and overlap with the information horizon of the job-seeker themselves, whereas the far-flung nature of the network immensely broadens its scanning range.

Once people are in place they may be motivated, instructed, cooled-out, monitored, supervised, sanctioned, rewarded and perhaps placed within a promotional ladder or other schemes for handling their progress.

Once places have been filled with people, the compositional pattern resulting can have its own effects. For example, in various community studies, the question has been posed about the extent to which a locality affects the people living within it. One major influence is clearly the effect of the physical and spatial environment and another is the particular history of the area. However, an important point is that, beyond these obvious comparisons, many of the differences between communities arise precisely out of the mix they contain of different social categories of people. A community of middle class people is likely to operate in quite a different way than one composed of working-class people; a retirement community will be different than a 'nappy valley' of young newly marrieds. Compositional features of a community can have quite a direct effect in their own right. Of course, this point applies to social structures other than communities as well.

Peter Blau (e.g. 1975 see also Calhoun et al 1990) has developed an ambitious theory of the effects of social compositions deploying a 'primitive theory' of macro-structure. This provides a more clear specification of Durkheim's concerns about the consequences of division of labour for the pattern of social integration. However, for Blau, the 'division of labour' involves the considerably wider conception of the composition of the pre-given social structure, and any interest in the overall level of social integration is deflected into the narrower issue of the patterns of social interaction between the groups comprising that social structure.

The key to his theory is that any social structure has 'structural parameters' which are built up from the characteristics of aggregates of its members. These then form aggregate-level opportunity-structures which in turn may constrain or provide opportunities for individual behaviour, especially behaviour which involves interaction across (or within) the social boundaries indicated by these parameters. An obvious example is that one finds it hard to meet an Eskimo in a town without Eskimos: or rather more realistically, that one's chances of meeting an Eskimo tend to be shaped by the proportion of Eskimos in your place of residence.

Much of the flow of people into the slots provided by social structures is controlled by those who set them up or run them in the first place. On the other hand, those who come to fill them adapt various long term strategies and short term tactics in the way they 'use' their position. It is in the peopling of social structures where much of the interplay between ordinary people and controllers of structures takes place.

4.3 Resource processing (Producing from the boxes)

Social positions and the units within which they are embedded are assigned tasks to do, and accordingly are allocated resources to carry out these tasks. They also are involved, as Marx would remind us, in actually producing resources (e.g. commodities). Also, as a surge of more recent research interest indicates, they are also involved in consumption. Yet, it is strange how the pages of the literature of sociology seem often inhabited by quite vacuous social structures, which do little and have little to do it with.

What can be used as a resource is defined by the culture concerned. Different cultures may have considerably different conceptions of the use of the same array of potential resources. For example, oil is central to the running of modern capitalist societies, and yet may have been regarded as merely a curious seepage by other cultures. Groupings within a social structure may vary in their discernment of alternative uses for resources.

Resources, as such, are therefore often regarded as falling outside social structure. They are 'things' used by the social structure. In the first place, resources are the immediately useable aspects of the environment the social structure sits within, especially the natural environment. (The more diffuse aspects of the natural environment, then, presumably provide more general assistance, for example in providing a physical stage.) In addition, people can be beset by any of a catalogue of dangers or risks, 'anti-resources' such as wind, fire, storm, earthquake. The hard physicality of some resources may have a quite direct affect on social behaviour.

However, **physical** resources are but one form of a wider class. In addition, social structures create 'social' resources, as a product of the activities of their members. Giddens has

identified 'authoritative resources' as those which offer power levers over other people. Bourdieu extends this yet further with the term 'cultural capital', and the even wider conception of 'social capital'. He draws useful distinctions between such aspects of 'capital' as the extent to which they can be institutionalised and to what extent they can be appropriated by individuals (e.g. with educational capital in the form of credentials). Philosopher Karl Popper referred to the whole cultural heritage which people build and then live in as 'World 3', with its own (albeit constructed) autonomous reality.

Economists have developed some distinctions about different types of resources. As opposed to the usual commodity of capitalism which is a 'private good', other resources are described as 'public goods'. These differ from private goods in terms of whether the use of a good exhausts it, and/or whether access to the benefits of the good can be kept private. Sunsets, for example, are clearly a public good, although access to a gorgeous uninterrupted view of them (accompanied by champagne on a warm unpolluted beach!) may not be. There are many intermediate categories, especially where goods have 'externalities': where their use by one person has effects on other people. That goods have beneficial externalities, which people can enjoy but cannot be readily charged for, allows 'free-riders' to benefit. In fact, very few goods are 'purely' private, perhaps just household retail items such as bread and butter. Another distinction which can be important for distinguishing between different types of resource is whether or not they are renewable (e.g. hydro-electric power) or non-renewable (eg coal-generated electricity), to give examples relating to physical resources.

These distinctions have important implications relating to the operation of markets, as well as the social groupings in these markets. Classic markets work best with pure private goods, and progressively are less and less able to handle goods with more 'public' characteristics. Public goods are more likely to be handled through non-market mechanisms such as rationing or direct state control. Sometimes, as in contemporary welfare state reform , attempts are made to set up 'quasi-markets' in which coupons or other money-substitutes are artificially provided to enable the good to be allocated other than on a rationing basis. In a market society, public goods are usually not handled very well, and this is likely to lead to 'private wealth but public squalor' (in Galbraith's evocative phrase).

How are resources allocated and acquired? In some part, resources are allocated 'rationally' (in the eyes of the authorities distributing the resources) to enable people in particular positions to carry out those tasks. This type of bland assertion, though, suppresses the often vigorous processes of competition and conflict between and within social units. Within any firm there will be struggles between different departments for more resources, although there may be quite different types of resource which are struggled over. For example, a common conflict is between a marketing or sales department which wishes to serve the interests of the firm's customers, and the production side which is sensitive to the internal limitations of the production technology. In markets, firms compete for market share. And similarly, nations compete to keep up their standards of living and their ability to beat the goods produced in other nations in terms of price or standard.

Similarly, the distribution of resources (once they have been rendered ready for use) as rewards is also seen as rational in the eyes of the authorities responsible for their distribution. Certainly, ideological justifications to legitimate income distributions argue this. But as with the pattern of resource allocation, the pattern of reward allocation is the

contemporary outcome of contemporaneous and historical struggles amongst various social groupings. Certainly, resources are often distributed along social class lines, and other lines of social cleavage such as gender and ethnicity are important. A host of empirical studies have been carried out on income distribution. To a considerable extent the rewards are related to the earning-capacity of individuals, which comes from those of their characteristics which are valued on the job-market. But in addition, sociologists have pointed out that much is shaped by the opportunity structures which they face, which they may be influence barely at all.

The Mertonian concept of 'opportunity-structure' is a general-purpose framework often deployed by sociologists to indicate the ways in which groups differ in terms of their legitimate access to resources. For example, Merton argued that deviance was particularly generated in those groups where, despite a shared cultural pressure to do well, these groups lacked the ready access to achieve occupational or financial success. Such a propensity might be further reinforced when people in this position had access to an 'illegitimate' opportunity-structure in which the means of deviance was available to them.

4.4 Social reproduction/Maintenance processes (Keeping the boxes operational)

Social structures take energy to keep going, even if they sometimes appear to have massive solidity. If there is a lapse in the supply of involvements social structures can quickly crumble (as perhaps the examples of the great South American civilisations shows.) Experimentation with small groups has suggested that some social structures require both task and cohesive leadership and activities and it is likely that their [pertains across many larger social structures too. Social reproduction also requires many 'behind the scenes' day to day activities to run the structure.

4.5 Organised social change/Transformation processes (Changing the boxes)

Too much can be made of the distinction between the normal ebb and flow of the day- by-day social process, and more definitely intended changes in arrangements. Often the distinction is quite arbitrary, and in general change is best seen as lying on a continuum between normality and radical discontinuity. After all: plus ca change, plus ca reste la meme chose. On the other hand, there are social processes which directly and consciously involve the reshaping - or the attempted reshaping, or indeed defence - of existing structural arrangements. In order not to slight such processes, separate attention is needed.

Early theories of social change and revolution often focused on the collective behaviour of riots and disorderly assemblies which are often the human face of turbulent social change. Much (often essentially conservative) social commentary on these collective events stressed their irrational, sentiment-laden, 'mob psychology' nature, and the regression into animal-like and imitative behaviour of those involved.

The array of social movements of the 1960s precipitated a much closer look at the mechanics of social change. The civil rights, women's, environmental, peace, gay/lesbian and other social movements were all struggling for success under the bright lights of media publicity. Reflection on the comparative successes and failures of these movements seemed a fertile ground for developing sociology of social movements. More recent writing in these areas has sometimes noted the links in their ideas to the enunciated strategy and tactics for

fostering social change advocated by social change activists and theorists such as Lenin, Trotsky, Mao and Alinsky. (This is part of a two-way trade in ideas between the lay world and analysts.)

A broad approach labelled 'resource mobilisation theory' (RMT) developed. One stream of this approach works at a social psychological level, making the assumption that in fact involvement in social change is rational, and attempting to explain people's involvement in terms of their incentives and costs (as in the broader REM model). At the membership level, the role of social network links in recruiting people and ensuring their continued participation is seen as crucial.

The other stream of RMT works at an organisational level, rather more as seen from the viewpoint of a social movement leader. It therefore is concerned with resources, recruitment, strategies and tactics, ideology and communication, not to forget organisational arrangements. In this approach, a distinction is made between the 'Social Movement Organisation' (SMO) or organisations in the vanguard of the conflict, and the long tail of the more or less almost-passive support which good causes often receive: or evil ones for that matter. It is not enough, of course, to concentrate on just the social movement itself, and the wider social environment, competitors and counter-movements have also to be taken into account. In addition, the needs of the organisation itself, just to maintain itself as an organisation, can begin to cut into, or even deflect, the drive for change.

Resource mobilisation theory can be seen as a broad framework within which historical understandings about social movements can be accumulated and particular theories about social movements can be tested. In more specificity, these analysts have argued that:

a. movement actions are rational, adaptive responses to the costs and rewards of different lines of action;
b. the basic goals of movements are defined by conflicts of interest built into institutionalised power relations;
c. the grievances generated by such conflicts are sufficiently ubiquitous that the formation and mobilisation of movements depends on changes in resources, group organisation, and opportunities for collective action;
d. centralised, formally structured movement organisations are more typical of model social movements and more effective at mobilising resources and mounting sustained challenges than decentralised, informal movement structures; and
e. the success of movements is largely determined by strategic factors and political processes in which they become enmeshed.

'New Social Movement' (NSM) theory, has arisen to partly complement and partly challenge the RM approach. The NSM theorists are much more concerned with the societal framework within which social change movements are launched, and in particular about the cultural and ideological messages they carry. A distinction is drawn between the older social movements for change, which are seen as strongly class-linked, and newer social movements which are seen as reflecting rather different sectional interests.

The more recent peace, environmental etc movements are seen to reflect a different set of values about society than those held in the mainstream of that society. This in turn, can lead to new organisational forms being adopted by them which better reflect these values. This

new ideology tends to de-emphasise the material wealth concerns of the older agenda in contrast to 'quality of life' concerns, such as those relating to the physical environment. NSMs also tend to be egalitarian in terms of their political philosophy, stressing widespread political participation. Thus, NSMs confront various of the central values and structural arrangements of modern societies: materialism, traditional moral values, as well as class, patriarchy and racism. The very diffuseness of their social background can in turn lead to a marked fluidity of membership involvement (since involvement is not sanctioned by any social solidarity). NSMs are likely to be quite media-conscious and can use the media to appeal directly to supporters without building up large organisational support. Protest activities may be carefully staged, and indeed, they may have to be as they cannot deliver a solid steady block of voting support that is needed for involvement in traditional politics.

The NSM approach focuses on different aspects of social movements, but does not necessarily require a totally new sociological approach. It can be seen to blend in with the older resource mobilisation approach. In turn, both approaches can be seen to draw on a variety of theoretical models covering organisations, inter-organisational fields, networks, power etc. that are available within the general stocks of theoretical knowledge in sociology.

The sociology of revolution partially overlaps and partially extends the more general study of social change. 'Social revolutions are rapid, basic transformations of a society's state and class structures; and they are accompanied and in part carried through by class-based revolts from below' (Skocpol 1979:4). Because of their dramatic nature and their large-scale effects, revolutions must be firmly placed on the agenda of any sociological approach, as they can be seen as providing a crucial empirical test for any general theoretical approach.

But neither the study of social movements nor of revolutions exhausts the range of investigations required into broad processes of change and struggle between social groupings.

4.6 Life courses (Moving through and around the boxes)

The power of a life course perspective comes from showing the extent to which people's present attitudes and behaviour is explained by their past positions in the social structure (or by the line of their trajectory through the social structure).

Some of the methodological difficulties of analysing trajectories are intractable. In principle, at least, one must envisage two time-slices of social structure and then map the linkages between these two:

- the social source or origin;
- the social destination or outcome;
- the social aspects of the social change group (e.g. generation).

In this perspective, the analyses focus on ordered patterns of change, and how these both are:

- based on prior social structure, and
- effect subsequent social structure.

Some of the complexity comes, therefore, from the multiple viewpoints from which social trajectories can be viewed. They may be seen from the perspective of the situation out of

which they arose, the situation which resulted, from the changing situation of those changing, or against the background of those not contemporaneously involved in change.

While many studies of social trajectories emphasise the smooth flow and long-term consistency of social trajectories, other studies focus on discontinuities and the effects of these on life-courses and contemporary situations. Such interruptions include deaths, major injuries or illnesses, mental breakdown, unemployment and other shocks, either to a person themself or to someone close to them. In 'life events' analysis it is assumed that individuals and social units are subject to occasional (perhaps regular and frequent) social shocks and that these contribute stress which is variously coped with.

Life courses also needed to be viewed from the viewpoint of the social structure itself. At any one time, when a social structure is analytically frozen for viewing (as in a single camera shot) it must be remembered that, in fact, that any social structure is composed of various social groups and individuals each with different types of trajectory, different start-points and different destinations. Often the vectors of this past and future movement are not captured by social analyses which concentrate solely on the present. Differentiating between the variety of groupings, each on their different trajectories, may reveal a rather different understanding of social change.

The succession of statuses occurring with sufficient frequency as to be socially patterned will be designated as a status-sequence, as in the case, for example, of the statuses successively occupied by a medical student, intern, resident and independent medical practitioner. In much the same sense, of course, we can observe sequences of role-sets and status-sets (Merton 1968: 424). Such sequences are not only recognised and expected but are often governed by 'socially expected durations' concerning the timing of each phase. An example of this is that of a 'lame duck' politician, after being defeated in the polls but not yet replaced by the victor. One mechanism tying such sequences together is 'anticipatory socialisation' in which people may orientate themselves to views and behaviour associated with subsequent stages.

Major portions of culture are orientated around providing meaning and a social context of social support through involvement in rituals around the time of the various break-points: birth, adolescence, adulthood, marriage, death etc. 'Rites de passage' serve to shore up the uncertainties and risks associated with people's movement between stages.

A range of quite different types of study have been concerned with the patterns of people's movement within the social structure. Perhaps the most arduous producers of basic information about change are the demographers through their cohort analyses of births, deaths, migration, divorce etc of different age-sex groupings. Another important type of study are those which trace inter-generational occupational mobility between parents and sons or daughters (notably Blau and Duncan 1967). This type of study is vital in understanding how open or closed a social formation is to change over time: a 'closed' society sharply reproduces in the children their parent's social position, whereas a more 'open' society allows room for individual talent and other social factors to result in changed social arrangements between generations. This makes the study of occupational mobility of very considerable theoretical interest, although in practise the similarities of findings across divergent contexts seems to reduce the excitement that this type of study seems to promise.

As well as studying the transmission of occupations, studies have examined the socially-structured patterns through which this transmission is shaped, through mediating variables such as schooling, parental household resources, sibling order, military service, first job and so forth. These can be summarised in concepts such as the pattern of 'status-attainment'. In addition, the transmission of a huge range of other values and characteristics between generations is possible.

Studies may look much more closely at the complex twists and turns of sequences of social positions. For example, the work histories or residential histories of people can be immensely varied. Moreover, these are complicated further by the different exposures people have as a result of their age or their differential involvement: as a result the histories of older people are likely to be more varied than those of younger. Sifting through such rich data in order to yield clear-cut patterns is not easy, especially with little in the way of theoretical guidance.

The types of study noted so far are those which tend to emphasise the objective patterns of life-course changes. In addition, some studies emphasise the more qualitative and subjective aspects. One important concept that can be used to guide this type of study is that of a 'moral career' as suggested by Becker (1970). In this approach, analysts are sensitised to the different stages through which people meaningfully commit themselves to a particular role. For example, a marijuana smoker has to learn not just how to smoke, but how to do so in the style to which they are supposed to grow accustomed. A criminal may be so labelled by police or courts, and then may get to accept this label of themselves, which then creates them as a criminal.

A wider application of this approach is that of the 'life history' where aspects of all of the above are combined: together with locating the person within their own wider but changing social contexts. In a life-history, the sequences through which a person has lived is reconstructed, particularly in the subjective terms through which that person sees their own biography.

5. Conclusions

In summary, a 'guiding thread' for carrying out analyses is to see that social structures involve, above all, the ways in which social groupings are involved in (strategies and tactics) drawing on and creating ideologies, resources and contacts to maintain and/or change their position within the broad social order. But their collective abilities to carry out such 'projects' will vary considerably.

In this chapter I have advanced a concept of a multi-dimensional approach to social structure. Several elements have to be assembled to understand the whole, and this chapter has laid out an extensive conceptual toolkit from which appropriate ideas can be drawn to accomplish particular types of analysis. It is hoped that the reader will press the material covered in this book into practise.

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The Nature-Society Controversy in France: Epistemological and Political Implications

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1. Introduction

Since the 19th century, a modern movement promoting the protection of nature has been developing - first in the USA and then worldwide - as the negative consequences of human activity on nature were revealed. Institutions have come up with a wide range of possible solutions: the conservation of forests, the creation of national parks, the development of green zones in cities etc. The increasing promotion of nature as a central value for human establishments since the seventies has been an opportunity to question the relation between nature and society in the western world. This chapter aims at giving a portrait of the major anthropological, sociological and philosophical contributions that fuelled the ongoing debate concerning the distinction between nature and society - and the many social repercussions of this debate, in France and elsewhere. The different positions have important pragmatic implications for the management of natural areas for example. We will first introduce the works of Bruno Latour who, we believe, launched the debate we are interested in. We will then present the works of Philippe Descola, whose work aims at proving that our concept of nature is a construction of the Moderns, a construction that is contextualized as any other cultural construction might be. But apart from these scholarly concerns, and even without any normative arguments against the properly modern dualism that is at stake here, one might say the ecological critique of modernity finds its roots in the nature-society distinction. What principle, other than this dichotomy, could be the basis for a proper ecological criticism of modernity? What could be the criterion for a denunciation of the human-non human arrangements? In light of these issues, how can we build a new commonplace, a new ethics? Must we build a new cosmology, a new epistemology, or can we simply modify our present ones? It is through these questions that we see Latour's attempt to reintroduce political sciences.

2. The controversy around Latour's essay on symmetrical anthropology

In the early 1990s, the French academics are structured around the study of advanced modernity. It is in this context that Latour publishes his controversial essay on symmetrical anthropology (Latour 1991). The controversy will organize itself around the modern nature-

culture dichotomy and the taxonomies it justifies; other modern dichotomies are also questioned, subject-object on the one hand, and the fact-value dichotomy on the other. Nevertheless, it is clear that Latour's provocative style did play a role in the development of this controversy, as did the sociological community's disposition to welcome such a thesis.

The controversy created by Latour's thesis quickly escalated into an intellectual conflict. The different fundamentals at the basis of the controversy still exist, and this difference is interesting because of its practical consequences. Latour's thesis triggered serious reactions on the part of the academics structured around an epistemology of rupture, inspired by naturalistic and positivist positions- a structure that was already perceived by some as a weakening facade. The intervention of progressive scholars who accepted to enter the discussion with Latour solved the crisis. Claude Gilbert[1] addressed the issue in his multidisciplinary seminar on collective crisis. Michel Callon, Pierre Lascoume and Yannick Barthes[2] collectively published on the subject. Finally, Philippe Descola's[3] work contributed to give Latour's thesis the acknowledgement it deserved. As support builds up, Latour manages to create a network of scholars interested in his work despite the adversity[4]. But his thesis will first gain real support from outside the sociological institution. His papers will circulate through prestigious institutions such as l'École des Mines, l'École des Hautes Études en Sciences Sociales (EHESS) and more recently the Collège de France. His thesis definitely penetrated sociology through disciplines such as the sociology of sciences and techniques, political science and the sociology of organizations. From that point on, the interest in Latour's thesis will grow and make it to a larger public. From this point of view, Philippe Descola's publication, *Par-delà nature et culture*, confirmed the relevance of the controversy structured around the theoretical distinction of nature and society in France.

3. Purifying of the world and its consequences

Proposing to disqualify the dichotomy between nature and society, Latour criticises the substancialistic approach proper to the modern sciences in the method used to define and describe the phenomena as "objects". According to Latour, this modern structuration of the world is related to certain practices which he qualifies as "purificating" (pratiques de purification), in reference to the many conceptual cloistering it creates. But Latour also insists, in conformity with the main tradition of sociology which situates the birth of modernity in synchronization with a certain alienation of the world, on the importance of these practices of purification as a major constituent of modernity itself. His position is nevertheless singular as he establishes the link between these practices and modernity's perpetual revolution: the perpetual destructive and creative dynamics of modernity depends on its capacity to continuously transform or replace the previous social

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[1] Séminaire du programme Risques Collectifs et Situations de Crise du CNRS, directed by Claude Gilbert, MSH-Alpes : Grenoble, 1994-2001.

[2] Michel Callon, Pierre Lascoumes, Yannick Barthes, *Agir dans un monde incertain. Essai sur la démocratie technique*, paris : Seuil, 2001.

[3] Philippe Descola, *Par-delà nature et culture*, Paris : Gallimard, 2005.

[4] The controversy correctly confirms Latour's thesis. According to him, the construction of scientific facts relies on the formation of alliances and on the creation of actors' networks. The shock created by the publication of Latour's essay on symmetrical anthropology actually faded away as a network of scholars organized itself around the controversy concerning the question of nature.

arrangements with new ones, which are the product of the practice of purification proper to the modern western sciences.

To give an example of such practices, one can take the case of the policy of renaturation in France. Natural reserves follow a different path from national and regional parks. While the regional parks are managed according to a cultural, patrimonial approach of nature and while the national parks are managed according to an aesthetic concern for the landscape, natural reserves are meant to preserve nature and be devoted to scientific research. The specialization of the natural reserves' territory raises many issues and results in different conflicts. The delimitation of space can be controversial, because locals and scientists will usually not agree on where to set the boundaries of the reserve. How to use this territory also turns out to be problematic, because every alternative (non-scientific) way of using it becomes forbidden. The need of specialists (ornithologists, environmentalists etc.) thus prevails, to the detriment of the representations and usual practices of the locals, therefore deprived of a territory.

Latour's main argument can be summarized in the following way: the generalization of the practices of purification is an obstacle to the emancipation project of modern society. This is largely due to the social distribution of practices of purification, for they are only accessible to specific parts of the population, which special interests become the dominant and trusted reference for all social practices. The project of modernity- that society can achieve a capacity to govern itself by itself- is threatened by modern western sciences as they exclude practices of purification and the definition of nature from the public and political space. As nature is defined as a separated, distinct world, it is excluded from the political space- and the knowledge of it, as well as its stewardship, is reserved to an elite of specialists. Thus, according to Latour, modern society deprives itself from a formidable potential of self-determination. The constitution of modernity opposes the project of modernity: society's capacity to govern itself is taken away and the distinction between nature and society is at the roots of the conflict.

Precisely, what is at stake is to show how the misguided constitution of modernity finds its roots in the myth of emancipation common to the Moderns. One of the perverted effects of modernity, according to Latour, is the conceptual confusion between self-determination and avulsion. Social emancipation should not be condemned to be associated with an avulsion from nature, and in a general fashion, from the multiplicity of affiliations which make us members of a society at a given time. The error of the modern constitution lies in the way it describes the world as two distinct entities separated from each other. More precisely, its main flaw is to promote the opposition between "natural" entities and "cultural" entities, thus contributing to the denial of the obviously hybrid structure of our historical establishments. To reverse this effect, Latour proposes to replace the "natural" and "cultural" categories by "human" and "non human" categories. Latour claims this new distinction allows to think beyond the nature-culture dichotomy, two concepts logically opposed until now. Moreover, it offers a larger theoretical horizon from the point of view of "human" and "non human" establishments.

Latour proposed a new vocabulary in replacement of the term society, which implicitly involves the distinction between nature and society. First adopting the term "middle empire" (Latour 1991), then "collective" (Latour 2006), Latour searched for a terminology

that would illustrate the world as being a construction of different entities. This new terminology seemed to thwart the distinction between nature and society and therefore open the possibility to define the world as a series of associations between "human" and "non human" entities. The term "middle empire"[5] correctly described the world as a hybrid reality, in continuous transformation. Latour claims that hybridization is the result of imbroglios of science, politics, economy, law, religion, technique and fiction (Latour, 1991: 9). This position is also compatible with the theory of socio-technical networks. To summarize, it is through a proper deconstruction of the nature-culture dichotomy that Latour was able to come up with a new description of the given world. But more, this method also questioned other oppositions such as subject-object and fact-value.

Bruno Latour's thesis involves an epistemological rupture that also supports the concept of intertwined facts and values. This new rupture brings to light a similarity between the present debate on epistemology and the 19th century debate over methods (*Methodenstreit*). What methods should we use to encounter the world and define it? As Latour made it clear, the essential hybridity of the world demands that we find new methods of investigation to encounter the world and qualify it. The new methods, characterized as "practices of mediation" (pratiques de médiation) are at the heart of Latour's ethnographic work (Latour 2006). To give an example, one can observe how a same object endows - or does not -a human being with new skills, depending on the context or network in which this association between a human being and a technological artefact is working. The term of agency is required to talk about the power of transformation or the potential of action of these kinds of associations.

Following this methodology, Latour launches a true crusade to rehabilitate the status of "non human" entities, which he believes are currently ignored by social sciences (Latour 2006). Social sciences, claims Latour, are guilty for not considering many "objects" as constitutive of society. They must therefore be rehabilitated through a process of qualification. To solve this problem, Latour goes further in his exploration of new vocabularies. From "hybrid" entities to "faitiches" (a conjunction of *fait* (fact) and *fétiche* (fetish)), Latour will finally adopt the terms "human" and "non human". This new duality presents two main advantages. First, it prevents a return to the correlation between the subject-object dichotomy that undermines the modern constitution. Secondly, it guarantees the qualification, case by case, of the "non human" entities' behaviour until now ignored[6]. This distinction also rejects any essentialist theory to support a constructivist view of the world. The qualities given are the result of identities acquired in a network of relations. Thus, the behaviour of a "human" or a "non human" entity is considered as the expression of a configuration.

This new perspective proposed by Latour would involve, according to many scholars, a more vigilant regime (Roux, Rudolf, 2006). Latour's constructivisms can only accept an

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[5] The term middle is to be understood here in its French meaning: environment.

[6] This distinction must be understood in phenomenological terms: it is built from practical informations gathered from the lived world. The difference between humans and non humans is the result of a basic structuring made possible through a process of typification, although not as culturally invested as the distinction between subject and object. As explored by Habermas and Luhmann, we can identify this distinction with the notion of structuration of the world developed by Piaget, although Latour does not venture in this direction. According to this approach, ego identifies alter-ego as different but nevertheless similar. This process would justify a distinction between humans and non humans.

ontology that would be of the second order, an ontology based on acquisitions[7]. This distinction demands that we look at our social obligations in a different way -that is- that we question the effects of the context in which our social obligations are formulated. In other words, each situation will determine what relevant feature in each entity will be resorted to. This may be extremely variable and does not have to do with nature or culture. One may consider development projects such as the construction of a hydroelectric dam: the river will be involved as the power which flux, tides and environment are a key to the success of the project. But the traffic of ships, the influence of men, the wildlife and lands surrounding the river and a lot of other preoccupations are also important. The nature-culture dichotomy cannot take all the meanings of an ecological question into account.

4. Philippe Descola: Perspective from an anthropology of nature

Descola's work represents another strategy of dissociation from modern taxonomies. Formulated as an external critique based on a comparative method of ethnography, Descola's work is a continuation of Latour's criticism of modern dualism. His major book, *Par-delà nature et culture,* summarizes his theory.

As a starting point, Descola claims the comparative method of ethnography invalidated the pretensions of a universal modern ontology. This conceptual rupture between nature and culture, according to Descola, is not necessary in any way to human thinking. Its origin can be found in a particular western idea concerning the structure of the world. This western classification of "existings" can be named naturalism. In consequence, anthropology must not make the mistake of projecting this typically western dichotomy on its inquiry subjects. The method of investigation cannot simply rely on relativism anymore for this relativism still bears the traces of a dichotomy, which universality has proven false. In fact, the relativist method presupposes a universal nature only interpreted differently by different cultures. Descola's aim is to search for basic principles of world organization in different cultures. His position relies on the thesis according to which it is possible to find basic resemblances in the different human organizations of experience, called schemes of practice. Observing these schemes should allow us to build a less ethnocentric view on the indigenous perception of non human beings, always remembering that their cultures might not share the same rigid conception of nature and culture. This method is the basic approach of ecological anthropology.

According to Descola, there are, up to this day, three major schemes on which cosmologies can be built, or what we can call maps of "existings". These are: categorization, relation and identification. To demonstrate the efficiency of this method, we can associate the last two schemes with four different ways of relating to the world: totemism, analogism, animism and naturalism. Identification, the process of identifying borders between the self and the other, and relation, the interactions between those beings, condition each other, which forbids certain combinations. Totemism, which postulates a resemblance on the spiritual and physical levels between the totem (object, natural species or geographical element) and its counterparts, defines particular essences to the totemic groups, from which are derived proscriptions on food consumption and killing. Conversely, analogism is based on a

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[7] It would be interesting to compare Bruno Latour's and Nicklas Luhmann's epistemologies on this very point.

fundamental difference, both physical and spiritual, between a person and its counterpart, to establish analogical relations about the events affecting the two. Their mutual influence is only conceivable from the point of view of their difference. According to this, the way animals are treated always carries the risk to affect human condition and destiny. Animism functions in a totally different way. It involves a similarity on the spiritual level, but a difference on the physical level. This relation can emerge as a reciprocal relation, actualized as an exchange of services, souls, food or life energy. For example, in certain animist systems[8], not only can humans feel indebted to non humans because of the taking of lives through hunting, but the hunters will admit that non humans take back from them by stealing body parts, food or vital energy. On the other hand, naturalism identifies nature as a completely separated world, heterogeneous to humanity. It does not identify any relations of reciprocity between the two worlds. In fact, although naturalism accepts a certain physical continuity between humans and non humans, it postulates a rupture on the spiritual level, which makes any notion of communication between them impossible to accept.

A first remark must be made: in these conditions, can an ecological project be suggested in regard to naturalism (as defined by Descola)? If any notion of communication between humans and non humans is absurd and if human interest is the only limit to a subjugation of nature, is a preservation or only a conservation of nature conceivable and practicable ? Environmental ethics are concerned by this possibility. They generally answer negatively. They affirm that the metaphysical dualism developed by modernity limits morality to cultural beings, namely humans. This prevents any kind of moral recognition to non humans, but it is necessary to take care of them[9].

Looking at these different cosmologies enables us to see how naturalism is no more than a certain way of interpreting the world. It is a singular ontological formula, like the other ones (totemism, analogism, animism), that is organized from the practice schemes common to all cultures. Descola's work proves that no theoretical argument can justify the dominance of the western conceptual framework.

5. Ecological critique of modernity

It now looks as if all the conditions are set for a proper redefinition of the modern paradigm. Modernity deconstructs itself both internally and externally, but the ecological critique also attacks dualism. Nevertheless, although it seems that all is in favor of this change, it seems analytically impossible from an environmental perspective. The ecological critique of modernity will allow us to measure the implications and contradictions involved in the attempts to step out of the modern framework. In relation it is important to consider that Latour situates his work in the horizon of political ecology to be built.

Why the ecological theory is incapable of rejecting the modern paradigm is quite simple. The ecological crisis consists in the degradation of the natural world. Now, as we see, the

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[8] Philippe Descola, "Constructing nature. Symbolic ecology and social practices", in *Nature and Society* : *Anthropological perspectives*, P. Descola and G. Palsson (ed), London : Routledge, 1996; p.94

[9] Domestic animals seem to be the exception on this case. Generally, the owners develop a close relation to their pets and thus develop a certain morality in regards to them, limiting their behaviour in regards to them (although many counter examples are available).

definition of the crisis in itself is dependent on the dichotomy that is named as responsible for the crisis. Also to change the ontological paradigm would mean to cease the interpretation of environmental problems as dysfunctions affecting the natural world. Many problems are involved in this issue. As mentioned earlier, nature is the central theme to the environmental philosophies, their goal being to give nature moral value on account of an intrinsic value. Theoretically, it would be naive to give up the scheme that defines the object of their main research. Furthermore, the dichotomy is at the source of the creation of modern sciences, which reject any explanation of the phenomena in relation to final causes and defines space through geometry. Thus, to abandon the western cosmology is to abandon modern epistemology. But if the mechanist conception of nature has evolved, modern sciences not only possess extraordinary powers to explain phenomena, powers that are necessarily useful, but they are also the main if not the only tools we possess to come in contact with Nature, that is the biosphere. This is why it is so easy to build social controversies over global warming and the collapse of biodiversity for example. For non scientifically educated people, it is quite impossible to evaluate the extent of the damage of human activities on the ecosystems and the biosphere. It is then clear that the role of science must remain somewhat important unless we adopt, as certain branches of ecology do, a very different definition of the natural environment which is at stake. For André Gorz[10], the naturalness of an environment refers to an organisation of the common world which functioning and structures can be intuitively and easily understood, without any kind of prerequisite learning. One can orient oneself and act relatively spontaneously in it. In this perspective, the ecological concern is a political one : it is about the colonization of the lifeworld by systems (technical-industrial-capitalist systems). But if the main issue is to care about biodiversity, and not only to resist to the expropriation of a common world that the systems destroy, we need to enter into scientific reasoning because we have to measure the impacts of our way of life on ecosystems. Common knowledge, intuitions and political concepts are not sufficient to build a representation of the anthropogenic damage caused on the ecosphere. In fact, scientists were the first ones to ring the bell after overseeing the extent of the degradation that was going on.

We are consequently facing a paradox. On one side, we are in front of a metaphysical paradigm that implies an unacceptable action in regard to our natural environment, but on the other, this paradigm is the only way leading to an understanding of this aberration. The paradigm is both problematic and helpful. Are we mistaken? Must we after all keep the modern metaphysic ? Or must we really abandon all references to modern nature? Is a practical knowledge of nature better suited to understand the problem? In brief, is it necessary to break down, in a radical way, modern naturalism and reject once and for all the categories of nature in opposition to society?

To understand this problem, we must understand the link between politics and ecology, for the problematic character of the nature-culture dichotomy is at the source of this environmental debate. To care about the *depletion of natural resources* involves being dependent on nature, not being outside of nature. Furthermore, the concept of a *responsibility* towards the planet supposes a relation of dependency of the planet in regard to human activity. Its state is modified by human activity and technical interventions necessary

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[10] André Gorz, *Écologie et politique*, Galilée, 1975.

to the shaping of human societies. To summarize, we must admit that the understanding of the environmental crisis has challenged the theoretical apparatus of modernity because it involves new categories incompatible with the nature-society dichotomy.

6. Two philosophical perspectives

Philosophy answers the problem from two different perspectives: environmental ethics and political ecology. They both propose to reorient human activity in reference to two philosophical themes, namely ethics and politics. Environmental ethics, a North American movement, try to question our relation to the environment from the standpoint of morality and more precisely, the legitimacy of a protection of the environment. Why, morally, should we protect our environment?[11] The main goal is to define our duties towards nature. To reach this goal, an ethical control of our technical abilities is insufficient; environmental ethics are dedicated to giving the natural element moral value. Their basic intuition is that non human elements must have something like an intrinsic value and must be considered for themselves. This value must be considered apart from the instrumental value of nature, which is easily definable by the many services that nature procures to humanity: resources, food and even aesthetic beauty. In this case, it is said that the environment is not synonymous of nature, an autonomous entity, because environment is still attached to the interest of the being surrounded. Such criticism leads to the proposition "Think like a mountain[12]" for example, which means that environmental ethics should adopt the perspective (and represent the interest) of an ecosystem and not a human collective point of view.

The other philosophical movement, political ecology, started in Europe and has now become an international theme. It developed around the anthropocentric project of protecting the natural environment of human societies. In this perspective, nature is considered as an objective condition of existence for human societies and this is the basic reason why it should be considered as a new object of research and political inquiry. It is accepted that the modern State has the responsibility to protect its citizens. Therefore, the State must protect the citizens from natural disasters, but also from pollution and the degradation of the environment. Because actions on the environment affect others by transforming the physical world, public policies should regulate these activities of transformation in order to protect society in general. What is at stake here is the regulation, by the State, of our actions on the environment.

Nevertheless, the practical objective of these two philosophies might not have been reached. For example, in regard to environmental ethics, although the American orientation towards a valuation of nature for itself has questioned the relation of the modern man with nature, it is still burdened with the problem of man's natural origin. A promotion of the respect for the absolute Other does not break down the borders between "humans" and "non humans", but only affirms the existence of the dichotomy. North American natural parks (including the Canadian ones) are the best example of this: the visitor must not leave any traces of his visit, which suggests that he is not at home in the natural environment. The park system

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[11] For a presentation of the environmental ethics, see Catherine Larrère, 1997, *Les philosophies de l'environnement*, Paris, PUF.

[12] The well-known expression is from Aldo Leopold, *A Sand County Almanac*, 1949.

does not promote any real "direct" experience of nature (the opening schedules of many installations restrict this in a formal way), nor does it allow any beneficial co-evolutive human practices (like transhumance in the Alps). The dichotomy still remains, the conditions of normativity have simply been reversed and we are in the presence of a natural subsumption.

But also, if the environmental ethics' goal is to ultimately enact new policies capable of changing our relation to the environment, their efforts are concentrated on justifying moral interdictions and obligations in order to transform our ideological universe. Nevertheless, focusing on a moral dimension remains a vague enterprise. It does not imply to question the political and economic aspects of the situation that it questions. For this reason, we can fear that this project will remain inefficient because it fails to grasp the environmental crisis in its totality. Furthermore, it does not identify the social forces interested in considering nature as a pool of unlimited resources. Ignoring these considerations, environmental ethics must then rely on the only theoretical view left: an authoritarian imposition of new moral rules, only justified by philosophy, to modify our behaviour in regard to nature. An acceptation of their point of view by the concerned citizens is not considered.

The perspective of political ecology is somewhat different, it is not concerned with a submission to the natural order. It can be seen as an extension of the Enlightenment as it promotes the construction of a society based on the moral rule of reason. It simply adds to the original political project of the Enlightenment new aspects of human activities. In this perspective, the logic of political ecology presents itself as pragmatic. It asserts the dominant economic paradigm, as noted by Catherine Larrère[13], by confusing interests and values. In other words, it shares the same presuppositions concerning the economic paradigm. We can therefore doubt the capacity of political ecology to modify our society's inscription in nature.

It is obviously clear that this project is in opposition with environmental ethics: nature is left aside to promote the cultural framework; we are in the presence of a subsumption of the natural order under the cultural order. As Descola remarks, a rational management of nature is at the end not profitable to its enactors as it leads, potentially, to the transformation of the world into a gigantic zoo; in this perspective, the survival of the blue whale or the preservation of Antarctica is carried out but only tributary to human conventions[14]. But is there not an essential difference, although difficult to grasp, between knowing oneself to be living in a managed, constructed environment and living in a world not conditioned by human activity? Does ecological concern lead to living in a zoo? What is at stake is the confrontation, more or less direct and more or less intense, with a human intention; and the possibility to avoid it. For the western world, this difference is essential because it relates to the concept of the Other, the Alterity, a concept which is described by Descola as a human constant. But unfortunately, political ecology has left aside the theoretical means to understand, or simply grasp, this Alterity.

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[13] Catherine Larrère, « L'Éthique environnementale : axiologie ou pragmatisme? », chapter 2, *Leçons de philosophie économique*, Tome II : Économie normative et philosophie morale, Paris : Alain Leroux et Pierre Livet, 2005.

[14] Philippe Descola, "Constructing natures. Symbolic ecology and social practice", *art. cit.*, p.97

In a similar way, Jean-Paul Curnier developed in *L'Écologie politique au miroir*[15] the intuition according to which ecology would be the end of the political project. Human being has become the work of human being, and this means that the goal of politics has been reached. But this humanization does not have a humanist end; it is not a process of emancipation in which human being would be all together creation, creator and object of his work (in a Marxist view), but it serves a new form of reflexive control (human being facing his city, his nature, his world: producer, product and condition of his production; man in charge of his self-production)[16]. Thus, ecology brings the end of politics, because there isn't any collective choice anymore. What is left of political action is no more a production of the world, in reaction to possible conflicts, but a possibility to complain to a system that cannot be accused in itself, but only considered as an irreducible fact. Curnier claims that we are moving from a political consciousness to the complaining consciousness (one can observe this phenomenon in regard to the increase of the legal sphere). This position shares many aspects with Latour's diagnosis. For both authors, the submission of politics to nature causes the ruin of politics. In response to this diagnosis, Latour works on a practical research program aiming at opening up another perspective.

7. For a control over the moderns' excessive hybridization

Latour's epistemological position has political implications: it leads to the deconstruction of the many biases resulting from the practices of purification. For instance, formal democracy can be criticized. Although it seems obvious that a truly equalitarian society must address issues concerning the situations that create inequalities, formal democracy does not take these situations into account. Furthermore, the true democratization of society requires a double rupture, both epistemological and institutional. Latour has made political propositions, redefining the ecological question in the following manner : how is it possible to find the right place for science in a democracy? His political propositions can be interpreted as an attempt to reach a compromise. He will not do without modern science, since it is quite relevant to qualify human and non human entities in some specific contexts, but he also refuses to give it as much political weight as the modern paradigm does when dealing with environmental issues.

In his book *Les politiques de la nature. Comment faire entrer les sciences en politique,* Latour addresses the issue of the Moderns' excessive, because unconscious, hybridization. The author suggests a reorganization of public debates and decision making processes built around two "moments", symbolized as two chambers, "moments" from which are constituted the participants to the common world. The first chamber's function is to identify the entities implied in a problematic situation. The second chamber classifies the different scenarios. In other words, the first chamber is built around the questions: "how many are we?" and "who are we?" and the second around the question "how can we live together?". Essentially, bicameralism does not properly break away from the fact-value distinction, but it organizes distinct procedures susceptible to guarantee its legitimacy. It aims at separating the actions leading to the production of the different facts and values. This theoretical

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[15] Jean-Paul Curnier, *L'Écologie politique au miroir : l'œuvre en surplomb*, Paris : Sens et Tonka, 2000.
[16] Ibid, citations pp. 37-38.

proposition might seem strange coming from a man whose position was officially against practices of purifications and the dichotomy of nature and culture. In fact, Bruno Latour proposes a sorting device that allows to think and build new associations between humans and non humans. More precisely, he does not object to certain practices of purification given that they allow to think the hybridization of the world and follow it. Instead of putting trust in the difference between facts and values, Latour proposes to operate the distinction between facts and values[17] on a temporal scale.

Latour uses the distinction between facts and values to build two tests necessary to Democracy, each one associated with a chamber. The first is the identification of the candidates to the collective; the second is an exploration of the possible assemblies. The existence of the first chamber shows how a certain practice of purification is necessary when a complex situation is being resolved, creating a climate of perplexity. The second chamber, for its part, puts into light the existence of propensities that condition each one's perception of the different assembling. This second chamber stands as a moment of classification, or consultation that makes it essential to the construction of Democracy. According to Latour, this model's main strength is to prevent the establishment from assembling on the basis of presuppositions. As a safeguard measure, the tests make sure a regime of equality is put into action in respect to all the candidates to the new assembling. This device also promotes a principle of precaution in regard to our typifications and presuppositions preceding the consultation of "human" and "non human" participants. In this manner, a dispute becomes an occasion to question the nature of our partners and, if necessary, to reconstruct alliances from "human" and "non human" entities. All conflicts are then potentially related to a question of legitimate recognition.

But practically, one might ask, how is it possible to organize a consultation about a collective composed of cars, humans (drivers or not) and frogs? Latour's answer is straightforward: the factoring of "non humans" is done with the help of consultation devices proper to them. It is no more extravagant than to think about democratic consultations for humans. The factoring of "non humans" must be done with devices that allow them to appear as reliable testifiers -that is- that allow them to express their preferences[18]. This position involves the possibility of a direct consultation and the creation of a device adapted to this task. According to Latour, it is worth attempting, as many experiences have shown. When frogs are confronted to a new adapted device, for example a new pond or a frog-adapted overpass, they are able to express a choice. This observation gives a new responsibility to science- and also to research, as it elevates this activity as the major resource for technical Democracy. When science is applied to equip "non humans" with proper devices for the expression of their preferences, it is then possible to talk about an alliance of science and

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[17] What is really contested by Latour's reconstruction efforts is not the distinction between facts and values, but the establishment of two distinct classes, a practice that prevents from exploring many possible compositions from candidates to integration into collectives. This theoretical limit seems to be an obstacle to Democracy.

[18] In another context, Isabelle Stengers (1993, 1996, 1997) establishes a relation between consultation devices for non humans and laboratory experiments. She proposes to consider the extreme scarcity of successful consultations, from the point of view of the devices making them possible, in both human and non human history. Facing such a rare incident, we should celebrate the successful consultation.

Democracy, and about technical Democracy (Callon, Lascoumes and Barthe, 2001). This experience shows how much a consultation can be achieved along with "non humans". It testifies that we can negociate with "non humans"[19]. It also testifies to the role of science in the processes of representation. Science is therefore political by extension.

From this point of view, political and scientific institutions have a common goal, to participate in the representation of collectives in the public space. Both these institutions explore different forms of representation. Hence, they are precious resources for the formation of collectives. Nevertheless, they are not organized around a separation of nature and culture, a structure that usually gives the final word of truth to science, but around the entities they represent. Their alliance can be qualified as equalitarian. This it justifies the new collaboration between science and politics for the construction of the new democratic state as proposed by Latour.

8. Conclusion

When dealing with the ecological question, modern dualism has repeatedly been the target of critical attacks, whether from hermeneutic and comparative perspectives or from supporters of political ecology and environmental ethics. However, this critical point of view should be questioned as well in regard to the adoption of an ecological perspective.

First, the difficulty to think beyond the modern dichotomy remains. In fact, the theoretical propositions dedicated to the ecological question we have analysed (environmental ethics and ecological policy) both seem to value one of the terms over the other instead of finally considering them as a unity. Secondly, both theories seem to move away from a fundamentally renewed political project, although for different reasons. They both address the ecological issues without a radical questioning. Looking at these two theoretical issues should allow us to better understand Latour's work, whose efforts aim at transforming the theoretical apparatus of modernity without depleting it from modern sciences. Finally, Latour's work should be understood as an attempt to bring back political action in the construction of the common world.

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[19] The difficulty to communicate with non humans, according to Isabelle Stengers, offers many advantages from the point of view of the organization of democratic consultations. In fact, it seems more difficult to survey humans than non humans. According to Stengers, humans are known to be inconsistent and versatile, making it harder to build a steady representation of them. This can be observed by considering the numerous philosophical, political and anthropological considerations on the creation of the democratic state and representation of the people. According to this view, technical Democracy presents two main difficulties, representing 'humans' and 'non humans'.

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Contingency Theoretical Functionalism and the Problem of Functional Differentiation

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1. Introduction

The approximately 150-year-old functionalistic way of thinking has always had a very dizzy position in sociology. On the one hand, since the birth of the discipline, functionalism has been an essential part of sociological thinking. This holds true especially for the analysis of macro level phenomena, including society as a whole with its structural characteristics and developmental tendencies. On the other hand since the birth of the discipline, functionalism has also been a target of harsh criticism, a kind of mirror against which other theoretical traditions have formulated their specific viewpoints and sharpened their theoretical arsenals. One reason for the criticism has been a specific characteristic of functionalistic theories, namely, that since Comte's theorizing, biology-based evolutionary and physiological analogies and thought structures have been an important factor in these theories. This is still a case, as demonstrated by the functionalistic theories from Talcott Parsons (Henderson, 1928:17), blood circulation and its stabilizing mechanisms) to Niklas Luhmann (Varela and Maturana (1980), self-organizing systems), which search their inspiration partly from biological theories. In addition, most of the discussion concerning functional analysis as a method has been going on in the 'interfaces' of biology and sociology (see, for example, Ariew, et al., 2002).

The stubbornness of functionalism partly relates to the birth of sociology as a discipline. From the middle of the 19th century onwards, the new discipline tried to justify its independency by showing that its object of research – society – was a distinctive object on its own. The founding fathers of the discipline, above all Auguste Comte, Herbert Spencer and Emile Durkheim, conceptualized society as analogous with the biological organism as a whole differentiated in parts, with each specialized part taking care of its specific task so that together they comprised a functioning unity. According to their views, neither the relationships between the different institutions of society nor the dynamics of change in the whole were reducible to the goal–directed actions and intentions of individuals, nor could they be explained on the grounds of their biological constitution with its specific traits. They operated according to their own laws, which also made it necessary to develop distinct theoretical models and research methods specific to society as a functioning unity (Heilbron, 1995:270-71; Kangas, 2006:24,252). In addition, the meaning of these new models and methods was not only theoretical but also practical. They were related to the social mission of the new discipline. Firstly, to demonstrate that there is, after all, order in the world,

although it seems to have disappeared along with ongoing industrialism with its incessant social tumults and the thriving utilitarian individualism caused by it. Secondly, by doing so, the task was to encourage confidence in the possibilities of humans to bring about order and mould their social world according to their wishes and needs.

The above-mentioned model of social differentiation based on the analogy with a biological organism is in sociology called the 'decomposition paradigm' of social differentiation on the grounds that social change in this model is conceptualized as similar to the development of an organism from an undifferentiated embryo to the fully matured form composed of functionally differentiated parts, each specialized in different tasks necessary for the survival of the organism. The concept of function in this model has a two-fold meaning: structural and dynamical. From the structural point of view, the concept of function directs attention to the different parts and their relationships and to their respective tasks in the whole. From the dynamical point of view, the concept of function allows one to see the processes of change as the unfolding of functional differentiation, as the development of an entity from unspecific and undifferentiated, different functions merging 'homogeneity' to fully developed, in specialized tasks differentiated 'heterogeneity', to use Herbert Spencer's vocabulary (Maynz, 1988:14; Stichweh, 1994; Tyrell, 1998:129-34; Stichweh, 2007:534). Hartmann Tyrell (1998:125) has quite justifiably claimed that the differentiation problematic in sociology has been so tightly interwoven with the organism –optics that even the significance of this bond is mostly left unnoticed in sociology. This claim is also tenable for the method of functionalism, the functional analysis. It is still understood predominantly and rather straightforwardly through the organism metaphor, as will be shown below.

Although the 'biologically' inspired theorizing of the founding fathers nowadays seems very outdated, then it was a very modern strand of thought, because the former substance – centered thought was substituted by thinking in relational terms. The reference of the concepts was no longer in the preconceptually existing 'ontic' entities; the concepts with their references take on meaning in accordance with the reciprocal relations they are set to. As Ernst Cassirer (1990 [1910]:403), one of the first who thematized the change happening, says in his early book *Substanzbegriff und Funktionsbegriff*: 'In this way we don't recognize things but we recognize materially (gegenständlich) by during the flow of the same kind of experience contents setting certain kind of limitations and by fixing certain durable elements and reciprocal connections'. In mathematical notation this is expressed by the formula 'y=f(x)', in which both the abandonment of ontological and epistemological 'constants' and the dependency of all values on operations come to the fore. This means that the only constant in functionalism is uncertainty in terms of the observation and its objects, and consequently in terms of knowledge *per se*, as Armin Nassehi (2008a:91) says. Functionalism is so clearly part of the breakthrough of modern science, in which the status of scientific knowledge radically changed as the view of relativity of all knowledge, its dependency on language and observations and the resulting uncertainty gained a stronger hold.

2. The early critique of functionalism

The indisputable connection with the spirit of the times however did not do much to smooth functionalism's way; it has been an object of harsh criticism from the beginning on. It could be claimed with good reason that the main points of criticism, which have been repeated in critiques ever since, were already formulated in 'anti-sociological' writings (Merz-Benz and

Wagner, 2001) at the turn of the twentieth century. For Wilhelm Dilthey (1923 [1883]:90, 105-9) the differentiation theory à la Comte and Spencer, built upon an analogy with the biological organism, or conceptualized through 'bioteleology' as Hartmann Tyrell (1998:131) characterizes it, was nothing but a form progressive philosophy of history. According to its theory of the phases of history, it believed it had found not only the real telos of historical changes, but also the scientific devices to control and assist the development of societies. According to Dilthey (1923 [1883]:104-9) the conceptual apparatus and methods of the late 19th century human sciences (Geisteswissenschaften) had already outdated theories based on 'naturalistic metaphysics', as he in one connection characterizes them.

Also Max Weber (1988 [1922]:1-145, 291-383) dissociates himself from all kind of 'collectivistic' and 'organic' speculations, as well from the holism-related thinking of the German historical school and the doctrines of sociology (1985 [1922]:1-11). Society as a concept had for Weber no such comparable theoretical status as it had and still has in the differentiation theories based on the decomposition paradigm, in which society is both the benefiter of the outputs of function systems and the guarantor of the integration of these specialized subsystems (Parsons, 1966; Tyrell, 1994). Nor does Weber allow functionalism as method the same kind of significance it has in the decomposition paradigm –as a way of analyzing or explaining social phenomena on the basis of their supposed tasks or accomplishments. Functional descriptions alone, according to Weber, are insufficient as explanations, although as heuristic or preliminary questions they could at best direct attention to an analysis of social action relevant to the phenomena requiring explanation. As Weber insisted, however, an adequate sociological explanation of social phenomena is possible only on the basis of an 'interpretative' understanding of social action. Consistently with his rejection of functionalism, and of the progressivism the decomposition paradigm implies, Weber mainly refrains from using the concept of differentiation in his writings. On those few occasions he that does, the differentiation thematic is attached to the different life spheres (Lebensordnungen) in their specificity and their peculiar ways of rationalizing and, as Tyrell (1994:394-96; 1998:142-43) points out, not to the society as a whole, which is interpreted as a carrier of the differentiation process.

Both of the above-mentioned critiques, Dilthey's argument about the decomposition paradigmatic differentiation theory as a new form of a teleological philosophy of history; and Weber's insistence on the heuristic nature of functional considerations and the need to replace them in the last instance with explanations based on the action and interactions of individuals, recur again and again in the critiques of functionalism. The presumption of the goal directness of the historical processes of metamorphosis of societies, together with the supposition of the unilinearity of the processes of change in different societies, are the standard targets of criticism of functional theories, and of one of their offspring: modernization theories (see, for example, Elster, 1978:187-225; Berger, 1996). The claims of the insufficiency of the functionalistic argumentations and the need to replace them by explanations based on the action frame of reference are also recurrent themes in the critiques (see, for example, Giddens, 1984:293-97; Schwinn, 2003).

One interesting aspect of Dilthey's and Weber's theorizing, which is of great importance in the following argumentation, needs to be noted here. Due to his 'society abstinence' and reluctance to speak about differentiation, it often passes unnoticed that Weber's theory (together with Georg Simmel's differentiation vision, left out here) nevertheless belongs to

the 'family' of differentiation theories, especially to the form of differentiation theory that was explicitly spelled out by Wilhelm Dilthey. Hartman Tyrell (1998:138-45) is one of the few who has paid attention to this continuum. He has argued that parallel to Dilthey, who understood differentiation not as a differentiation of society but as processes happening in society via the constitution of different cultural systems (including law, art, religion), Weber speaks about the rise of different kinds of incommensurable life orders (Lebensordnungen), each following their own kind of logic and ways of rationalization. Accordingly, as Weber (1988 [1920-1921) spells out in the famous 'Zwischenbetrachtung' in his sociological studies on religion, their reciprocal relationships are not only supportive of each other as is often presumed in the decomposition paradigm, but vary from beneficial via indifferential to openly conflicting.

Therefore, the question of the processes of differentiation is not about the partition of society into different task-specific subsystems, vis-à-vis the division of labour in organizations. It is about the constitution of different cultural systems, each of them having their own peculiar relevance criterion for processing meaning and the logic of development based on it, not reducible to intentions of individuals or their acts of giving meaning. Cultural systems are, as Dilthey (1923 [1883]:45) in one connection says, in regard to individual acts of meaning giving second order concepts. There is remarkable similarity here to the way Niklas Luhmann outlines social systems in his theory. For Luhmann the subsystems of society are second order phenomena; they are based on second order observation, that is, each subsystem of society processes communicative meanings according to its own specific code (true/false, legal/illegal etc.) and rules (theories, laws etc.). The subsystems and their borders are so constituted and maintained in the self-referential process of recursive making and remaking of connections between respective differently specified events, communicative operations; the different systemic networking processes have a sort of 'Eigenlogik' in respect to each other and to individuals' psychic processing of communicative meanings (Luhmann, 1984:148-90; 1997:743-88). Taking into consideration the similarities in the approach to differentiation in these theories, Hartmann Tyrell´s (1998) and Alois Hahn´s (1999) assertions that there is a clear continuum from Dilthey and Weber to Luhmann seems to be well grounded. Tyrell (1998:145) even defines it to be a specific German tradition of differentiation theory with no equivalents elsewhere, and claims (1994:395) that Luhmann's way of characterizing modern society as 'polycontextural', as a 'society without a top or centre', would have come to Dilthey and Weber as no surprise.

3. On the later history of functionalistic thinking

Critique directed at functionalism from the very beginning did not in any case slow down its rise to becoming the reigning paradigm in the social sciences. Although it is not possible to speak about a uniform theory, the period until the mid-20th century, when Talcott Parsons formulated his structural-functionalistic theory based on the concept of the functional necessities of society, which is a certain kind of systematization and codification of the tradition, was a time of functionalism's triumphal march in anthropology (for example Malinowski, Levi-Strauss, Radcliffe-Brown) as well as in sociology. Illustrative of the tradition's significance is that Kingsley Davis in his presidential address to the American Sociological Association's annual meeting in 1959 states that speaking of functional analysis as a special method of its own is misleading. And Davis claims (1959:757), referring to the

structural-functional theory, that leaving terminological matters aside, functional analysis is what all sociologists actually do, whether they admit it or not, because it is synonymous with sociological analysis, alternatives to it being reductionist anti-theoretical empiricism and ideological or moralistic thinking in the disguise of sociology. However, the tides were changing, and against the Davis' credo and manifesto, functionalism fell under heavy criticism, the object of which was especially functionalism in the form Talcott Parsons had given it in his structural-functionalistic phase. Functionalism was gradually marginalized up to the point, where Anthony Giddens (1977:96) at the end of 70's could assert that functionalism was no longer worthy of being a serious discussion partner.

Giddens's judgment of the death of functionalism was premature. Parsons' functionalistic heritage lives on as can be seen from the numerous writings of neofunctionalistic theorists, who have not only reworked it to answer the criticism, but also extended the analysis from its former reference point of the nation state to an analysis of wider globalization processes (see, for example, Alexander, 1998; Münch, 2001). Functionalism also pops up in places where it could least be expected to be found, namely in the tradition of critical theory à la Jürgen Habermas (1981), where it has a central place in his systems concept, so much so that he tries to present it under the subtitle 'A critique of functionalist reason'. In that part of Habermas's theory, the influence of one of his main contestants, Niklas Luhmann's brand of functionalism is clearly discernible. There are good reasons to argue that Luhmann, and the systems theoretical sociology inaugurated by him, has done the most in recent theoretical discussion to bring functionalism, both as a method analysis and as a substantial theory of society, to the fore again.

However, an interesting point to note concerning Luhmann's theory is that as a differentiation theory of society, it is connected to a tradition of thinking that is deeply hostile to functionalism, both as a method and theory, as was pointed out in the above discussion concerning the 'German tradition' of differentiation theory. Two questions concerning Luhmann's theory follow from this. Firstly, the abandonment of the decomposition paradigm means that Luhmann is compelled to frame the idea of functional analysis differently, both in terms of its starting points and in terms of its usage; but how does Luhmann do it? Secondly, if functional analysis is disengaged from the decomposition paradigm, is it any longer possible to speak about functional differentiation, or has the terminology plainly become misleading in this context? Luhmann offers his functionalism and concept of functional analysis as a remedy to the problems of functionalism we discuss later, but what is the price to be paid for this reformulation and what are its advantages?

4. What is functional analysis and for what?

To give a short description of the basic premises of functional analysis is to say that the main interest of functional analysis is on the effects or consequences of the phenomena, quite the contrary to causal observations, where attention is on preceding events and factors as explanations and reasons for the existence of a phenomenon under consideration. To count as a functional relation, inference from effects to the existence of a phenomenon requires that two further conditions be fulfilled. Firstly, the consequences, which are of main interest in functional analysis, should not be based on the conscious intentions to bring them about. That is, they should not be the results of goal-directed actions that specifically aim at bringing into being the phenomenon because of its longed for effects, even if social

phenomena are in the last instance always based on the actions and interactions of individuals. If the condition is not met, the function in question belongs to the category of manifest functions, to use Robert Merton's (1968:105, 114-18) classic vocabulary. This form of functional analysis causes no problems because the existence of the phenomenon under consideration is ultimately explained by the intentional action of individuals. The question then is a reduction of an explanation to a normal intentional explanation, to a form that Wolfgang Stegmüller (1983:642) calls 'genuine material teleology', on the grounds that the explanation in the last instance is reducible to a common causal explanation, if the reasons or intentions of action are interpreted as motives, as effective causes of actions. Secondly, not every type of accidental phenomenon with its consequences counts as functions, only those with some kind of peculiar hidden goal directness, 'Zweckmässgikeit ohne Zweck': it almost seems as if they have some kind of 'social call' to which they respond by solving some of the existence problems of the social arrangement they become part of. Merton (1968:105) calls these non-intentional but non-accidental phenomena-consequences – relations latent functions, and considers these the most interesting in sociology, because studying them brings knowledge of the 'reasons' of being of different constituents of society and of their veiled relations in social arrangements.

Functional analysis in the form that Merton (1968:106) has given it is rather easy to accept, because he does not think that functional analysis can alone offer a sufficient explanation for the existence of the phenomena under scrutiny. Quite the contrary, he insists on finding the specific social mechanisms which bring about the social institutions satisfying the presumed functional 'needs' attributed to the object of research. In spite of this specification and its merits, Merton's way of doing functional analysis is not without problems. His argumentation in some connections has certain tautological nuances which result from inferring functionality from the existence of a phenomenon, instead of defining the 'needs' of the object independently of phenomena characterized as functional, and thus breaking the tautological circle. Functional analysis becomes problematic when all caution, so characteristic of Merton's analysis, is given up and functional analysis is rather straightforwardly interpreted as explaining the existence of phenomenon by showing how it responds to the existential exigencies of the object under scrutiny and in so doing helps its survival (see, for example, Hempel, 1965:308; Giddens, 1984:295). This ambition of giving an explanation was one of the main reasons for the bad reputation of functional analysis. In the wave of neopositivist critique it was close to becoming extinct as a special approach or as a special methodology of functionalistic tradition, as the title of the one recent book on the subject, *Soziologisher Funktionalismus. Zur Methodologie einer Theorietradition*, edited by Jens Jerkowitz and Carsten Stark (2003), defines it.

The neopositivist critique of functionalism is valid also regarding the main tradition of functionalism in modern sociology, namely Talcott Parsons' theory. Parsons (1949) introduced his theory as an analytical conceptual framework for studying the essential prerequisites of social order, not as an explanatory theory. He was neither very interested in methodological questions and there are very view scattered remarks on functionalism as a method in his writings (see, for example, 1951:29). Parsons' theory, however, is not as far from being an explanatory theory as he thinks. If a social system is defined as a boundary holding system with four basic predefined functional prerequisites, as in Parsons' AGIL-scheme, and if differentiation is conceptualized as adaptive upgrading, that is, differentiation as structuration of the social system along the lines of functional

prerequisites (see e.g. Parsons, 1964; 1966:5-29), then the theory seems to offer an explanatory 'top-down logic' (Nassehi, 2008a:93) that explains the events in the social world together with the direction of changes irrespective of the intentions and goals of individuals, the actors being thus reduced to 'judgmental doves', as a popular Parson critique in the '60s declared (Garfinkel, 1987).

5. From functional explanation to functional analysis

It is time to summarize the discussion concerning the basic characteristics and problematic of functional researching. The classical formulation of the basic model of functional explanation as well as the analysis of problematic related to it stems from Carl Hempel. On the assumption that functional analysis aims at giving an explanation to the existence of a phenomenon, Hempel (1965:310; see also Cummins, 1975) has studied whether the functional claims can validly be formulated in the form of a deductive-nomological syllogism. Supposing that we are interested in explaining the occurrence of a trait i in a system s (at a certain time t). Is the following inference valid as an explanation for the existence of an item i?

a. At t, s functions adequately in a setting of kind c (characterized by specific internal and external conditions).
b. s functions adequately in a setting kind c if a certain necessary condition, n, is satisfied.
c. If trait i were present in s, then, as an effect, condition n would be satisfied.
d. Hence, at t, trait i is present in s.

The answer is a simple and plain no. Even if we leave aside the problems related to the inverse causation, an explanation from effects to the existence of a phenomenon, there abundant problems related to the model. To begin with, the syllogism is not logically valid; claim (d) does not follow from the premises, because some alternative functionally equivalent trait j would perfectly well be sufficient to fulfill the condition n. And secondly, if the condition (c) is made stricter by claiming that the presence of a trait i is functionally indispensable for the satisfaction of n, we have a logically valid inference that unfortunately is empirically useless or simply wrong, because the trait i almost always has either empirically existent or at least imaginable functionally equivalent substitutes.

Hempel's (1965:318-25; see also Stegmüller, 1983:687-706) critique of functional analysis, especially of the empirical application of the method, may be summarized as concentrating on the following aspects. Talk about the functional requirements or needs of a system, as well as the obligation of noting their possible functional equivalents, presupposes that the criteria delimiting the system, its borders, state, ways of functioning and possible tendencies of change related to these have been defined as precisely as possible. Without this kind of specification of the system in question, including the empirical operationalization of the respective functional concepts, there is the risk of the analysis becoming tautological by inferring functionality from the existence of a phenomenon and explaining its existence thereof. And the menace of deforming the analysis by imposing researcher's own ideals and values as ideals or descriptions of the adequate way of functioning of systems, is always present. In addition, as Hempel states, if satisfying the specification level needed for functional analysis, even in the case of biological systems, is hard to achieve, the problems multiply when it comes to applying functional analysis to social systems.

The numerous critical discussions since concerning the application of functional analysis and systems theoretical models in social sciences have shown how right Hempel was in his judgment. Recurrent themes in these discussions concern: the difficulties of defining the borders of social systems as well as specifying the criteria for social change; accusations of conservatism, of justifying the present social structure, the status quo, as the best possible form; and accusations of positioning the developmental path leading to present state of society as an universal and unilinear model of social structural changes. Hempel's concluding judgment is that at best functional analysis has only heuristic meaning; it is possible to use it as a scheme in assessing the system likeness of an object, especially regarding its self-regulatory mechanisms related to the environment.

Ernst Nagel (1972:68-9; see also Cummins, 1975:743-45), another prominent neopositivist philosopher of science, starts his analysis of functional explanation from the supposition that it aims at giving an explanation to the existence of the object under scrutiny. Nagel (1979 [1961]:421-24) moves the focus of functional analysis from the self-preservation of a system in an environment to an examination of the inner constitution of complex wholes; to the study of the features, relationships and operations of different parts of the system as far as they are distinctive to the typical ways functioning of an entity. His final judgement concerning the capacity of functional analysis to yield an explanation to the existence of phenomena, both in natural sciences and especially in social sciences, is as critical as Hempel's.

However, Nagel's analysis was a kind of watershed in the discussion concerning functional analysis, because he delineates two alternative ways to understand the purpose of the method. One possibility is to continue the attempts to find unfailing grounds for the assertion that functional analysis is a distinct and genuine form of explanation of its own. The other possibility is to give up the ambition of offering explanations entirely and instead tie up the functional approach to an analysis of the ways complex unities function. The former choice is presented by different selectionist neo-teleogical approaches, which try to show that in the context of evolution theory functional explanations are completely valid. According to them, the existence of a trait or feature is justifiably explainable on the basis of the evolutionary advantages it offers to its carriers in the selection processes happening at the level of population (see e.g. Wright, 1973; Neander, 1991; Milligan, 2002). The latter form of functional analysis is put forward by Robert Cummins (1975, 2002). He criticises neo-teleologists for merging two different independent forms of explanations: the explanation for the existence of a phenomenon and the explanation of the function of a phenomenon, together. By so doing they trivialize natural selection by jumping over the messy history of a trait coming into being, the process being insensitive to the function in question. Cummins disengages functional analysis altogether from the task of giving an explanation for the presence of a trait and confines it solely to an analysis of the inner composition of the whole, and its capacities to perform such-and-such things under consideration. A corollary of this is that items or traits have no absolute functions, but the effects are always perspective-related and connected to the capacities or dispositions of the system, which are of interest at the given time. Cummins' sort of functionalism has with good reason been labelled as pragmatist and observation-relative (see e.g. Milligan, 2002; Wortmann, 2007). According to it, functional analysis has an important role in evolution research, but functionality is not the principle behind the series of changes happening in evolution.

6. Niklas Luhmann's contingency functionalism

Independently of Robert Cummins above mentioned work, this is the direction Niklas Luhmann has developed his own account of functional analysis. Luhmann (1970b) criticized earlier sociological discussion for not making a clear enough distinction between functionalism as a substantial theory of society and functionalism as a research method. If the list of necessary functions, derived from the study of society as a system and its presumed requirements of existence and model of evolutionary changes, is rejected, and instead the research starts from the premise that forms of differentiation are but historically conditioned structural shapes of societies and accomplishments of evolution, not its goals (see, for example, Luhmann, 1997:413-516), the question of a functional method has to be framed in a new way. According to Luhmann the key to this remodeling can already be found in the early functional studies: the question of explaining the phenomenon on the grounds of its task (such as Malinowski's analysis of certain kind of rituals and forms of magic as adaptation mechanisms, the existence of which is based on the relief they offer in situations causing emotional stress in a social community) is, in fact a question of the problem and its solution. This more general formulation also opens up the possibility of determining alternative solutions to the problem. For Luhmann, functional analysis is primarily a 'regulative principle', through which the search is made to find for existence of a phenomenon a relevant 'reference problem' as well as possible functionally equivalent alternative solutions. Accordingly, Luhmann (1970a; 1984:83-91) calls his method equivalent functionalism. The existence of functional equivalents is not for Luhmann, as it was for neo-positivists Hempel and Nagel, part of the problems connected with functional analysis, but part of the solution, the price of which is giving up the idea of functional analysis as an explanatory method in a strict sense. Instead of giving an account of the genesis of a social phenomenon, functional analysis directs the attention to the question of how, among many functionally equivalent alternatives, this particular way of solving the problem is maintained and reproduced in a social setting (Luhmann, 1970a:27). This had already been pointed out by Robert Merton (1968:127). For Luhmann, the greatest achievement of the earlier functionalist tradition was the handling of this problem/problem solving scheme, however implicitly it was done.

Luhmann (1970a; 1984:83-91) thus considers functional analysis to be an independent method reducible neither to causal analysis nor to teleological explanation, and characterizes it as a comparative method. Through finding and constructing functional equivalent solutions to a reference problem, which could be posited either on the side of causes or on the side of effects depending on the study (1970a:17) it aims at demolishing the self-evidence that often characterizes social institutions and by so doing opens up social order for the study of its constitutive conditions. In addition, methods alienating purpose also allows insight into equivalent problem solutions behind the seemingly very different social phenomena, as is the case, for instance, in functional subsystems of society according to Luhmann's (1997:42) analysis. In a way, Luhmann's scheme of analysis (social phenomena/solution -> problem delineation) inverts functional analysis top-down. The starting points of analysis are not the aprioristically defined system problems, but solutions to which relevant problems are then delineated, the purpose being to delimit other kinds of solutions to the problems and by so doing to show the contingent character of the existent solution, that is, social phenomena (see e.g. Schneider, 2009:64-5). Not allowing variation on the side of the reference problems, but instead, reifying (originally empirically defined)

problems as the sole problems (as Parsons does with respect to AGIL –schema) has, according to Nassehi (2008a:93-4; 2008b:13), been the main reason for the bad reputation of functionalism. It is from this impasse that Luhmann hopes to save functional analysis.

It could be claimed that Luhmann's approach and method of functional analysis satisfy the criteria defining the 'new empiricism', set forward in recent discussion by authors demanding a new kind of orientation, 'aposteriorist non-normative analysis' (Lash, 2009) or 'descriptive assemblage' (Mike Savage, 2009) in empirical research. As the 'new empiricism' demands, Luhmann's analysis does not start from aprioristic, value-related presumptions and normative ideals concerning social order and social change directing research at the outset. Neither does it aim at producing a 'deep model' of social life with all the suppositions concerning the essential causal factors and main variables (class, gender, national community and so on) to be taken into account as *explanans*. In this respect Luhmann operates with what Bruno Latour (2009:51) calls a 'flat concept of society', a way of outlining society, free of the above mentioned starting points and suppositions.

Functional analysis as method and system theory as substantial theory of the social world are anyhow closely connected in Luhmann's (1970b:38; see also Schneider, 2009:52-71) sociological oeuvre. This is the point where Luhmann departs from Merton, whose definition of functional analysis he accepted to a great extent. He steps on the side of Parsons because Merton was reluctant to define a whole in respect to something is said to be functional (Stephen P. Savage, 1981:139-42). For Luhmann the horizon of possible problems and solutions opened up by the application of functional analysis are always relative to the system under investigation. In addition, reduction in the number of the alternative problems opened up and their functionally equivalent solutions is only possible by taking into account the system relative limitations, constraints occurring from the state, the composition and ways of functioning of a system under consideration.

In the Luhmannian tradition of systems thinking, the substantial theory is about the existence and reproduction of operative and dynamic social systems composed of networks of communication episodes, emerging and continuing in time from one event to the next, forming an emergent system not reducible to the psychic processing of communication (Luhmann, 1995). The lasting fundamental problem concerning the system's constitution and maintenance, which at the same time is the most general theoretical and theory technical reference problem of the theory in question, is the control of the ever present contingency related to the linking of communicative episodes in time (Nassehi, 2007:170; 2008b:377-94; Luhmann, 2010:29). Luhmann uses the concept of structure as the most general answer to this problem. The function of structures is to make possible autopoiesis, self-reproduction of the systems, by making certain kinds of linkages between communicative episodes possible, and expected, as they at the same time bar other ways of linking communicative episodes (Luhmann, 1984:377-94).

This is the point where the abstract theory of social systems and the method related to it, functional analysis, need to be integrated with empirical observation. There are no aprioristic answers to be found to the question of how communication is structured and to which problems they are answers, neither from the (implicit) rationality structures of language and communication (Habermas), nor from the list of necessary functions to be derived from the presumed conditions for the existence of social systems (Parsons). The

problems, as Nassehi (2007:170) aptly emphasizes, are first of all practical problems related to the continuance of communication, or more commonly expressed, problems of linking actions to each other in real time, in the contexts of interaction, organization as well as society. On an abstract level, functional analysis may be used to define and characterize the different types of systems having their own kind of logic of connectivity; interaction, organization and society in their theoretical specificity (see e.g. Luhmann, 1997:813-47). In regard to empirical research this means that one has to take into account that communication happens often, if not always, at the intersection of different types of systems and contextures, formed by the differentiation of society into various functional subsystems, each structuring communication in its own way. In its 'thickest' form communication occurs as interaction in organizational contexts, where, in addition to the two mentioned systems, interaction and organization with their different logics of connectivity, the resources (and restrictions) coming from functional subsystems (scientific knowledge, economic resources, legal norms and so on) have an enormous conditioning role.

As an example of this kind of 'polycontextural' (Vogd, 2009:107) or 'multisystem inclusiveness' (Stichweh, 2000:16) Armin Nassehi (2008a:97) gives an illustration of decision making in a medical context. While making a decision, a doctor has to take into account at the same time the specific interaction context and its demands, the decision-making structure of the organization with the time limits it sets, scientific medical knowledge related to the case in question, legal and normative regulation, and economic resources, to mention some. From the point of view of functional analysis, this means that understanding the specific logic of connectivity of communication episodes requires that several different communication contexts in their specificity have to be taken into consideration at the same time. Different contexts with their specific logic of connectivity both open up and restrict possibilities for networking communication episodes. The formulation of reference problems and making of the solutions or their insolubleness presuppose in empirical analysis an understanding and attention to the logic of working of different kind of simultaneously existing and communication conditioning contexts and their respective reference problems, to put it into words of Luhmannian functional analysis.

Formulated more generally with the help of the three dimensions meaning (fact, time and social dimension) differentiated by Luhmann (1984:111-35), functional analysis requires that in analyzing the way the fundamental contingency (that is the degrees of freedom related to all the possible ways of linking communicative events to each other), is conditioned, one has to take into account at the same time very different kinds of systems. Both the restrictions and possibilities related to relevant factually differently oriented functional subsystems (legal system, political system, economy and so on), limitations and allowances entailed by organizations working with different time horizons, and the opportunities and hindrances coming from different interaction contexts each defining the inclusion criteria its own way (see e.g. Saake and Nassehi, 2007). In different contexts of communication the same kind of problems are solved, but they are not solved in the same way; and how this is done in one context affects to various degrees other contexts as well (see, for example, Nassehi, 2008a:102).

To sum up the above discussion, the reference problems of functional analysis are not presumed or aprioristically defined system problems. The raison d'être of functional analysis is, as Luhmann (1970a:19-20; 1984:84) says, seeing the society as a 'problem system', in which the different ways of structuring communication are analyzed as problem

solutions, with attention paid at the same time to the fact that solutions are dependent on how and by which problem definitions and structures problems are solved elsewhere in a system.

7. The differentiation of society and its functionality

Luhmann's remodeled version of functional analysis constructed around the concept of contingency is quite defensible and elegant. It offers promising ways to handle situations where analyzed phenomena are at the intersection of many systems, and part of this contextualization procedure is also the societal positioning of a phenomenon by way of theoretical specification of the structural specifica of modern society (see e.g. Nassehi, 2006:375-468; Vogd, 2009). However, behind the differentiation processes there is no 'immament' teleology to be found, which would, in relation to the survival imperatives of society, mould the process to increasingly effective forms of division and organization of labour (see, for example, Tyrell, 1978). Instead, the differentiation process is conceptualized as an evolvement of different kind of contexts structuring communication in their own different ways, with no scripts behind the process. These contexts are 'thickenings' of communication, the function of which is to make the acceptance of respective communicative offers more probable, and thus the continuation of interaction more likely (Nassehi, 2002:455).

In the differentiation process, generalized symbolic media such as money, power, truth, justice and so on, have an essential role to play, because it is their function especially, as Luhmann (1997:316) says, to increase the prospects of getting the communicative offers accepted, particularly in situations where the always present possibility of outright rejection or questioning is more probable. For example, money as a generalized media of exchange results in more effective bargaining by making it both easier and quicker. The episode is simplified by paying a required amount of money for the item of trade without having to dedicate time to discussing the commensurateness of values of the objects of exchange. In the same way, justice or legal order with its code legal/illegal simplifies social interaction by absorbing social conflicts into its procedures and normative regulations, leaving the participants no choice but to accept the legal decision (Luhmann, 1993a, 1996; 1997:332-58). Accordingly the differentiation of society happens as an evolvement of different 'connection routines' of communication, facilitated by the generalized symbolic media, which in relation to each other, appear as indifferent system contexts. Therefore, transactions mediated by money cumulate to economy, scientific allegations chain to form a scientific subsystem, art structures a system through art works referring to former works and anticipating next. Indifference in this connection means that the elements of different subsystems are not transferable from one system to another; thus e.g. money is not a scientific truth, a piece of art work is not a justified legal decision. However many linkages, structural and operational couplings there may be between the systems, they do not merge (Luhmann, 1997:359-96; Nassehi, 2004).

Luhmann's differentiation theory is by no means without its problems. It is difficult for many subsystems of society, such as art, health care and education to find a code or generalized symbolic media of their own, or choose between the many possible candidates (Luhmann, 1997:407-408; see also for example, Sevänen, 2008; Stollberg, 2009). This is a

problem, which I will not go into. It is only a reminder that Luhmann's theory is more like toolbox, a 'distancing' way to approach social phenomena rather than a readymade theory.

In this connection, two aspects already mentioned in the foregoing discussion related to Luhmann's differentiation conception are of interest. Firstly, the process happens not as the differentiation *of* society but as processes *in* society by way of forming different kinds of separate communication –'thickening' contexts. To underline this difference, Luhmann (1997:595-609) refers to this process with the concept of 'Ausdifferenzierung' instead of 'Differenzierung' (differentiation) and defines it as a replication of the system/environment distinction inside the system, which is itself based on this distinction; in this case, communication being distinguished from its environment. This is strongly reminiscent of the 'German' branch of differentiation theory in which the process is seen as cultivating different kinds of separate and selective ways of linking communications and meaning, whether they be called cultural systems (Dilthey) or life orders (Weber), each having their own peculiar logic of connectivity or rationality. In this respect, Luhmann's theory is what comes to differentiation of society, but a variation of this 'old theme'. Secondly, in contrast to that postulated in theories of functional prerequisites of the existence of society, Luhmann's theory has no aprioristic or necessary reasons for the existence of differentiation in the form that it has taken in modern western societies. It is an end effect of a historical (and an evolutionary) process, where among the many problems and their different solutions arising in daily practice (variation), some are chosen (selection) and have an effect in the long run (restabilization), and even beyond the limits of the narrow interactive contexts of their origin, to formulate it with the help of the tripartite structure of the basic mechanisms of evolutionary change (Luhmann, 1997:456-97).

The process being cut out of all the necessity and teleology, the reasons for society having the structural shape it has in modern (western) societies are only to be found on the basis of 'hard' historical-reconstructive work (Luhmann, 1976:291; 1997:358). In this respect, the evolutionary mechanism behind the process of (macro level) changes in society are more like speciation, the isolation of a group and its formation into a reproductive community closed to itself and finally bringing about a new species, than adaptation, selection and reproduction of the specific traits of biological or social systems on the basis of the evolutionary advantages the trait, that is, the function offers to its carriers. This was recently hinted at by Rudolf Stichweh (2007:532-36). Whereas in the latter case functionality is behind the selection mechanism adapting the system to its environment, the former process has nothing to do with functionality in this sense. Using functionalist terminology in this (adaptionists) sense may be completely misleading what comes to (speciationist) macro-evolutionary level of system formation. Its sphere of validity is below that level explaining changes in, for example, institutional structure or forms of practice on the basis of adaptive advantages. As Hendrik Wortmann (2007:105) succinctly formulates, functions are established in systems, not the other way round.

Nevertheless, Wortmann misses the point by reducing Luhmann's form of functional analysis to a form of 'typological essentialism', content to classify empirical phenomena into different functional circles, defined more or less from an outside perspective. He (2007:104) fails to notice of the dynamism in Luhmann's functionalism which comes from the speciationist way of delineating the differentiation process, and which not only makes 'fine-grained' empirical analysis possible, but in the full meaning of the word, necessary.

Luhmann's functional analysis is not restricted to analysis of dispositional abilities of a unit together with classification of social phenomena accordingly. As Stichweh (2007:534; see also Milligan, 2010:264) points out, Luhmann has a keen interest in 'genealogical' aspect of differentiation, interpreted as a genesis of a new system via a new a new system/environment –distinction. Luhmann was not altogether free of the need to find some kind of an aprioristic foundation for the evolutionary process of change. However, both of these 'ventures', the attempt to give an account of generalized symbolic media via the concept of double contingency and the problematic of causal attribution related to it (1997:332-38), as well the attempt to anchor them to different ways of taking into account the corporeality of human existence via the concept of symbiotic symbols (1997:378-82), have remained more or less sketches. Luhmann (1984:406-9) in some connections also hints at using differentiation theory with the idea of functional orientation as a key to interpret evolution, as Wortmann (2007:99-100) claims in his earlier mentioned criticism. However, already Luhmann's most important concept related to differentiation (Ausdifferenzierung), contradicts this kind of straightforward configuration of differentiation and evolution theories.

In Luhmann's theory, the modern form of differentiation loses the necessity it has, for example, in Parsons' theory in the sense of 'adaptive upgrading', as being the most effective way of reducing complexity related to the environment and thus having apparent life supporting effects for the existence of society. The modern form of differentiation, or 'open access society' as it has recently been called (North, et al., 2009), characterized by institutional separation and individual freedom, undeniably has some 'evolutionary advantages' over other more closed forms of society. This stems from its flexibility and resulting ability to react rather rapidly to different changes occurring in society and its environment. Nevertheless, this is only a partial truth because, as Luhmann (1986) has argued, modern society seems in fact to be jeopardizing its 'material' conditions of existence because of environmental problems, to which it is unable to respond precisely just because of its form of differentiation. In addition, attributing some kind of necessity to the modern form of differentiation would be at grave odds with the theory like Luhmann's (1992:93-129), which defines contingency to be the 'Eigenvalue' of modern society.

This raises the question, which Hartmann Tyrell (1998:144) also points at, namely, is it any more possible to speak about functional differentiation in connection with Luhmann's theory with its reformulated functional analysis? Johannes Berger (2003:221) answers this question negatively by claiming that the concept of functional differentiation is strictly speaking, incompatible with Luhmann's autopoietic, 'emergence paradigmatic' theory of constitution of social systems via communication. Berger has made his case, because defining the subsystems as at the same time autopoietic, self-referential and self-producing systems and as functional subsystems is somehow a *contradiction in adjecto*. An autopoietic system has, by definition, no other 'purposes' besides autopoiesis itself, regeneration itself. Autopoiesis, as Luhmann (1993a:553) says, is in no way an existence warrant or progress concept: it belongs to the same group as the chaos and catastrophe theories. Binding it to other purposes makes it, by definition, an allopoietic system, that is, a system directed from outside. As a corollary, if the systems are autopoietic, their development and reciprocal relations are, by nature, more than anything else the results of an historical process characterized by chance and contingency. This reasoning seem to support Andreas Reckwitz's (2003:67) conclusion that in the later phase, when the concept of autopoiesis

comes to play an important role in Luhmann's analysis, the subsystems of society in a strict sense lose their status as *functional* subsystems.

There is still one possibility to argue on behalf of the functionality of the subsystems, which is weaker but in a sense tangential to justification based on functional prerequisites of the existence of society. Even if function analysis is above all a scheme of observation and not the principle guiding the formation of different subsystems, the latter is not a totally excluded possibility. One special feature of systems composed of communication episodes is that they are, especially since the development of writing, able to take themselves as targets of a kind of 'second order observation' and form descriptions of themselves from the point of view of their respective 'leading difference' (true/not true, legal/illegal and so on) constituting their specific point of reference (that is, function) to the social system as a whole (Luhmann, 1982; 1984:404-11, 593-616; 1990:479; 1997:757). This process, in which the distinction of system and environment is put to productive use inside the systems, also allows a new form of rationality, systems rationality, as a surrogate for the unified rationality coming into being, for instance, through the Habermasian discourses and public deliberation. Maybe this concept of rationality, by which rationality is decomposed to different subsystemic rationalities and defined by the degree they are able to take into account their effects on their social and natural environments, and rebound thereof (Luhmann, 1984:617-46; see also Kneer, 1992) in their own descriptions and workings, offers a way to justify the talk about functional subsystems. One could say that subsystems, no matter how they have come into being in first the place, are functional insofar as they are oriented at least to some degree in accordance with rationality defined in this way.

The concept of self-description is not without its problems (Kieselring, 2000; Bonacker, 2003:266-75), for instance, belong theories related to different functional spheres such as economic theories or legal theories to the respective functional subsystem or to the subsystem of science. If the former is the case, that seems to blur the distinction between the subsystems; if the latter is the case, the question seems to be one of external descriptions (Fremdbeschreibung) rather than of self-descriptions. It seems unquestionable that descriptions have effects, and often quite unexpected ones on the functioning of systems. The financial crisis, the aftermaths of which we now are living, has shown this. It was partly caused by new financial instruments developed in the chambers of economics departments at different universities. However, to have an effect on these theories by widening their horizons from narrow 'substantial' topics specific to their fields to take into account the wider context (society) is, as the reception of Luhmann's own theory in the different branches of social sciences and humanities has shown, extremely difficult (see, for example, de Berg and Schmidt, 2000). In addition, we should not forget, to use Loet Leydesdorff's (2009) vocabulary, that social systems are socially distributed systems, in which operations linking communication happen at the same time in countless interactive and organizational contexts and with very different premises and anticipations of the future. This feature makes the subsystems rather insensitive to any kind of guidance, however self-reflective that may be. As Armin Nassehi (2007:170) points out, functional subsystems are constituted by operations but do not have the capability to do operations. As modern society itself (Luhmann, 1992:126), the subsystems are without a 'centre or top' thus mirroring society in their own structures.

The problems related to this conception do not end here. The vocabulary of functionality in this sense awakens the perennial problem of defining the reference unit in respect to which something may be said to be functional. To this problem Luhmann's answers are no more valid than those given when Hempel launched his criticism of functionalism (Schwinn, 2001:58-91). This problematic has even been exacerbated in modern global conditions, where the nation-state society, the reference point of Luhmann's analysis notwithstanding the contrary assertions (Stichweh, 2007:528-30), has lost its standing, and the western form of modernity has given way to multiple modernities, each defining and configuring the subsystems in their own special way. The horizon of society dissolves into multiple horizons (Nassehi, 2006:425-437), as does the rationality built on (theoretical) subsystemic self–reflection, leaving no common denominator.

The two above-discussed possibilities, the first coming close to the idea of functional prerequisites but ruled out by the basic premises of the theory that builds on the concept of contingency; the second taking the concept of reflection as its pillar but being at least unconvincing in its substantiation, seem to fail. What then would be the reference point (problem) that allows to us to speak of functionality, or as Luhmann (1997:163) in one connection says, of 'the advantages of the full actualization of functional differentiation', in regard to the modern (western) form of differentiation of society? One possibility is to argue that its functionality relates to some normative ideal, which the modern form of differentiation of society helps to bring to fruition. This interpretation is not so far- fetched, as it at first sight might appear, not in terms of the tradition of functionalistic differentiation thought nor even in the case of Luhmann's theory, as strange as this claim might sound nowadays. Several theorists, as Hans Joas (2008:207) states, have seen in differentiation theory a way to resist totalitarian aspirations, and it has been used to explain the coming into being of totalitarian regimes by way of a retarded or inhibited differentiation process. Alternatively, differentiation that happens too quickly has also been seen as having the same effect. Talcott Parsons (1966 [1942]-a, 1966 [1942]-b) accounts for appearance of Nazi-regime, according to which the rapid changes in factors such as the economy, technology, administration and culture caused an upheaval to which the integrative subsystem of society was unable to react at the same tempo. It left the society in a state of anomie, to use Durkheim's expression, susceptible 'to free floating aggression' and a coup de état by the Nazis, and lead to dedifferentiation of society by putting politics at the head. This kind of theorizing is not at all unfamiliar to Luhmann, rather the other way round. His first book accentuating differentiation theory *Grundrechte als Institution* concerning the function of basic and human rights as institutions, analyzed these rights as kind of repairing and blocking mechanism. Their function is to prevent to political systems' inherent tendency to extend their grip into every corner of society, thus heading to the dedifferentiation that happened e.g. in Nazi-totalitarianism (Luhmann, 1965:135; see also Verschraegen, 2002; Tyrell, 2006:298-99; Mascareño and Chernilo, 2009:86; Thornhill, 2009).

This kind of contrafactual use of functional analysis aiming at explicating the conditions of possibility of the coming into being or flourishing of social phenomena such as democracy, is a valid and interesting type of analysis on its own (see e.g. Giddens, 1977). However, in regard to Luhmann's analysis and how he profiles it in later phases, it is troublesome in two respects. Firstly, it is contrary to his expressed intention to offer a detached analysis of society without binding it to any specific value assertion, ideals or norms, all of which have

become more or less disputable in modern society (Luhmann, 1997:43). Secondly, it would reduce the historical interest on the formation of subsystems to a kind of reconstruction of a gradual historical realization of the normative ideal à la Immanuel Kant's (1993 [1784]) 'Idee zu einer allgemeinen Geschichte in weltbürgerlicher Absicht'.

There is still one possibility left to argue for the functionality of subsystems in a weaker sense also in this context of the 'German' type of differentiation theory. This is related to the fact that subsystems are the 'thickenings' of communication, effective ways of reducing contingency with the society-wide relevance discussed earlier; in this respect, they have become necessary, since they are very hard to replace effectually and extensively with other mechanisms reducing contingency (Nassehi, 2004:102). They are further cemented in society because subsystems are highly dependent on each other and connected to each other by different mechanisms of operational and structural couplings. The subsystem of economy, for example, is dependent on the predictability of its social environment, the subsystem of law creates with its legal decisions, and vice versa, legal organizations are unable to work without the resources coming from the economic subsystem. Necessity, which in this connection justifies the talk about functionality, is not the necessity of earlier functional theories, which relates to the functional exigencies of the existence and development of society, but necessity in a much weaker sense. It is related to the fact that certain 'problem solutions' with society-wide significance also have far reaching effects on problem formations in other contexts of communication, including leaving their imprints on the set of possible solutions to the problems (Luhmann, 1970a:20-21). Necessity in this relative sense is a consequence (of differentiation) rather than a cause and relates to the 'de-arbitration' (to use Peter Fuchs' (2003:206) expression) of the problem construction and solution.

Luhmann's theory is not a predication of the 'end of history' (Stark, 2003:234, 244), according to which the development of society has reached its final form or destination, a state of solicitation after which there can only be quantitative changes, not the coming into being of new subsystems, not to speak of the radical changes in the differentiation principle itself. The theory does not exclude these possibilities; quite the contrary. Luhmann (1984:162-63) draws a parallel between his form of functional analysis and Edmunds Husserl's phenomenological reduction by claiming that the driving force behind the analysis is pure analytical interest, as it was for Husserl, which demands that all other possible interests or fixed points of approach are bracketed off to whatsoever they may relate to: justification, criticism, improvement and so on. Reference to Husserl in this connection is not incidental, so significant has Husserl's influence been to Luhmann's system theory and sociology overall (Srubar, 1989; Knudsen, 2006; Nassehi, 2007). Luhmann (1993b: 258-59) sums up the guiding principle of his sociology, the programme of 'sociological enlightenment', in his farewell lecture in Bielefeld by pointing out that the purpose of sociology is not to steer society, but to inform it by opening up new ways of seeing things through showing the contingent nature of existing arrangements.

However, as sociological questions it is also interested in the persistence of different ways of conditioning contingency. In addition, it asks us to pay attention to the effects, negative as well as positive depending on the point of view, which changes in the differentiation of society are likely to bring about – be they in the form of development of new kinds of subsystems, changes in configurations of how the subsystems relate to each other, or

through radical change in differentiation principle in the mode of dedifferentiation, or completely new ways to organize society. In this respect too, as Luhmann (1970c) stated in the characterization of his sociological intentions already at the beginning of his career, his theory aims purely at sociological enlightenment.

8. Acknowledgements

9. References

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5

Economic Sociology: Bringing Back Social Factors

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1. Introduction

The spectacular revival of economic sociology in the US in the 1980s and in Europe at the beginning of the 21st century will be regarded as part of a paradigm shift in social sciences. Whereas classical sociology almost always dealt with normatively defined situations and value-based actions in which individual decisions, interests, and other situational aspects disappear from view, neo-classical economic theory focused on the rational autonomous individual trying to maximize private utility in market structures and therefore neglected social institutions as an important aspect of economic life.

Because of this, New Institutionalism as well as New Economic Sociology claimed to improve sociological explanations and analyses of *main economic structures* by using wider sociological concepts and by focusing on social aspects in economic actions, especially social expectations. New Economic Sociology in particular focuses on social economic action and claims to show why and how personal interactions, networks, social norms and so on frame economic actions and therefore help to create market transactions as well as successful organizational behavior or entrepreneurship. In the 1960s and 1970s, Neil Smelser asked for, in a nod to Max Weber, an economic sociology which analyzes the causal relations between economic and social facts (Smelser, 1963). More precisely, Neil Smelser and Richard Swedberg define in their influential *Handbook of Economic Sociology* that *economic sociology* should be "the application of the frames of reference, variables, and explanatory models of sociology to that complex of activities which is concerned with the production, distribution, exchange, and consumption of scarce goods and services" (Smelser & Swedberg, 2005: 3).

Moreover, New Sociological Institutionalism tries to overcome the implications and imperfections of the sociological tradition by generally explaining institutions as a result of more or less rational individual action in social situations (Dimaggio, 1998; Maurer & Schmid, 2002). Therefore, the notion of uncertainty is widely used; only a few, more recent works reflect more precisely on social constellations like conflict, common interests, or divergent cultural patterns (Coleman, 1985; Elster, 1989; Nee, 2005; Maurer & Schmid, 2010). When economic sociology returned, many sociological concepts were, because of tradition, badly prepared for improving and systemizing analyses of the economic sphere by taking into account different interdependencies in economic life. Furthermore, these sociological theories are challenged by New Economic Institutionalism that has successfully started to

integrate 'social institutions' like hierarchies, trust, social capital, etc. into the economic approach (see Williamson, 1985; North, 1990). Whereas the two 'new-comers' in sociology – New Institutionalism and New Economic Sociology – are still missing an integrating theoretical frame that would help to build up explanations that link individual actors and social structure in order to explain main economic phenomena or economically relevant phenomena like religious communities, trade unions, arts, etc. Today, there is great need for a linkage between assumptions on the micro level and on the macro level in order to explain social factors as a result of individual actions in social contexts. Hence, it is necessary to widen our models of economics and to show when and why social institutions matter in economic life and how this reproduces the social world.

2. Theoretical foundations of economic sociology

Today, the most important task is to bring individuals together with social structure, particularly in economic fields. My point of view is that this can be done by using a sociological approach that provides arguments about why certain social factors become important for individual actions in economic fields. In this way, explanatory relevance of social facts in the economy can be shown and explanations and analyses of economic phenomena can hence be improved. For me, the classical sociological concept of social institutions in the sense of shared social expectations is such an instrument because it claims that on the one hand individual actions need and sometimes create institutional framing in order to achieve intended structural effects; therefore the question is, under which circumstances such institutions come into being (see paragraph two). On the other hand, it can be argued that there are not only intended but also unintended economic and social effects. This means the main task for economic sociology would be to explain to which extent the particular institutions generated in the modern capitalistic economy – especially means-end rationality, markets, and large firms – come into being as a result of social processes (see paragraph three). Furthermore, economic sociology deals a lot with the question of why and how social institutions like trust, tradition, family networks, etc. affect economic life by enabling and stabilizing economic actions and relations in markets and in firms. New Institutionalism, on the other side, is concerned with focusing social expectations generally and bridging social and economic institutions by explaining how social institutions affect the economy and how the economy is changing social institutions. Using the notion of *institutions* firstly allows focusing on the relationship between society and economy by showing how social institutions matter in the economy and secondly to take the relationship between economy and society into account by analyzing how main economic institutions and processes change or stabilize social action and institutions. In doing so, economic sociology can be linked to New Institutionalism, and social factors enter the economic stage. This means that our analyses of economic and social institutions are superior to those of standard economic theory and functionalistic sociology by showing when social institutions matter in the economy and when economic factors matter in society. Concerning this, standard economic theory can be seen as only a special case analysis of a general social issue.

2.1 Main challenges

There are three main challenges for economic sociology today. Firstly, economic sociology needs to explain economic structures or processes by taking into account social factors,

especially social institutions. This responds in two ways to New Economic Sociology outlined in the US in the 1980s that claims in contrary to economic theory that social relations (social capital, trust, norms), hierarchy, and networks are important for economic action. Secondly, economic sociology needs to show why particular institutions come into being in modern economy, not only as a result of direct rational invention, but also as a matter of social action. Therefore, it is helpful to start with the general assumption of uncertainty; but in order to provide more precise explanations and analyses of main economic institutions, it is also important to develop and use more realistic and problem-focused models of social action in economy. Instead, economic institutions have to be explained by the individual's need for (one-sided as well as mutual) social expectations. This helps us to ask why and when individuals try to establish institutions and what problems arise in doing so. Furthermore, this provides a criterion for the extent to which particular institutions help to frame individual actions as well as social relations in the economic field by supporting exchange, defining prices or markets, legitimating organizational structures, etc. Summarizing, economic sociology on the one hand should explain why and how particular economic institutions or institutional settings like markets, large firms, money, etc. come into being and are maintained by individuals in economic fields (North, 1977; Trigilia, 2002). On the other hand, sociological (institution) theories need to show how economic actions reproduce general social institutions like rationality, time, common knowledge, patterns of legitimation, organizational forms, etc. (Carruthers & Espeland, 1991; Dimaggio, 1994; Fligstein, 2005; Nee, 2005). Analyses of social as well as economic institutions in the economic field are more relevant to economic-sociology. Whereas analyses of how economic action influences social institutions like cultural symbols and rituals are more important to New Sociological Institutionalism. But both come together within an approach that tries to link individual actions and social structures by explaining and analyzing social institutions in the sense of social expectations that support social actions in economy.

Last but not least, to prevent the failures of both neo-classical economics and classical sociology and for adopting the claim of economic sociology to focus on social factors in economic life, to me, the most important aspect is to firstly look upon social situations with regard to the individuals, so we can see why particular social factors become relevant; and then with regard to the social side-effects that are – intendedly and unintendedly – produced. Economic sociology needs a theoretical framework or foundation that gives good methodological arguments for connecting individual actions and structure. The notion of social institutions in the broader sense of shared social expectations provides such a linkage. Today, multi-level explanations that have improved and become more common since the 1980s provide an elaborate methodological framework for bridging individual actions, social institutions, and structure. The general aim is to provide a theoretical-oriented way of bridging micro and macro theories and therefore connect both levels of analyses in all social sciences (Coleman, 1986; Alexander et al., 1987). Hence, I will argue that multi-level explanations are a useful method for economic sociology as well because it needs to be founded on an action theory that provides a connection between individuals and social structure by showing why certain social aspects become relevant for individuals in their social, political, and economic actions. The common issue is that the linkage is founded on the assumption of intentional individuals that scan their social world as an action frame. That means that social institutions as well as cultural beliefs or scarce material resources are relevant for economic action in general (Maurer & Schmid, 2010).

2.2 Max Weber's notion of "society and economy"

In his work, Weber puts economic action and economic institutions center-stage. To him: "(modern, A.M.) 'economic action' is any peaceful exercise of an actor's control over resources which is in its main impulse oriented toward economic ends" (Weber, 1978: 63).[1] According to Weber, economic action in modern economy is thus defined as means-end oriented action in order to produce, consume, or distribute scarce goods and services. In Weberian sociology, it is most important to show what specific forms of production, consumption, or distribution are generated by this kind of action in modern societies and, secondly, by which social-cultural background they are caused. Especially the over-whelming rationalization of individual actions and economic structure is given priority in those analyses. Weber's notion of the mutual relation of "economy and society" is that they are strongly interrelated. For example, different processes of rationalization work on the level of cultural ideas (see for example the rational system of Protestant ideas), individual behavior (especially a systematic way of life and work), and social and economic institutions (authority systems, markets, firms, money, bookkeeping, etc.) work together when the modern rational capitalism comes into being (Weber, 1946; Weber, 1978). According to Weber, widespread rational institutions in economy like hierarchical organizations, especially large firms as well as large markets for consumer goods or money (Weber, 1978: chapter 2; Weber, 2000), are the result of the entanglement of a cultural belief system (that of Protestant sects) and the institutionalization of certain action patterns (that of systematic working and living) and specific social structures (primarily a rational state and a rational public administration). The main thesis states that through institutionalization the individual level and the macro level become interlinked, and different processes of rationalization are enforced.

2.2.1 Economic action, institutions, and structures

In my opinion, economic sociology can learn a lot by critically assessing the notion of economic action and institutions outlined by Max Weber – whose rich work has not been fully explored yet (Swedberg, 2003a; Maurer, 2010). Weber is still important for economic sociology for two reasons: firstly, because his methodological premise is to start explaining social regularities from an *individual point of view* focusing on the *institutionalized social setting*; secondly, because of his well-known historical view, especially that on the overwhelming processes of *rationalization* in the modern western world in general and that of *rational economic actions*, *institutions*, and *structures* in particular. Weber focused on the *need for* and *existence of* institutions in the sense of socially shared expectations with regard to the individual's need for orientation in a complex social world. Connected with this, he especially highlighted their reflection on ends as well as on means-end relations. Weber assumed that mankind is able to act intentionally, but that real action is mostly a mixture of rational intentions as well as of traditional and emotional actions. But in order to provide explanations, it is best to start with the assumption of means-end oriented actions and reconstruct them in accordance to social evidence. Only if such an explanation fails, social scientists should assume value rationality, traditions, or affect as situational motivation; this is what Weber did in the "Protestant ethic" where he used the assumption of value-

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[1] "Wirtschaftlich orientiert soll ein Handeln insoweit heißen, als es seinem gemeinten Sinn nach an der Fürsorge für einen Begehr an Nutzleistungen orientiert ist." (Weber, 1985: 31)

rationality and an ethically framed situation in order to explain the typical actions by members of Protestant sects. Therefore, Weber explained the overcoming of traditional economy by modern rational capitalism mainly as a result of value-oriented individual actions in a *specific institutional setting*.

Modern economic institutions and structural elements can therefore be regarded as much as a topic for sociologists as for economists because of their social foundations in specific religious ideas.

However, in his work, Max Weber primarily addresses the problem of social order explored as general need for social expectations when individuals act with regard to one another and try to realize certain intentions. As is known, Max Weber claimed to start sociological explanations by focusing on individuals and their reflected and rational intentions (Swedberg, 1998; Norkus, 2001). This is where the social context comes in – both as a restriction structure as well as an opportunity structure. Following Weber, the most important aspect of the social world is the existence of socially related individuals. That is why he asked how individuals are able to build up stable social relationships in a complex social world. Because of the complexity of the world and the various motives of individuals, social actions and social relationships need to be grounded in reasonable social expectations.

According to Weber, such social expectations get an objective chance only if they are framed by general rules – not only by interests or habits – that are acknowledged as legitimate by the individuals. In that case, there is a reasonable chance that everybody will orientate on them and can normally expect others to do the same.

General rules or a social order become legitimate because of three ideal-type beliefs. Firstly, legitimacy can occur due to a belief in the formal correctness of an order or of the process of defining it. Secondly, it can occur due to the belief in the sanctity of tradition. Thirdly, it can occur due to the belief in the extraordinary skills of the ruler (Weber, 1985: 124 ff). What is important to see is that Weber did not explain the objective chance with direct reference to individual interests, although it is assumed that a legitimate order responds to general interests. A very important point for Weber is that a legitimate end-oriented order, especially when guaranteed by bureaucratic staff, enables groups of individuals to act in a coordinated manner, and moreover, to build up stable organizations in social, political, and economic surroundings that allow an ongoing, rational coordination of actions.

The assumption of a collective principle of legitimacy implies that the ruled ones as much as the staff "normally" follow the order without reference to concrete individual interests or social interdependencies. In fact, this only allows us to interpret formal organizations like businesses as a formal institution providing coordination in every field and offering only positive results, that means they are seen free of negative or unintended by-products.

The well-known thesis of Max Weber that bureaucratic organizations like the modern business firm are the most rational form of coordination and therefore unavoidable in modern life is due to the assumption of a given collective validation. Ignoring organizations' tendency of threatening individual interests, Weber also did not examine problems of functioning and maintaining hierarchical institutions either in social or economic fields.

2.2.2 The spirit of Protestant ethic: The cultural foundation of modern capitalism

Weber's religious studies of ascetic Protestantism can be seen as an adaptation of the general argument of an overall rationalization of ideas and institutions. In particular, *The Protestant Ethic and the Spirit of Capitalism* (Weber, 1958) can be interpreted as an institution analysis.

In *The Protestant Ethic and the Spirit of Capitalism* Weber concretely shows that some Protestant sects believe that they cannot be sure to be elected by God, so they follow the rational rules set by ascetic Protestantism in order to find signs of God's blessing in the real world. In other words, Weber explained the behavior of a specific group of actors in a specific historical situation by elaborating the normative power of the Protestant ethic.

While a group of people follows the systematic, rational, and world-oriented rules of Protestantism, typical patterns of behavior can be deduced. More precisely, Weber outlined that:

- a systematic way of life,
- systematic work behavior (calling),
- and especially a very good feeling by profit maximization,

created powerful social institutions that changed former traditional behavior in economic life.

Regarding Weber's argument within a framework of multi-level explanations, differentiating assumptions on the individual and the macro-level, he explains patterns of actions for a group of people with regard to individual intentions (both interests and values) that can be read in the mirror of socially defined principles. The underlying explanatory strategy firstly implies that, because of the institutionalized frame patterns of actions arise and gain structural effects and secondly unintended consequences due to social interdependencies as a matter of various kinds of social relationships are neglected.

Therefore, rational structures and elements of modern capitalism – big business firms, rational organizations, rational calculation, and the systematic profit-maximization – are explained as the result of the actions of Protestants or, more general, of collective ideas.

However, Weber also argued that once established and successful in everyday economic life, these institutions are self-stabilizing and have no more need of their former basis, the religious background.

Whereas the institutionalization of rationalized and economically relevant patterns of behavior is explained due to individual interests, their functioning and maintaining is not. It seems as though Weber described the functions and maintenance of institutions once established without any regard to individual interests and social interdependencies, for example reactions from non-Protestants.

2.2.3 Some critical remarks on Weber

Let me sum up what we have seen and what we are missing. First of all, it can be said that Weber focused on the *need for institutions* by regarding the individuals' intentional acting in a complex world and taking others into account. But the validity of social institutions is explained by given *principles of legitimacy* or a given *religious ethic*. In both cases, the

institutionalized social expectations are founded in collective ideas overlapping individual interests and other social constellations. We have to state that Weber's model of social or economic relations depends on an underlying framing of individual interests by collectively stated general rules. This is part of Weber's suggestion to work on the basis of a typology of action and the empirical evidence of motives. Concerning the Protestants, Weber argued that their main concern was to obtain "certainty of salvation", and the "Protestant ethic" was their means to gain it. But Weber has no general argument as to why individuals orientate themselves on normative rules, whether means-end oriented, according to tradition, or through affects.

Secondly, the reconstruction shows that he used a very simple argument for transforming individual actions via institutionalized action patterns into structural effects: He deduced the macro-effects directly from the institutionalized patterns without any regard to social interdependencies. Because almost all Protestants save money, work in a systematic way, and maximize their profits, large firms producing for markets as well as an overall rationalization come into being.

Last but not least, we can see that institutions only matter if they are founded by collective ideas and show what is right or wrong in everyday behavior. In this case, institutions provide orientation for individuals. In particular, institutions, which are founded by a legal order and guaranteed by officials, are regarded as essential for rational, modern economies because according to Weber, they are the basis of rationally coordinated actions. This includes the modern business firm as well as political parties or even the national state. Thus, it becomes clear that Weber is mainly interested in discussing how stable expectations are constructed and enforced generally.

2.3 Institutions in action-based, multi-level explanations

The missing links in Weber's argumentation can be defined more precisely within the framework of an action-based, multi-level model of explanation based upon an action theory. The claim is to connect assumptions on the individual level with those of the macro level in order to explain social phenomena with regard to both. Secondly, it is stated that the assumptions on both levels should be enriched in order to provide more realistic explanations. Thirdly, there is a strong effort to improve and integrate our knowledge or theories about social reality; therefore, one action theory is proposed to be used as the foundation in order to build up a set of situation models that help to strengthen social factors in sociological explanations. My suggestion is to build up situational models centered on problems of social actions that make social expectations advantageous in general; this means that the underlying general assumption states individual intentionality. Within this approach, the underlying social problem as well as therefore relevant individual capabilities can be highlighted, thus increasing the necessity as well as the difficulty of solving the problem by finding (the most) appropriate institutional setting(s). This sociological perspective then focuses on the difficulties of establishing a 'good' institutional system with regard to particular social problems that individuals have to solve when living together as well as on the side effects that come along with this. That means that specific institutions as well as complex institutional settings, like that of markets, firms, or modern western capitalism are to be regarded as the result of both structure and action with regard to a concrete historical context.

Institutions are to be explained as a result of intentional actions in specific social situations in order to create social expectations and therefore help to stabilize 'good' social relations or orders. In the next step, institutions can also be regarded as a social *situational factor* which frames individual actions and leads to particular – intended as well as unintended – structural effects like "the spirit of Capitalism", revolutionary movements, stratification of resources, etc. Therefore, we need a model that illustrates how institutions work. According to the arguments given above, it should be possible to answer the question of the construction, the stabilization, and the change of institutions by intentionally acting individuals.

1. It is mostly suggested to use an action theory, which assumes that all individuals act on the basis of intentions, and to combine this assumption with models of social situations. Such sociological situation models should predominantly focus on social interdependencies in order to point out how social factors become relevant in economy (see Weber, 1978, chapter 1). The main variable of the action theory should pick up relevant aspects of the situation and should provide an argument as to how a certain factor influences the actions of an individual (for example, by stating that individuals need orientation and therefore scan situations for helpful and relevant information like traditions, cultural symbols, pure information, etc.).

2. At the very core of the argument a description of the underlying social situation is to be found: e.g., a type of social interdependency, power relations, market structures, etc. Only with regard to a social situation, it is possible to say what concrete intentions are working, and moreover, what the possible actions are. For example, if one started with a situational description that focuses on 'bad governance' from the viewpoint of individuals trying to realize a "good life", it can generally be stated that there are three types of actions: a) to keep quiet (loyalty or resignation), b) to raise one's voice, c) to leave (exit) the system (see for example Hirschman, 1970; Lindenberg, 1989). So it is highly recommended to start with a simple action theory, for example, the assumptions that individuals act in regard to (private) interests and by being able to evaluate the results of actions and situations in response to their intentions, because then it is possible to explain, in which situations individuals act in which way. But this action theory should also be broadened by taking into account common interests or belief systems as intentions or by specifying the individual's capacity to interpret situations in the light of private or public interests as well as shared cultural belief systems (North, 1977; Schelling, 1978; Coleman, 1990; Lindenberg, 1994).

3. As mentioned above, a theory of rational action uses a general selection rule by stating that rational individuals choose the action providing the best or at least adequate result in accordance to social structure and the concrete intentions (for example consumer utility, value orientation, minimizing fear, etc.). Only this allows us to *explain* the typically chosen action in a particular social setting.

4. The great challenge is the third step, in which the explained individual actions need to be transformed into collective effects, such as market or organizational structures. If we use the notion of institutions, at this point, we are also able to state the validity or changing of particular institutions. Such transformations can be achieved on the basis of formal rules (selection rules, simulations), by pure aggregation (as it is done in Weber's Protestantism thesis), with response to institution theories, social mechanisms, etc. (for an overview, see Coleman, 1990; Maurer & Schmid, 2010, chapter 3).

The sociological perspective results from explaining institutions by reviewing social constellations (or more general, social situations) from an individual point of view as a problem of expectation. The guideline for building up institutional analyses is to make assumptions about how the individual figures out problematic constellations that make particular social institutions or institutional settings helpful.

By using the concept of institutionally differently defined situations combined with the same assumption on the micro level, it is also possible to explain which intended and unintended social structures will arise due to specific institutions and individuals. Subsequently, the main effort is to show how institutions work and thus reproduce social situations like social constellations, market structures, etc. Mainly, social situations that are defined by *complementary interests* should be taken into account by *economic sociology* because they provide typically good reasons for economic actions when exchange is possible (Weber, 1978, chapter 2). As New Economic Sociologists assumes, economic exchange mostly needs certain institutions, especially when markets do not work.[2] However, the perspective can be broadened by taking into account not only the exchange of private consumer goods, but also that of social or public goods because then not only markets but also hierarchies, cultural belief systems, or social networks come to the fore. Consequently, economic sociology needs to analyze not only markets but also networks, hierarchical organizations, or cultural beliefs as an institutional setting that may frame economic actions, but is mostly defined in social contexts. This means we need to look closer at the conditions that may help to run them. In order to do so, situational models should focus on cultural beliefs as well as on social relationships (authority, friendship, family, etc.) and explain how they are combined with problems of social action in the economic sphere.

The heuristic of an action-based explanation for economic sociology and institution theories lies in ascertaining social interdependencies that make specific mutual expectations advantageous for individuals. In response to general types of social interdependency or problems of social acting the need for social institutions is shown for social as well as economic life. In my opinion, the most exciting problem for economic sociology is the need for social expectations when producing and trading goods and services. We can generally call this the trust problem. In other words, in contrast to the assumption of neo-classical economics, it is assumed that voluntary transactions need credible commitments when markets fail. In contrast to the general, classical focus on 'complexity', I suggest giving precise arguments about when and why social expectations are useful and therefore helpful for individuals in economic life, and to explain the consequences they might have. In doing so, it can be shown that the general problem focused on by Weber can be described more precisely by looking at least at three types of social interdependencies focusing on interest constellations. This leads us to analyses that feature more realistic and precise theses about what kind of institution could help, what institution can be constructed given certain situational and individual aspects, and, last but not least, what kind of social effects may arise.

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[2] Therefore, it is helpful to start with the assumption that individuals try to realize their intentions that are mostly defined by the need for consumer goods in the economic sphere, but can also be defined by the need for social reputation (Smith, 1950), or by a general "ideal" orientation on what needs are important and what means are therefore adequate (Weber, 1946, chapter 1; Weber, 1978).

This can be seen as a starting point for an integrated approach that focuses and systemizes social situations which, in the sense of social expectations, make institutions advantageous for individual actors, but also looks for their intended and unintended consequences.

3. Social institutions in modern economy

Therefore, I am arguing now on the basis of a theory of intentional actions that is more precise, in the sense that realistic theses can be formulated about the conditions as well as the functioning of main economic institutions in modern societies, when we do not start with the assumption of given or socially founded expectations on the macro level. Instead, I suggest starting with simple assumptions about individuals trying to act with regard to their own intentions in social fields and therefore dealing with the problem of social expectation. Hence, we consider the processes of establishing and maintaining institutions in economic fields by regarding individual intentions as well as capabilities on the one hand, and by taking specific social constellations into account on the other.

3.1 Why institutions matter

We can now argue that institutions matter in economic life when individuals need social expectations to solve specific problems like that of defining 'ends' or 'goods' in economy (that I am referring to as the problem of orientation), getting information about the situation that lies ahead, especially who are the exchange partners and what are the exchange rates (this may be called the problem of coordination), and lastly, the big questions as to whether there are any common interests and how to meet them, such as the wealth of a society, justice, social order, etc.

Within the framework of action-based institution theories we can use these three kinds of social problems, but also develop more precisely shaped models of social action in economy that has need for institutions in general. This also allows us to focus on the underlying problem in a more concise way by stating why and how particular aspects of the situation and of individual action become relevant. Hence, it is possible to define a wide range of social action problems that matter in the economic field by giving precise arguments about the underlying logic and the degree of the problem that has to be overcome in order to found social action and relations in the economic sphere.

If we start with the very simple assumption that individuals act in order to meet private interests, we can argue that with regard to the three logics of interdependency described above the general need for *orientation* is not that problematic, since every orientation is better than none. Because of this, simple common knowledge as well as cultural symbols or defined social standards or information by chance can help to act intentionally. In all of these cases, 'focal points' help by saying what action is to be expected. Furthermore, because of their positive effects, such patterns of orientation are stabilizing step by step and therefore create path-depending social solutions that are not problematic or further discussed. That is what Neo-Institutionalists have in mind when arguing that processes of institutionalization happen and create social expectations without anyone noticing.

If we start with complementary interests it is to argue that, in the easiest case, two or more actors only need to know what the other will do in order to act intentional. This case is described for example by Thomas Schelling as a pure coordination game of 'strangers' who

are to meet in New York but have not made arrangements as to where and when. Then simple common knowledge can help and can build up to institutions by used private or common knowledge; for example to meet at the most famous place in town and the usual time.

The challenge for economic sociology is to figure out situations that make social interaction or exchange useful for individuals, but cause the need for stable mutual institutions at the same time. Thus, by analyzing the structure of interests we can describe the problem and ask what sort of institution might be necessary and possible. If formal institutions guaranteed by hierarchies are to be explained, we can say that unintended by-products are to be expected caused by the conflicting interest structure between rulers and staff as well as between rulers and obedients.

But this is not the overall case when focusing on *coordination problems* – most important in modern economic life – because successful social coordination benefits from complementary interests and therefore needs only to restrict the individual's scope of action in order to gain the positive effects of specializing, labor division, or agency. Coordination is a general problem in modern societies and economies because of the socially guaranteed rights of individuals to act and the formally defined property rights (including the formal right to enter into a contract, e.g. a market or an employer-employee relationship). Ergo, we can consider the problems that come along with such social relations and look for adequate social institutions that help to stabilize them, causing intended as well as unintended social and economic effects. In this framework, the often mentioned general trust problem can now be considered more precisely either as a problem of one-spot exchange by strangers or as a long-term exchange within a group that shares social norms or as a long-term exchange within a conflict arena and therefore making opportunism and strategic action relevant. To shape typical coordination problems in the economic sphere, it is helpful to consider firstly situational aspects and add special individuals' skills (to strengthen coordination problems, it is helpful to reflect which capabilities would help but are missing, e.g. to have the right information, to have complete information, to have and reflect ends logically, and, most of all, to act rationally with regard to intentions or ends like consumer utility, profit, common interests, and so on). Coordination problems are essential in modern economic life because both market exchange as well as employer-employee relationships can be regarded as a general problem of coordination, but with a specific logic (see paragraph 3.2 and 3.3). Whereas market exchange is mostly driven by trust problems that result from incomplete information (about the others, e.g. either private consumers, firms, the state, or, above all, about the commodities), social relations within business firms are a kind of trust problem that goes along with employees acting on behalf of their employers and their employers' interests. It is not so much the exchange of goods and services that makes intra-firm relations problematic, but the wide range of conflict patterns like opportunism, agency problems, strategic action, etc. Therefore, it can be stated that such social institutions are advantageous that firstly solve the coordination problem and secondly help to frame the conflict structure. Privately-owned firms in modern economies can be viewed as an institutionalized answer to the problem of controlling and determining the actions of others. Business firms have to be explained by analyzing the incentives given in and by hierarchical structures.

In contrast to economic theory that focuses mainly on exchange and complementary interests, sociology and political theory normally focus on *common interests* and therefore coordinated collective behavior. The classic answer to this is given by Max Weber (see paragraph 2) who argued that a means-end and legally founded order creates an organization ("Verband") that provides rational collective action in all fields. But Weber's solution is based on the assumption of a given legitimacy ("Anerkennung") and is lacking an explanation on how this can be constituted as well as on how collective action in economic fields can be organized by alternative mechanisms when legitimacy fails. Whereas sociologists take common interests seriously when discussing collective actions, they do not ask for the corresponding problems that might be caused by individual interests. This is because they argue like Weber or assume that common interests enforce collective actions themselves. One of the major insights of using a rational-choice theory is that common interests do not automatically lead to collective actions, but also need social institutions to be guaranteed. This means we need to ask when and why intentional actors are able to create social institutions that allow them to solve the various problems that go along with collective action, first of all the various kinds of free-riding, but also problems of defining ends (Offe & Wiesenthal, 1980; Wiesenthal, 1993). Because free-riding is a dominant strategy when common interests are enforced by others, such expectations need to be enforced either inside the group by social mechanisms or by establishing authority and control structures – all of which are also public goods. Economic sociology can use and broaden the concept of public goods to discuss why producer or consumer associations are so rarely to be found in modern economies or what social institutions are possible and necessary to establish and maintain such associations. An economically interesting variation of this general problem is discussed by Russell Hardin and Elinor Ostrom as 'Tragedy of Commons'. Ostrom (1990) in particular showed that the economic use of scarce common goods like water or fish can be governed within small groups and informal trust-based rules and local knowledge.

3.2 The two main economic institutions from the sociological perspective

Institutions and their general functioning might be more important for New Institutionalism and sociological theory than for economic sociology. This general statement has now to be specified with the argument that economic sociology has to deal more with coordination problems and therefore with market institutions and enterprises or labor institutions, but needs also to take into account the economic effects of social standards, rules, norms, cultural knowledge, symbols, rituals, etc.

While economic sociology is more interested in the various forms and functions of the two main institutions in modern economies – markets and firms – it must not neglect the problems of collective action as part of modern economies (e.g. trade unions, consumer groups, pressure groups, European Union, WHO, etc.), nor the need for fundamental social institutions like concepts of rationality or time and how they are used in economic actions.

Whereas coordination problems referring to exchange can be solved by market institutions (market prices and competition) and hierarchies, and are stabilized by social institutions mainly when markets fail or hierarchies and control doesn't work, cooperation problems referring to cooperative work normally need to be solved by hierarchies.

In the following, I am going to show how to deal with the two main institutions of modern economies in sociology with regard to new developments in social theory. The main point is

to consider the existence of these institutions on the basis of problems of orientation, coordination, and cooperation.

3.2.1 The large firm

From an institutional point of view there are three perspectives on the business firm described as a privately-owned organization producing for an anonymous market in order to make profit. The first question is: *Why* has that kind of organizational form spread so widely since the late 19th century? Secondly: *What kind of social actions* and *interdependencies* are typical for this social setting, causing what kind of social institutions? Thirdly: How can we describe the *relationship* between *modern society* and *(large) business firms* in terms of social action and social expectations?

a.   Why privately-owned and hierarchically organized (large) business firms

The first question is well considered because of the inevitable decline of social communities (tribes, families, feudal tenures, cloisters, and guilds) as producers of scarce goods and services during the process of industrialization. Instead, centralized production in the privately-owned industry driven by pure profit-orientation increased and became the very core issue of all social sciences (Swedberg, 2003). Whereas economists and historians point out that the decline of social communities and the rise of privately-owned companies was mostly related to technical innovations, (Neo-)Marxists as well as New-Institutionalists focus on the 'transformation problem' of human labor that arises because of the two main structural elements: private property and profit-orientation. The problem is to transform the abilities of human labor into an outcome that benefits the few owners and therefore coordinates the working process and solves the agency problem by effective structures. This is the very starting point for discussing the possibility as well as the need for centralized control mechanisms by private owners within the firm as an important fact for the overall success of privately-owned firms. Furthermore it is argued that the profit-orientation drives the widening of coordination effects firstly by enlarging the business and secondly by finding more and more rational ways of coordinating a large number of skilled workers. Economists and historians showed that social coordination effects the process of establishing more complex organizational and managerial structures, as well as organizing the production on a large scale and scope (Chandler, 1962; Williamson, 1985; North, 1990).

b.   Social expectations within firms

Therefore, the formal organizational structures as well as the formation of managerial structures gained a lot of attention during the 20th century. One of the most exciting aspects discussed within sociology – especially in the sociology of work – relates to the change of *control systems*. It is stated that direct and personal forms of control lost relevance and were substituted by more technical and bureaucratic forms of control (Edwards, 1979) and lastly by new forms of self-control (Burawoy, 1979; Piore & Sabel, 1984). With this reading, sociology competes with New Economic Institutionalism that offers a strong argument for the rise of various kinds of managerial and structural forms in the 1930s in the US and in the 1950s in Europe because of information overload on the top management, which generated a need for certain kinds of institutions or for organizational change. Managers as well as hierarchies within this framework are regarded as effective mechanisms of coordination established by the private owners.

In contrast, sociological institution theories in the tradition of Weber state that organizational and managerial structures are part of collective ideas and therefore need to be regarded as an expression of legitimacy and not so much as a mechanism to ensure coordination effects (Dimaggio & Powell, 1991).

Located somewhere in between, conflict theories argue that especially 'labor institutions' (working hours, trade unions, state policy, or international institution systems like the EU) came into being in order to modify the conflict between workers and business owners (shareholders as well as entrepreneurs) (see Fligstein, 2005). The existence of labor institutions in general as well as that of different kinds of labor institutions is interpreted as part of the ongoing process of framing conflicts by using social institutions in a way that keeps the process running.

Most social scientists analyze business firms as a social (action) system that comes into being when formally free actors sell their 'rights' to those that pay them. From the viewpoint of the former actors, the so-called agents, they need to bargain for their 'earnings' and to make sure that they are able to get their sold rights back if they want to or to voice when their rights are hurt. The latter actors, the principals, need expectations about the agents: their abilities, their motivations and their real actions. To enforce such expectations, additional guarantees are helpful – primarily hierarchical control, loan systems, and, sometimes, social norms (Coleman, 1990). Because of the interest structure, such institutions are not to be regarded as a convention, but need to be explained as a coordination system enforcing control and regulating conflicts. Institutions that are engaged and maintained by self-interested principles mostly have the unintended by-product to hire officials and set up hierarchical structures, which tend to meet their own authority interests at the cost of everyone by building up power monopolies, consuming resources, etc. Another very special adaptation of this situation is provided in the work of Oliver Williamson (1985). He discusses the problem that exchange relations often have costs because the underlying contracts cannot specify all details. Especially when asset specifity works, one partner has to invest specifically in the exchange relation, so social expectations can help to run exchange and therefore improve efficiency. Because of the explored control problem, that is an explicit form of a trust problem, formal and hierarchical institutions are needed but must be regarded as the source of further institutions. For example, managers in large companies who have the task of controlling the workers as well as the finances cause further control problems, but at a much higher level, because of their authority and power.

The hot topic within economic sociology is to show how this process is embedded in social constellations, so institutions are not only regarded in terms of coordination effects, but also in terms of underlying power relations as well as previously defined formal social rights and informal social ideas. While industrial sociology and sociology of work mainly focus on the conflict problem from a power perspective by overseeing the coordination problem, most organization and institution theories (as well as economics) focus on the primary coordination problem, missing the conflict structure and, most of all, the underlying power relations. The heuristic for economic sociology is to regard both processes: the coordination effects as well as the conflict structure that goes along with privately-owned firms and makes power, not effectiveness alone, relevant for analyzing internal structures and processes.

c.   Social expectations concerning firms

The new argument within an institutional frame is to regard business firms as an actor within society. This means firms act not only as economic actors in markets, but also as social actors in social contexts. According to this, we can show that there are different constellations that make societies address social expectations to firms. Consequently, the general focus is to regard firms as part of economic expectations (mostly addressed within markets), formal expectations (mostly addressed by national states and increasingly by international regimes like the EU, WTO, etc.), and also of social expectations (special cultural ideas, norms, principles, etc.). To do so, I suggest not asking how social expectations work in general, but more precisely what constellations make them relevant and what is the logic of the problem behind them. Therefore, with regard to the concept developed above, it is helpful to differentiate the underlying problem and also to consider how it is reflected and defined within a society as a whole or by different groups, respectively. It is important to see that firms in modern society are mainly addressed by the social expectation to provide goods and services that are 'demanded', and this is considered to be best done within market competition and individually orientated on market prices that create profit.

In this sense, we can firstly state that social expectations become important when markets fail in motivating as well as in coordinating firms. Then social expectations like collective decisions, cultural ideas, etc., can define goods, consumers, and exchange relations. Secondly, social mechanisms like networks, social capital, hierarchy, formal rules, laws, norms, etc. can help to modify negative economic effects caused by private firms like pollution, antitrust, bubbles, etc. In general, firms are to be seen as societal actors that influence not only economy but also social relations and, most of all, social institutions. That requires to analyze how society can enforce such actions that go along with social ideas and norms, e.g. diversity management, corporate social responsibility, philanthropism, etc. As the most problematic and important case we can now consider the actions of firms that exploit social institutions when making use of them, such as temporal rhythms, social relations, social trust, democratic ideas, etc. Then the task will be to analyze how society or social groups can resist and try to reproduce their mechanisms of social integration, especially by means of social institutions that enable individuals to cooperate in order to criticize and sanction powerful economic actors such as trusts, investment banks, stock exchanges, etc.

3.2.2 Markets

Most classic economics discuss mankind's necessity to organize their survival by producing scarce goods and services (e.g. Adam Smith, Karl Marx, Max Weber, etc.). Sociology focuses not so much on technical but more on the social aspects of economic action and regards economy as socially organized. Therefore, various ways of organizing economy can be differentiated within the framework of institutionalism, what means that economy is to be described as a typical institutional setting – consisting of specific institutions with different functions and effects – with a specific relationship to society. One of the most famous typology states at least four major forms of society-economy relations: 1) the historic build-up on slavery and on ethics based on the 'good life', 2) the feudal system with a substantial production in private households and cloisters framed by overall feudal relations, 3) traditional capitalism founded on traditional habits and structures in guilds and trades, 4)

modern capitalism with private firms producing and selling in free markets in order to make profit. In the modern western capitalist society, economy works mostly on its own principles and by using information provided by free markets (especially prices).

a.   Why markets

In the last decades, sociologists have learnt a lot about markets through ethnologists, anthropologists and historians.

Beginning with the famous work by Malinowski, we can state that mankind has always had to earn their living by producing and trading, but in pre-modern times had to do it within a social framework that guaranteed the survival for most at a very low level (Polanyi, 1996). Exchange involved not only material goods but also women, children, symbols, etc. and was strongly restricted by spatial, temporal, and social norms. Markets existed but were socially embedded and to a high degree culturally defined as shown in the descriptions of the "Kula Ring" by Malinowski, "Kaffirs" by Karl Polanyi, the "Bazaar Economy" by Clifford Geertz, or the "Agora in Athens" by Richard Swedberg (see for example Polanyi, 1996; Swedberg, 2003b).

As we know today, a social reason for exchange and for establishing markets was the social rule not to trade within one's own tribe, community, or ethnicity (Weber, 1981). The very simple form of exchange needs neither markets nor money, but with growing specialization and division of labor, exchange relations were more and more 'organized' within markets and by means of payment. Karl Polanyi (1996) posits that markets became free from their social embeddedness when the labor force as well as most goods were traded and priced solely through markets.

With the process of broadening, large private-firms markets gained increasing importance by the mid-19th century. "A chain-reaction was started – what before was merely isolated markets was transmuted into a self-regulation system of markets ... The crucial step was this: labour and land were made into commodities, that is, they were treated as *if* produced for sale ... Accordingly, there was a market price for the use of labor power, called wages, and a market price for the use of land, called rent" (Polanyi, 1996: 147). Furthermore, markets as well as firms were no longer a part of society, and production as well as prices were no longer set by law, custom, ethics, or rulers, but by formally free market transactions based on contracts. "In this way an 'economic sphere' came into existence that was sharply delimited from other institutions in society. Since no human aggregation can survive without a functioning productive apparatus, its embodiment in a distinct and separate sphere had the effect of making the 'rest' of society dependent upon that sphere"(Polanyi, 1996: 148).[3]

What seems most important for economic sociology is what Adam Smith described as the very idea of market competition that is able to motivate individuals' exchange and to coordinate exchange relations within a group of strangers – or at least no longer socially and morally integrated individuals – so that the available resources are used in the most efficient way (Smith, 1950). Market coordination – based on prize building and competition – is to be seen as "best practice" of organizing the production in modern society. In a similar way, Max Weber stated that customers and entrepreneurs increasingly lost their traditional habits and started to act rationally in the sense of orientating themselves on market prices and competition rather than on traditional habits. In doing so, markets are of great help for

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[3] For critical remarks see (North, 1977).

entrepreneurs because market prices allow them to calculate how high the costs for labor, land, and machines are and therefore, how much they need to produce and at what prices the commodities have to be sold in order to make profit. Instead of material rationality, means-end rationality in the sense of profit maximization has become more common in economy and society, and finds the necessary institutional setting within mass markets for goods as well as labor (Weber, 1978; Weber, 2000). In the last century, the major tendencies of the enlargement of markets or market relations within societies resulted in a decline of social-relation patterns and boosted the globalization of markets themselves, especially of the financial markets (for a very short introduction, see Carruthers, 1996; Swedberg, 2003b; Stearns & Mizruchi, 2005). Due to globalization, the production system as well as the societal wealth depend increasingly on financial markets[4] as the crises in the 1930s and at the beginning of the 21st century illustrate (Mackenzie & Millo, 2003).

b.   Social expectations within markets

The very core of New Economic Sociology are markets. This is due to the description of markets as an ideal model by neoclassical economics in order to deduce equilibrium prices in a formal and empirically testable way. Standard economic theory starts with the assumption of means-end rational actors trying to maximize their utility function (that is assumed to have certain properties: be stable, given and logically sorted) by orientating themselves strictly on market prices. The utility function results from the individuals' structure of preferences that is assumed to have certain properties: to be stable, to be given, and to be ranked in a logical order. Assuming perfect competition and complete information, market prices are to be interpreted as overall and objectively correct information signaling the underlying resource structure and demand structure, and make the market "best practice" of socially coordinating individuals' demand and supply within a given set.

New Institutionalism in economics as well as in sociology criticizes the ideal-typical model of 'homo oeconomicus' as well as that of a 'perfect-competition market' by arguing that both are 'unrealistic' and furthermore that in reality every market needs a certain spectrum of institutional framework, at the very least property rights and a national state. While New Institutionalism in economics almost always focuses on the problem of transaction costs going along with incomplete contracts and analyzes social institutions as control mechanisms in addition to, or as alternative to, markets.

To put it more general, economic sociology argues that all market exchange has to deal with the problem of uncertainty because of bounded individual rationality as well as social complexity that makes any kind of social expectation helpful by framing exchange relations and providing either simple orientation or ensuring coordination in the form of social exchange (Granovetter, 1985). According to the notion of social expectations developed above and in order to strengthen our understanding of social institutions in the economic sphere as well as that of markets, we have to give precise arguments as to why and to what degree exchange relations – and as a part of these market relations – make social expectations helpful and advantageous for individuals and society. According to this, we have to show why social institutions may be helpful, possible, and wanted by the

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[4] Therefore the "varieties of capitalism" or that of production systems are described as different relation patterns between firms and the financial system (Hall & Soskice, 2001) differing in their stability and efficiency.

individuals when acting in markets (see paragraph 2). The general heuristic is to set the main problems apart that go along with exchange and to dissect the underlying problems in markets, especially those that make social institutions advantageous in the modern economy. This can be done in a problem-oriented way by analyzing basic needs for orientation in the sense of what ends and means exist in a market, where markets emerge, who the buyers and sellers are in a market, etc. Sociology can consequently discuss why cultural symbols, social signals, or tacit knowledge help individuals to act socially in markets (Boltanski & Thévenot, 1983; Podolny, 2005; Geertz, 2011). For example, only if 'life', 'salvation', 'love', etc. are regarded as commodities can we choose to provide or to buy a life insurance (Zelizer, 2005), religious salvation and symbols (Wuthnow, 2005), or love, and in doing so create stable markets. This is to fill a blank in economic theory by explaining individual preferences as a result of social processes (Hirschman, 1977) as well as general orientations underlying individuals' actions as means-end rationality in the sense of utility maximization (Weber, 1946).

In the last three decades, New Economic Sociology has focused on the problem of how to guarantee exchange mostly within a group of strangers or at least morally no longer integrated people. All the questions of ensuring exchange relations can be discussed as forms of coordination problems. These problems have many solutions because there is an overall interest in success, but all of these solutions offer a particular benefit that motivates the emergence of social institutions in general, some of which being more likely to emerge, and provides opportunities for using power and strategy. While the problem of social expectations within exchange relations is widely dealt with in economic sociology, according to Mark Granovetter (1985) it is mostly discussed under the broad headline of uncertainty. But only if we differentiate degrees of difficulty, we can explain what institutions might help and come into being.

More interesting for sociology, although far more difficult, are questions concerning the definition of exchange rates (or more widely the question of stratification within a group) when there are no market prices (public goods, when markets are too small) or when market prices do not work (within families, friendship, democracy) or cannot work (because of imperfect competition like within the education system, health care, within an organization, etc.). Whenever market prices do not exist or should not work for social reasons in modern economy, social expectations must define explicitly the worth of goods and services. In other words, the most important aspect in exchange relations, namely what potential producers can expect and what consumers have to pay, must be defined either by law or by collective decisions or by normative ideas about justice or the like. It is obvious that every social definition of exchange rates normally causes conflicts; the greater the differences between the members of a society and the looser the 'social ties', the bigger the conflicts to be solved and the less is rationality of coordination (North, 1977). As Weber stated at the beginning of the 20th century, the central mechanism of modern economy is the market price because prices defined on large markets make individual rational orientation in the economic sphere (especially profit maximization) possible and lead to the highest level of rational production (Weber, 1978).

c.   Social expectations on markets

As Polanyi and others stated, the modern kind of market economy was established in the mid-19th century, and the dominance of market mechanism in modern society was set. With

this, we mean that all incomes derive from market activities and almost all goods are prized commodities dealt with in markets. As a result, not only the supply and demand of consumer goods is organized by markets, but also labor force, money, religious and social goods (love, friendship, welfare, and trust) are increasingly prized and exchanged on markets. According to the underlying notion of institution, I have to concede that the overall functioning of the market mechanism in the modern western world has brought a new level of material wealth on the one hand (North, 1990; Goldstone, 2009), but also a dramatic change in or loss of social integration on the other (Hirschman, 1986). That means that today, modern societies are ruled to a very high degree by the market mechanism and therefore are contrasted by the need for social integration, bounding, and legitimation. From an institutional point of view we have to take into account that social institutions firstly help by defining and enforcing 'socially defined standards' that might correct market prices as well as market failures. Secondly, social values are also needed for the functioning of markets by defining and legitimation individual's preferences. Both could be seen during the recent financial crisis, making clear that markets can fail and sometimes need to be framed by social values as well as that there is no easy way to substitute market prices because then social exchange must be motivated and enforced by social mechanisms that normally provide the basis for power and conflict (Fligstein, 2005; Nee, 2005). Socially defined patterns of stratification normally need collective decisions, public legitimation as well as conflict regulations, all of which normally go along with a lack of efficiency.

3.3 Economy from a sociological point of view

Modern economy is normally thought of as the subject of economic theories, and sociology is considered to deal with social aspects. During the greater part of the 20th century, sociologists focused on social integration by norms and hierarchies, and economists on market coordination on the basis of the model of man as 'homo oeconomicus'. I wish to posit that within an action-based multi-level framework, we can discuss typical situations of social action – in a broad sense – which make institutions advantegous. A particular social situation is when rational actors pursue their own interests but take others into account. According to this, we can provide arguments about why individuals try to establish and maintain certain institutions, and we can also analyze the functioning of such institutions with regard to the underlying structure.

This can be done for typical social as well as economic or political institutions. To bring social factors back into the analysis of economy, I have suggested elaborating on typical social configurations that explain why privately-owned firms as well as large consumer markets and market prices have become so important in modern western economies. Furthermore, I have discussed what kinds of problems have to be solved when social action is taking place within large firms and markets. Concerning this, I have argued that in large firms institutions are wanted that allow for efficient coordination and also help to solve conflicts that go along with sharing the coordination effects and the central coordination structure. I have also illustrated that the spread of the market mechanism can be explained as a kind of framing exchange relations in large groups without a moral or normative basis. Firms as well as markets can now be explained as institutions established by socially interdependent actors who try to coordinate their actions in order to gain economic benefits yet also generate further problems and unintended by-products.

The integrative perspective of this approach is to elaborate upon variations of the named main situations and their underlying problems and to show when institutions are established to solve the problem and what social effects these institutions can have. Thus, the main thesis is that different kinds of social institutions matter in economic life because they provide mutual expectations in general and thereby solve various problems of social actions in particular. Mass product markets and privately-owned large firms are seen as a result of both the decline of small and morally integrated groups as well as that of formally free and rationally acting individuals that try to improve their lives. One major task for sociology in the future is to conduct analytical and empirical research on understanding the change of social structure brought about by the spread of the named economic institutions. In other words, we do not only need more knowledge about the rise of modern western economy, but also about the way economy is changing and thereby disabling or enabling social institutions.

4. Conclusion

One of the mostly discussed problems in sociology is that of bridging individuals and social structure and hence taking into account social, cultural, and economic aspects when explaining and analyzing society. Because of this the development of multi-level and mostly action-based explanations turned out to be one of the most important developments in sociology in general and in economic sociology in particular. In this regard, institution theories are very helpful because social institutions in a broad sense as socially constituted expectations can be explained as a result of individual actions and, in particular, social situations. Furthermore, the intended as well as the unintended by-products of such institutions can be analyzed according to the underlying problem structure as well as to individuals' capabilities and motivations. On this basis, I have argued that the rise of both business firms and mass markets can be explained as attempts of formally free individuals to improve their living conditions by the coordination through central hierarchies as well as decentralized market exchange, both, however, going along with the need for further institutions. While the large firm is predominantly characterized by its conflict structure that has to be framed by collective ideas or bargaining mechanisms, markets always need social definitions about goods, sellers, and buyers, and most of the time trust-building institutions that help running exchange relations by strangers when competition fails or when there is a lack of information. Due to the logic of the underlying problem, social institutions like cultural symbols, tacit knowledge, networks, or even – in more problematic cases – formal rules and hierarchies are helpful in stabilizing or substituting market mechanisms. In doing so, we can now not only state that institutions matter in economy, but we can more precisely formulate theses about when and why which sorts of institutions might be helpful and also possible. That means that the market can no longer be seen as the most effective coordination mechanism in economy, but only as one of many that works most efficiently when functioning by defining prices that state the resource structure.

Some additional work has to be done to widen the action theory so that interests as well as duties or customs be integrated, in the sense that we can give theoretical arguments about economic actions that are interest-based as well as governed by normatively or habitually founded institutions. Also, some more work has to be done to pay more attention to specific human abilities, especially rationality and creativity, which help to describe problem

constellations and to find social solutions. But as I have clearly mentioned above, the main sociological task is to explore social interdependencies or situations that cause social expectations and provide the opportunity structure to define and maintain them.

What I intended to do, was to look at economy from a general sociological view and to provide a clear thesis about the rise of the two main economic institutions in modern economy: the business firm and the mass market. By using the tools of social and institutional theory, I argued that under the integrated roof of institution theory we can and should explain as well as analyze economic institutions as a form of social-expectation building. But in order to overcome the restrictions of classics we have to analyze their functioning with regard to individuals and the underlying problem logic of typical social constellations. In doing so, we can now state that market mechanisms help to coordinate strangers or morally no longer integrated individuals, but only based on socially defined preferences, skills, and property rights. Furthermore, we can now argue that most of economic life needs at least additional social mechanisms in order to enforce market mechanisms and sometimes also to be a proper alternative. This is what economic sociology could do in the future, whereas sociology in general could concentrate more on the effects economic institutions have on social life by using and destroying traditional social institutions like temporal rhythms, family relations, religious rituals, traditional knowledge, networks, ethics, etc. This means also considering how firms and market actors can be socially included or at least bring social concerns into the economic scene.

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What is Economic Sociology?

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1. Introduction

The first problem found when attempting to define the field of economic sociology results directly from the fact of the pre-existing reality of — both academically consecrated but diverse — disciplines of sociology and economics. Within this context, we need to, even if only briefly, consider the processes of academic institutionalisation that economics and sociology underwent as from the 19th century, and also the discourses that were predominantly bound up with such processes.

As is known, the term "sociology" may be traced back to the first half of the 19th century and Auguste Comte. The correspondent tradition regarding economy-society relationships attributed the economy the mere role of social subsector within the framework of what has been called a "fundamental epistemological principle of the unity of knowledge, especially of social science" (Zafirovski, 2005: 123), or indeed methodological monism. Economic facts would thus be no more than a variation on social facts, and "economic analysis proper should not be conceived or cultivated apart from the whole of sociological analysis" (idem: 126), even while Comte left unresolved the question corresponding to which extent it is acceptable to consider the existence of "internal subdivisions" to sociology. Within this context, mention is due to the efforts of among others the Portuguese positivist jurist and sociologist Manuel Emídio Garcia, who postulated that the economic sphere corresponded to a particular variety of social facts he identified, and based upon a biologically inspired analogy, as "facts of vitality and nutrition" (Garcia, 1882: 9 and seq.; Graça, 2005: 114).

In general, and without overlooking the divergences between the different authors, various sociologically minded jurists of this period, generically of a positivist inspiration, followed the trajectory set out by Garcia and — in accordance with the teachings of Comte — considered greater or lesser generalities in symmetry with complexity as the fundamental criteria for "classifying" or "internally dividing up" social reality, and hence also sociology. In this ambit, the more general economic facts were supposed to have correspondingly lesser complexity. Furthermore, the "facts of production" within were assumed the base of an ideal "pyramid" thus interrelating their greater generality with lesser complexity in addition to a tighter level of determinism. Simultaneously, the "facts of distribution", whose lesser generality was deemed to correspond to greater complexity, were by contrast accepted as partially the result of deliberate human actions and hence not susceptible to analysis in strictly determinist terms. This is how, shortly after Garcia, in 1891, another Portuguese positivist academic, José Frederico Laranjo proposed that distributive realities

were endowed with a considerable degree of "elasticity" and considered intrinsically indeterminate and susceptible to the application of conscious and voluntary human deliberation. According to this same line of reasoning, within the scope of which "political economy" and "economic sociology" are to be taken as synonymous expressions, Laranjo meanwhile invokes another renowned figure, while significantly from beyond the usual pantheon of sociologists and rather an economist, John Stuart Mill (cf. Laranjo, 1997: 5-12; Graça, 2005: 114).

Coming out of the same mental framework, José Marnoco e Sousa (1902: 390), to a large extent based upon theses presented by his predecessors, defended how 1) economics is a science, 2) it is the first of all the social sciences as the most generalised variety of sociology, given 3) its field corresponds to the most general facts and with the greatest and deepest influence on the life of societies. Sousa furthermore recognises that societies are overly complex realities to be subject to study by organic metaphors since they correspond more appropriately to a mental device he designates as a "super-organicism", which leads him into a consideration of aspects referred to nowadays as "reflexivity" and "performativity". Hence, through the capacity for self-consciousness, human beings are indefinitely capable of changing their conducts, and therefore the notion of social law is problematic in essence, particularly as the very scientific activity (whether under the form of perpetuation and reproduction or of criticism and opposition) exerts influence over the surrounding social reality of which the processes of knowledge form part. Within this context, Sousa affirms he subscribes to the basic ideas defended by Guillaume de Greef, which he considers a mitigated version of "historical materialism": the fundamental primacy of the weighting of economic factors in social evolution, while taking in due consideration the intrinsically (and necessarily) free character of human action.

While subscribing to the ideas of de Greef, and partially also those of Karl Kautsky, Sousa nevertheless demarcates his position significantly from the one proposed by René Worms, in favour of founding a "social economy" that would merge the contributions made by the economic science and sociology. The reasoning behind this is significant as it reveals the importance he attributes to hierarchy and precedence in interdisciplinary relationships: "The first interpretation that appeared was that social economy represents a synthesis of political economy and sociology. This idea however leaves much to be desired, especially as sociology is the whole of what economics is a part and the notion of a synthesis of a whole and simultaneously one of its parts is a notion that simply doesn't make sense" (Sousa, 1997: 20; see also Graça, 2005: 114; 2008a: 118).

The discussion is interesting from the point of view of both the content and the terminology chosen. In fact, the expression "social economy" ("*économie sociale*") is also proposed, and perhaps for the first time ever, by Jean-Baptiste Say in 1828, in the ninth section of his "Histoire Abregée de l'Économie Politique", part of his monumental *Cours Complet d'Économie Politique Practique* (1966), in which he explicitly defends how the economy and the polity correspond to differing spheres of existence and hence the economic science would benefit from abandoning its traditional designation of "political economy" and openly adopting the expression "social economy". Despite admonishing Adam Smith for incorrectly utilising the terminology, Say does not however make up his own mind as to adopt the term deemed appropriate.

While Say does clearly express the aforementioned inclination (even while not actually carried out) to abandon "political economy" in favour of "social economy", this stems mostly from the fact that, according to this liberal economist, the scope for action, at least relevant action by the public authorities, is significantly restricted and curtailed by the objective general laws driving economic realities that a scientist ("*savant*") should attempt to determine. Within this process, the researcher is officially to dismiss to the greatest possible extent any personal value-based preferences and seek out the "positive facts" and furthermore drawing out knowledge through greater appeal to inductive methodologies than to elaborate speculations and deductions. These, it is stated, would instead tend to primarily reflect the doctrinal biases of people producing them. To this end, Say writes, with the emphatic purpose of demarcating his position from the "Ricardian School" and referring explicitly to Ricardo's *Principles*: "(...) nothing in this book represents what really happens in nature. It is not enough to be based on facts: it is necessary to get within them, to accompany them and incessantly compare the consequences extracted with the effects observed. Political economy, to prove truly useful, ought not to teach, even though through fair reasoning based upon accurate premises, *what necessarily should occur* ["*ce qui doit nécessairement arriver*"]; instead, it must genuinely be able to show how what really occurs is a consequence of another real fact. It should discover the chain that links them and prove, always by observation, the existence of two points in which the chain of reasoning is bind" (Say, 1972: 36).

With Say, we arrive at what may be summarised as a conception of a thoroughly "positive" economic science and an economy supposed to be completely "disembedded" from political issues and fields, the assumption of the absence of political powers being taken as the most pertinent operational hypothesis. However, the presence of the value-based aspects was an unavoidable aspect and a permanent challenge characterising the entire history of economic science throughout the 19th century, although its connection with the predominance of deduction was not always that put forward by Say. In truth, the opposite was actually more common, with value-based judgements usually associated with the prevalence of induction. Hence, while assuming the absence of value-based facets in what is deemed "pure" political economy, within which deductive methods was supposed to tend to prevail — indeed, especially mathematical deduction, particularly in methods associated with the "marginalist revolution" and its analytical import of models emerging out of physics — there is furthermore broad recognition of the need for another form of learning, that termed "applied", or "social" political economy: a fairly approximate and roughly inductive field concerned about the realities of the distribution of wealth, hence tangential to theories of justice and therefore necessarily distant from the "positive" sobriety of the models of its "pure" peer. This antinomy is rendered explicit in the work of Léon Walras but it really underpins the works of several other authors (see, among others, Zafirovski 1999: 2-9; Ingham 1996; Velthuis 1999; Graça 2005).

While Walras distinguishes between and openly opposes that understood as "pure political economy" — positive and seeking to grasp the realities to production — and "social economy" — normative and concerned about distribution and general issues of justice — other authors take very similar lines but incorporate the category of sociology and, on occasion, even that of economic sociology. The way this is done, however, fluctuates significantly from case to case. Furthermore, the acceptance of the "pure economy" label by the economic science has also proven far from consensual, with William Stanley Jevons by

these years suggesting precisely the adoption of *"economics"* instead. In fact, Walras' and Jevons' tendency to imitate physics-based models, even if having prevailed, ran notoriously counter to the explicit recommendations of Alfred Marshall, who indeed perceived biology as the true "Mecca" for progress in the economic science (cf. Marshall, 1907 preface, in 1964: XII; in contrast, cf. Walras, 1952: 103; see also Mirowski, 1989). Any return to the biology-sourced models of Marshall would in any case mean the likely adoption of an "organic" model that, as we have seen, left Sousa deeply dissatisfied. Be as it may, such models were never actually widely adopted, with economic science indeed leaning more and more to the adoption of physics models.

Both the "pure" economy of Walras and the *economics* proper, suggested by Jevons, fundamentally replicate mental schemes taken from physics; and assuming "rational", broadly utilitarian agents, they serve mostly to portray a particular virtual reality, since factual reality mostly proves far different to these schemes. This happens for multiple reasons which include, among others, the very existence in human action of a factor of "ought-to-be", simultaneously of moral *conditioning* and of moral *background*, which is in itself enough for factual reality to significantly diverge from these theoretical frameworks. How then might that "something else" from which life in society emerges be captured by scientific approaches? Based upon the analytical framework of Jevons, for example, Philip Wicksteed openly defends that economics is and ought to be nothing more than "the handmaid of sociology" due to the simple fact the latter refers to a far broader scope (Zafirovski, 2005: 123). This is not intended to mean, however, any challenge to the relevance of the analytical framework of marginalist *economics* just so long as the latter is considered a simple economic science. By contrast, in Walras we encounter rather than a proposal to integrate *economics* into a broader reaching sociology, the project of a separate subject, a "social economy" able in some way to understand the divergence of economic realities from the schemes and models of "pure economy".

However, we should also highlight that, while in Walras and in Marshall this distance of facts from theory is considered not equivalent to a loss of dignity of those, given they assume the human condition as an issue for morality and liberty, mainstream economics later proceeded to consider the moral facets of human action as a kind of "background noise", a lapse of "rationality" or "logic", one that might indeed prove an important core of problems from the "praxeology" perspective on the same human action (cf. Zafirovski, 2005: 132) but would nevertheless render exact science on this field impossible. In summary, to the extent that economic realities are influenced by a whole host of factors beyond the mere practical translation of the profound inclinations of a "rational actor", this is ipso facto represented as recognition of irrationality. Hence, the sociology of such themes should remain aware of its engagement in a study of the "non-logical", aiming at capturing the absurd, the paradoxical, and more broadly that which may only seek out some "logic" other than the conscious justifications of the respective protagonists.

The formulations vary considerably from author to author across this same terrain. In one extreme lies the group of arguments typical among others of Max Weber, recognising the presence of both affective and traditional aspects as well as those associated with the famous "value-oriented rationality" or "substantive rationality", and in every case henceforth assuming the importance of "comprehension", the researcher aiming at grasping the meaning attributed by actors to their practices. In the other extremity the prevailing

influence is Vilfredo Pareto's, attention turned away from the intimate motivations, once assumed the intrinsic difficulty or impossibility of their exact knowledge, and is primarily called upon to the study of the alleged regularities of the practices (fundamentally determined by the "residues"), alongside the immense variability and essentially countless vastness of feasible rationalisations and justifications (the renowned volatility of "derivations"). In partially adopting the ideas of Weber and partially those of Pareto, years later, Joseph Schumpeter, in a somewhat confused jumble of issues supposedly integral to the economic sciences, lists its sectors as, beyond strict "economic analysis": history, statistics, theory, sociology, politics and applied economics (cf. Schumpeter, 1986: 12-24). In numerous other contexts, nevertheless, the same Schumpeter made a point of highlighting the rigorous specificity and intrinsic conceptual nobility of "analysis" (thus, the "pure economy" of Walras) as opposed to the remaining elements, more or less openly referred to leftovers…

In whatever the case, we are left with: a) an aspect of existence susceptible to the rigorous application of "logic" or of "instrumental rationality" (or "formal rationality"), broadly boiling down to the reasonings of the then mainstream economics and assumed to relate to the core set of defining features of life in society as regards the production of the means of material existence, and for this reason the subject of economic science; b) another aspect alongside or "behind" the above, and recognisably influencing it inasmuch they intermingle, reporting on everything else in human existence, which constitutes a terrain of "non-logic", in accordance with the "ultimate values" and the impossibility of their rational determination, or need for their irrational determination, along with the chain of "institutional" factors necessarily involved.

Some of the more prominent divergences from this general framework deserve separate mention. Above all, the tradition harking back to the thinker who, after Comte, became the most important figure in French sociology, Émile Durkheim, who clearly assumed economic facts to be a variety of social facts and, in this sense, "moral facts". This characteristic drove the emergence of an economic school distinct to mainstream economics (Simiand, Mauss, Halbwachs), precisely out of the consideration of "value-based" and "institutional" factors within the scope of strict economic analysis, which is, furthermore, explicitly considered to fall within the scope of sociology (cf. Simiand 2006). However, the fact of Émile Durkheim having proceeded with a definition of social facts itself based upon at least formally "positivist" foundations — that is, based upon the well-known criteria of exteriority, coercion and generality — raised diverse epistemological problems hard to cope with and likely hindered the development of a reflection on economic realities radically different from the outputs of mainstream economics.

Another important approach that undoubtedly deserves mention, serving as precursor of economic sociology, is the renowned 19th century "historical school": German, indeed, but not exclusively. A leading role was played by Gustav Schmoller, who, within the context of an attempt to summarise or render compatible the economic traditions of value-cost and value-utility, advancing in a manner broadly analogous with Alfred Marshall at around the same time — utility or demand recognised as crucial factors in the "short term" or "conjuncture", with production costs thus determining "long term" or "structure" — furthermore added the notion that the most decisive stabilising factor in the elements of an economy as a whole would be its moral values, enacted in a series of institutions under the

form of social ethic or "ethicality". This social ethic, or the values associated, proves crucial in particular in terms of the stabilisation effect on consumer preferences, that is, demand. Schmoller also highlights aspects that economic sociology would later take up, such as the general importance of traditions in economic life or the supposed crucial role played by the entrepreneur, with his celebrated "teleological" virtues: leadership, orientation, unification, regeneration, etc. (cf. Schmoller, 1905-08 III: 277-9, 349, 371-2; see also Koslowski, 1995; Krabbe, 1996: 22, 63–4; Nau, 2000: 511-12; Graça, 2008b: 473 and seq.).

The theoretical writings of Schmoller, occurring in a context of concern over Socialist trends within the academic world corresponding to the Prussian state and the "Wilhelmine" Germany of the Second Empire, influenced the ideas later developed by disciples such as Werner Sombart. However, Schmoller had also clear and explicitly recognised repercussions on the works of Émile Durkheim, and correspondingly on French sociology (cf. Giddens, 1976), and of Thorstein Veblen and what is termed North American "institutionalism" (cf. Veblen 1990). As with the "institutionalist" tradition, Schmoller doubts the universal validity of economic categories and favours an approach of an "inductivist" type, which accordingly (as with Werner Sombart, but running counter to Max Weber) leans to the rejection of a considerable part of mainstream neoclassical processes and thus tends to attract the hostility of its followers. Within the work of Schmoller there is a compound emphasis in the specificity of each event and in contrast to aspects easily includable into laws and general trends, as well as a purpose at determining the greater or lesser weighting of materially conditioning factors, in particular the economic, but also the cultural factor in the life of societies. Correspondingly, his work may be approached as an interface between the fields of sociology, historiography and economics.

2. Talcott Parsons: Some solutions and further problems

In the 1930s, Talcott Parsons set out a theoretical construct designed to integrate, render compatible and simultaneously overcome various of the aforementioned contributions as well as other still unresolved problems. Firstly, Parsons sets out a clear dividing line separating economics from sociology, thereby guaranteeing a conceptual role and corresponding academic recognition for the latter. In this context, he establishes how the mission of economic science is supposed to consist of studying the allocation of means to ends, particularly ends of an intermediary level. This allocation takes place within a hierarchy of means and ends which at their base, the *ultimate conditions*, refers to the natural surroundings corresponding to geography, biology and psychology that Parsons (1934: 523-4) denies the statute of social science. Three other subjects are identified by Parsons as forming the intermediary sections of this great chain of means-ends: technology (at a somewhat lower level and referring to the relationships between man and environment), economics and politics. While the latter two are eminently social, economics is assumed to deal with rational and non-violent action whereas politics is bound up with the presence, to a greater or lesser extent, of physical violence and coercion or at least their threat (Parsons, 1932: 337 and seq.; 1934: 523–4, 529–30, 543, 545; 1935a: 421; 1935b: 662, 665–6; see also Graça, 2008b). At the top of the chain, and as *ultimate ends*, come the guiding cultural values, integrating and providing meaning to action and which Parsons defends as the true subject matter of sociology.

From this proposed subject division, we may retain certain aspects of particular importance to our theme. Firstly, the criteria enabling the identification and separation of sociology from the other subject fields, especially economics, is essentially subjective and bound up with an analytic perspective. This is not about portraying the economy as a separate or distinct sphere of society as a whole, or some "department of business" corresponding to a differentiated and specific range of facts and that would be, in these terms, the object of a different subject (Parsons, 1934: 530). What characterises economics is, Parsons counter-argues, a particular approach assuming: 1) agents with a multiplicity of goals and 2) facing a scarcity of resources, 3) striving to optimise the results obtained within generic restrictions, for which he postulates 4) decreasing marginal productivity of factors of production, and 5) for consumers, decreasing marginal utility of goods, within the general framework of 6) possibilities of reciprocal substitution both of production factors and final goods, hence tradeoffs.

This was, in sum, the definition of economic science proposed around that time by Lionel Robbins, to which Parsons broadly subscribed while nevertheless pointing out (1934: 344) this was an analytical device and nothing more and should not be assumed as a means of globally approaching and understanding effective realities. As regards factual reality, *la verità effettuale della cosa*, other recognisable factors enter the stage, in particular value orientations, the aforementioned ultimate ends, that orient and provide meaning and themselves represent the appropriate object for sociological scientific analysis.

Regarding those researchers considered economists, characterised by a "historicist" or "institutionalist" approach — taking into consideration cultural facets, the diversity of circumstances and the complexity of economic facts, and so refusing for these very reasons to adopt the analytical framework that had become predominant in economics, the "marginalist" theoretical scheme according to the writings of the aforementioned Lionel Robbins — as is basically the case with Schmoller, Sombart and Veblen, Parsons maintains that such authors assume deficient analytical perspectives and therefore tend to fall into the trap of what he termed the "fallacy of misplaced concreteness" (Parsons, 1935a: 439). Unquestionably, the "marginalist" framework does not correspond to factuality. That is clear, but does not confute it as the most appropriate approach for economic science. Striving to set it aside, in the name of realism and a broader scope of action, amounts to "economic imperialism", or an "encyclopedic economics" — meaning the intent to an ever more wide reaching economic science — which Parsons explicitly condemns (1932: 337; 1934: 522-4, 532; 1935b: 666). Beyond the theoretical failures and excessive "inductivism", Schmoller and Sombart are also accused of excessive "idealistic" inclinations, that is, overvaluing unique features of the realities studied and their *Geist* component, as simultaneously, and in a contradictory fashion, Parsons maintains that they over-emphasise the theoretical importance of recognisably objective circumstances, the "ultimate conditions", and at the cost of the cultural values, or "ultimate ends" (1928: 643–6; 1932: 333, 344; 1934: 531; 1935a: 423, 446 and seq.; 1935b: 656–7, 661–5; 1961: Part III, Ch. XIII; on this issue see also Graça, 2008b: 472-6).

Notwithstanding the fact that he rejects such approaches seated within official economic science but contrary to its mainstream, Parsons indeed reprocesses and utilises a good proportion of the theoretical legacy they provide, albeit on condition of committing it to a different subject field, rendering unto Cesar that which is Cesar's in the field of recognising

the validity of economic science. As regards his actual variety of sociology, conceived within the scope of the aforementioned chain of ends and means, he begins by praising Alfred Marshall for his emphasis on culture in forming consumer preferences, before going contradictorily onto recognise that, as economists, researchers consciously and appropriately assume these to be simple data and deliberately refuse to speculate on their origins or formation (Parsons, 1931: 107, 111, 113, 115, 119, 128; 1932: 330–1; 1935a: 443; Graça, 2008b: 471-2).

Vilfredo Pareto is considered an official precursor of sociology, allegedly for having underlined the importance of the "something else" that decisively impacts on actor activities and corresponds to the core of the renowned "residues of instincts" and also for having made relative the importance of "derivations" and accepted their boundless variability. Parsons is particularly generous towards the Italian author, overlooking how his sociology is openly biologically based and in fact not extending beyond a study of these residues of instincts, awarded the status of fundamentally unchangeable. Parsons highlights the regulatory or "systemic" role performed by these residues, whatever the correspondent derivations and thus placing Pareto alongside Durkheim in a pantheon of authors supposedly inclined to recognise the importance of "something more" in economic activities — in the case of Durkheim famously highlighting the non-contractual element present in all contracts — and the allegedly regulatory or "systemic" role of this facet (cf. Parsons, 1932: 339-42; 1934: 515, 531; 1935b: 651-4; see also Graça, 2008b: 476-80). Without these coming into effect, no social order would be either possible or even conceivable, driving towards a chaotic diversity and randomness in objectives, and so succumbing to shortages and generalised conflict, thereby falling within the renowned analytical spectrums of Hobbes and Malthus.

As regards Max Weber, Parsons is attracted by how the former highlights the importance of cultural specificities, in particular, the celebrated thesis on the relevance of the Calvinist ethic to the origins of the "spirit of capitalism" while managing to forget how this Weberian thesis is itself susceptible to accusations of "idealism" — the analytical supremacy of cultural values and considered the pinnacle of the prevailing *Geist*, thus from the perspective of its respective uniqueness — and in practice to a far greater extent than happened with Schmoller or Sombart. In fact, and even though Parsons makes no confession, Weber is primarily recovered as he is user-friendly on exactly those aspects that Schmoller and Sombart had of "unapproachable", that is, by recognising the analytical validity of "marginalist" economic methods and even the universality of their application whenever restricted to "ideal-type" aspects. This absence of "objection of principle" vis-à-vis what eventually became mainstream economics led to Weber's benevolent treatment by other high profile academic figures, especially Joseph Schumpeter (cf. Schumpeter, 1986: 819; Graça, 2008b: 475). Naturally, subscribing such points of view, Parsons indeed guarantees a sharing of the subject field in consecrating a position for sociology even if in a junior academic position, via an attitude seeking to appease the hostility stemming from the already far more influential field of economics. Far and away, academically the most convenient option…

Having obtained institutional recognition, Parsonian sociology was subsequently characterised by the almost complete disappearance of economic themes even with the big exception of a treatment of money as a means of communication and within a general

theory of media, hence, placed in parallel or analogy with other social institutions, that is, involving identification of functional substitutes or equivalents (cf. Beckert, 2006, Zafirovski, 2006).

Meanwhile, in the 1950s, and in works written in partnership with Neil Smelser and Alfred Kroeber, Parsons returns to various of the themes dealt with and/or alluded to in his works in the 1930s. In summary, he explains how, in the 1930s he had posited a sharing with economics that would lead to aspects approached by each of the disciplines as parameters being assumed by the other as variables: the "background assumptions" of sociology would thus be the problems and issues for economics, and vice-versa. This idea is recognised as directly attributable to Pareto and had previously been accepted as sound, but Parsons now decides to consider it with reservations. Should it make sense within the narrow range of economics to approach a significant set of themes as parameters, such an assumption held little validity for sociology. To the Parsonian sociology of this period, nothing of the social is alien: in practice, all the variables deemed relevant are considered its defining subject (cf. Parsons & Smelser, 1956: 5-6; Dalziel & Higgins, 2002: 14-15).

For the sake of clarity: the majority of what the economics academy had thus far pronounced was, according to Parsons, fundamentally true. This held at least for the then most renowned economists with Keynes and Schumpeter leading the way. However, it was also highlighted how this was only one perspective, or "a certain way of seeing things", relative to which a more general vision would prevail capable of identifying, for the various problems considered, concordances, deep reaching and fundamental compatibilities in the theses handed down by these consecrated economists — even while always insisting in adding that these same affirmations would be true only *in a certain sense.* And it was exactly here that Parsons comes onto the scene, basically meta-theorising what had previously been theorised by economics. His intervention actually proves, within the context of the disputes ongoing within the scope of academic economic science, simultaneously inducing perspective and conciliation: the oppositions, the dilemmas, the indeterminations left open by "orthodox" economics, ranging from the reasons for the inelasticity of wages posited by Keynes to the notion of "entrepreneurialism" *à la* Schumpeter, and taking in the intrinsic difficulties to cycle theories, the problems of investment and/or consumption functions, and the question of differentiating between property and control or the foundations to the distinction between goods and services — everything was subject to clarification alongside a recognition of the partial truth to the then most famous theories, after being referred by Parsons and Smelser to the fundamental analytical framework of social systems, the much referenced AGIL device (cf. Parsons & Smelser, 1956: 11-12, 65, 87, 114-23, 186, 263-70; Graça, 2008b: 482-3).

In fact, while dealing in the 1930s with the division between economics and sociology, Parsons now explicitly refers to the division between sociology and anthropology, leaving the "cultural system" and the functional requisite of "latency" to the latter within the framework of a "general action system". Similarly, within the official context of appeal to "systemic analysis," sociology is deemed to correspond to the "social system" and to "integration". As regards the economy, a concrete structural set is assumed within the "social system". Applying the AGIL scheme to the latter, economy is committed to "adaptation", the functional requisite corresponding to lesser information and greater energy.

The meta-theoretical intent of Parsons in this period above all relates to the undeniable problem deriving from a fundamentally *post festum* theoretical position: Parsons and Smelser enable us to perceive to what extent this or that consensus makes sense, how this or that problem necessarily results from a diversity of particular perspectives susceptible to concerting. However, in no way do they seem able to pre-empt genuine theoretical development or significant changes in the problematic issues and this thus restricts them to following the current of facts while rising above them to proclaim their allegedly superior vision. If we compare the theoretical economic panorama on which the two authors report in the 1950s with that now prevailing, we easily understand the truth of this. As regards economic issues, the usual criticism concerning the works of Parsons proves particularly valid, seeing in it little more than an immense general framework for classification and categorisation and furthermore fundamentally insusceptible to testing due to its incapacity to generate predictions even while also endlessly inclined towards reformulations designed to nurturing the impression of some "global synthesis"…

Furthermore, and of equal importance, his partial *mea culpa* in the 1950s is based upon the still only implicit recognition of the essential lack of validity of the criticism he previously made of "heterodox" authors, when accusing them of idealism and anti-analytical tendencies (misplaced concreteness) or of any other "sins". These repeated accusations above all reflect the trend for Parsons himself to engage in abusive simplification of the theoretical range of problems faced by sociology and reducing them to the famous "Hobbesian problem of order", while at the same time aiming at a reconciliation with mainstream economic science through symbolically "serving up the heads" of representatives of "heterodox" or "dissident" trends of this latter field (see Graça, 2008b: 483 and seq.).

This state of play resulted in an unfortunate relative under-development of economic sociology within the scope of Parsonian theoretical thinking. As recognised by authors who nevertheless remain very charitable towards the overall project, the main initiative of Parsons in this and subsequent periods falling within the scope of economic issues did not extend much beyond the aforementioned attempt to produce a sociological theory of money as a component of a general theory of media (cf. Beckert, 2006, particularly section IV; Zafirovski, 2006: 81 and seq.). Indeed, and according to Zafirovski, "Parsons conceives of economic sociology in terms of a sociological analysis of the economy, including markets (...) In general, his economic sociology is an analysis of the relations between economy and society (…) especially of the impact of the latter on the former. Adopting socioeconomic holism exemplified in a systems approach to these relations, the hallmark of Parsonian economic sociology is treating the economy as a particular social system in relation to the other, noneconomic subsystems of a society" (2006: 75). Nevertheless, and as the same author candidly adds, "Curiously, Parsons rarely uses the term economic sociology and seldom explicitly defines its subject and scope, usually defining it by implication", etcetera.

3. New economic sociology: The labyrinth?

Understandably, key sociological thinking on economic life did in fact emerge from beyond the Parsonian current. Besides the various sociologists of "Marxist", "institutionalist", "ethno-methodological" or "eclectic" trends, mostly located in the academic periphery, worthy of particular attention within this framework are the currents known as "rational choice theory" and "new economic sociology".

The "rational choice theory" (RCT) basically attempted to transport the "rational actor" of economics into the centre of the entire sociological problematic (cf. Boudon, 1977, 1979; Coleman, 1990, 1994). While recognising that, as an alternative proposal to Parsonian thinking, RCT represents an experience with at least the merit of striving for unification through logical coherence of the different academic fields, we also need to register that the very foundations of the project were simultaneously being submitted, and at its very disciplinary core, to criticism of currents of economics that had recuperated various forms and themes mostly within the scope of traditional "institutionalism": imperfect and asymmetrical information, agent-principal relationships, interdependence and the endogenous character of preference-functions, the dynamics of social networks, "strong reciprocity" and thus the themes commonly associated with names such as Richard Titmuss (1997), Oliver Williamson (1985, 1993), Herbert Simon (1957), Joseph Stiglitz (1994), Ronald Burt (1992), Samuel Bowles and Herbert Gintis (2004), among others. In truth, even within economic analysis in its strict sense the weighting of simplifying hypotheses associated to the "rational actor" model (as is the case in particular with the independence of actor functions-utilities and with perfect information) overwhelms the rational core with a series of "as ifs" that point to the supreme irrelevance or "autism" of the intellectual effort (cf. Hodgson, 1994). The alleged theoretical rigour of the reasoning is combined with the utter arbitrariness of the results in practical terms and which all becomes so much clearer in case we seek to generalise that analytical framework to the broader extent of human existence.

The emergence of "New Economic Sociology" (NES), primarily associated with names such as Mark Granovetter (1973, 1982, 1985, 1987, 1990) and Richard Swedberg (1987, 1990a, 1990b, 1994a, 1994b, 1996, 2000, 2003, 2006), is a fact of primordial relevance and meaning. This is an officially sociological current and, even while partially based upon the Parsonian tradition, NES broke away from the strict tradition of the "grand theory" whether due to the diversity of approaches that it assumes and seeks to incorporate or due to the irreverence displayed regarding dialogue with economic science. Contrary to any mere division of tasks scrupulously respecting disciplinary competences as Parsons recommended, NES threw itself into directly challenging, even if on a limited scope, some of the assumptions and methods of academic economics. However, NES was also swift to establish guidelines on the extent of its conceptual disagreement, once again tending to return to the traditional self-legitimating allegation of the existence of diverse perspectives or angles of analysis, with its own representing nothing more than another to juxtapose over, rather than contradict, economics.

NES is above all based upon the idea, certainly reasonable while also openly doctrinal and simultaneously somewhat vague, of a "middle-of-the-road" or a "third way" between the utilitarian behaviour of the "rational actor" of mainstream economics — and RCT, its sociological corollary — and the cultural determinism of Parsonianism (cf. Marques, 2003). Returning to questions of order generally associated with the studies of Mark Granovetter, who may be said to have indeed founded NES: do agents operate within "pure" environments? No, they are intensely embedded in social networks (Granovetter, 1973, 1983, 1985). Hence, it is neither accurate to suppose a "rational actor" proceeding in a "market" that is in turn completely disembedded from the rest of social existence nor to go to the opposite extreme and assume the "cultural dopes" corresponding to the "cultural determinism" of Parsonian tradition. In attempting to derive a methodologically *juste milieu*

between "individualist" and "holistic" currents, Granovetter also highlights that, contrary to the classical opinion of Karl Polanyi, the process of economic "disembeddedness" or "de-incrustation" vis-à-vis society in general should in fact be considered a far from complete process. This methodological "third way" thus assumes the decisional framing of social actors, that is, rationality is exerted within a specific institutional or cultural environment that simultaneously supports and conditions actions. Indeed, NES methodological discourse, in suggesting an institutional framework for decisions, significantly converges with recurrent (and nowadays fashionable) sociological themes such as "reflexivity" and "agency".

As the defining characteristics of NES, we thereby attain: a) an open challenge to official economics in terms of disputing the validity of its core arguments and the research results produced by, and thus differing from the Parsonian prescriptive tradition; b) the halfway position proclaimed between "methodological individualism" and the sociological "holisms" of a cultural tendency; c) an undeniable imprecision about its scope and range in all matters intended to be more than a generic notion of as a tendency being in an (in)disciplinary region, "between economics and sociology", a no-man's land thus susceptible to transformation into an every-man's land within which all transactions — and therefore also contraband — would thus prove feasible (see also Granovetter 1987, 1990; Granovetter & Swedberg, Eds., 2001).

Meanwhile, and beyond more limited definitions of NES as a "school", in which is perhaps the most crucial step concerning the academic recasting of economic sociology, Neil Smelser and Richard Swedberg dare defining it as the study of economic facts from the perspective and within the scope of the sociological framework. In fact, that is the title of the introduction to the first edition of the 1994 handbook: *The Sociological Perspective on the Economy* (Smelser & Swedberg, 1994b: 3). This line of argument continues in the body of the text, setting out the purpose of generating a "sociological perspective applied to economic phenomena"; or furthermore, and more elaborately expressed as the "application of frames of reference, variables and explanatory models of sociology to that complex of activities concerned with the production, distribution, exchange, and consumption of scarce goods and services" (ibid.: 3). This is, nevertheless, merely an apparently simple definition that in fact elicits diverse problems.

Firstly, just what does the expression "economic phenomena" actually mean? Should we trawl the manuals, whether for economics or for sociology, we soon run into multiple circular and ambivalent definitions. However, in this case the most relevant aspect is that the definition put forward by Smelser & Swedberg does seem to indicate a return to a "substantivist" attitude, characteristic of a pre-Parsonian period. It is true that economic sociology now differentiates itself from economics out of a question of perspective but this does not rule out, please note, and actually assumes the existence of the economy as something distinct that *is there*, objectively speaking. This is indeed somewhat comparable to the aforementioned "facts of nutrition" of Comtean certainty, now "that complex of activities concerned with the production, distribution, exchange, and consumption of scarce goods and services". However, and as we saw, it was, above all, against this conception of the economy as a "department" distinct to social reality, supposedly relative to business, at which Parsons (1934: 530) tilted with such vehemence in his 1930s writings.

Furthermore, just what do expressions like "sociological frames of reference" or "sociological perspective" actually mean? Is the objective here to return to the Parsonian idea of the study of "ultimate ends"? The authors do not propose any such clarification, limiting themselves to referring, based upon earlier work by Smelser, "(…) the sociological perspectives of personal interaction, groups, social structures (institutions), and social controls (among which sanctions, norms, and values are central). Given recent developments in sociology as a whole and economic sociology in particular, we would specify that the particular perspectives of social networks, gender and cultural context have also become central in economic sociology (...). In addition, the international dimension of economic life has assumed greater salience among economic sociologists, at the same time as that dimension has come to penetrate the actual economies of the contemporary world" (Smelser & Swedberg, 1994b: 3). The 2005 edition, it should be emphasised, retains this definition *ipsis verbis*. This is, as is noted, a definition based upon highly evasive generic formulas, meanwhile prudently opting for the method of merging them into an *open list* regime: economic sociology is, in fair truth, whatever proves convenient to recognise as such to the extent that time passes by...

These difficulties, however, really derive from well before, with the *Handbook* editors welcoming them in and doing their best to appease them — and the admission of a broad plurality of approaches, irrespective of the reasons underlying, is no doubt to be recognised as something to be welcomed — without nevertheless attempting to resolve it. We would furthermore highlight how, based upon 1) the "departmentalised" notion of the Comtean social type of the last turn of the century; substituting this by 2) the idea of the young Parsons of the existence of diverse groups of variables according to different academic fields but reporting on a single reality; before moving onto 3) the notions of later Parsons of a sociology interested *in everything*, overarching (supposedly interpreting and transcending it) an economics confined to a limited group of aspects, we would finally now seem to return to 4) a discreet affirmation of the existence of a plurality of diverse perspectives, each corresponding to a different academic field (hence, fundamentally the perspective of Parsons in the 1930s). This affirmation of plurality is nevertheless complemented by the idea of there being a distinctly economic "sector" to the social (the Comtean idea), and also by the additional conception that a sociological perspective might, in some cases, lead to direct confrontation, indeed correction and perfection of theoretical outputs of the academic economic science.

It does not meanwhile seem to take a particularly suspicious outlook to begin to mistrust, beyond these rather loose and oscillating allegations, somewhat underlying them, a concern for institutional legitimating: an issue less bound up with strict rationality and perhaps more the subject matter of sociology of science in its proper sense; or in the sense given by Charles Camic when referring to the struggle for academic recognition experienced by the young Parsons and the logic of "selecting predecessors" — less on the grounds of the appropriateness of contents but rather out of concerns to bask in shared glories and recognised prestige — that obviously presided over his conduct throughout this period (cf. Camic, 1987, 1989, 1991, 1992; Graça 2008b: 471).

This suspicion only deepens on observing how much of the corresponding literature for divulgation and institutionalisation deliberately deals with building up a typical family portrait in which, based upon the immensely diverse and even broadly contrary theoretical

legacies (Durkheim versus Weber, Marx contra Pareto, etcetera), seeks to advance some supposed coherence to the sociological *métier* as a whole. We should note that this problem is clearly far from being a monopoly exclusive to the economic variant of sociology, despite the questions raised by the illustrious forefathers that this obviously tends to elect as its own merely adding them to the general pantheon (Karl Polanyi is perhaps the most famous author to undergo this operation). However, the logical problems still remain, even if the field does not get belittled or rendered lesser than its peers[1].

Taken in contrast with factual reality, these compositions are easily interpretable as rationalisations and exorcisms. In truth, NES seems destined to hold onto a characteristic feature consisting — somewhat paradoxically given it supposedly approaches a disciplinary field far narrower than general sociology — of its fragmentary character, the extreme diversity of projects and the methodologies defining them and even of the questions they seek to respond to. As we saw with Granovetter, economic actors are not engaged in "pure" environments but are instead intensely embedded in social networks. However, we also have, within the official scope of NES, the researches of Neil Fligstein (1990, 1996, 2000, 2001) relative to "political" elements in the conduct of the aforementioned economic actors; "political" being understood both in a very limited sense, but also in its broadest sense as some "strategic rationality" and the production of worldviews supported by the duality of friends-foes, far more than the simple "parametric rationality" fashionable to classical homo economicus: hence "interlocking directorates". Furthermore and for example, there are the sophisticated elaborations of Viviana Zelizer (1893, 1989, 1994, 1997), who underwrites the moral inhibitions that have to be surmounted, or the cultural traits that must be reprocessed in order for the development of life insurances to be made possible; and who on the one hand attempts to detect economic calculus where it is supposed to be absent (how can you put a price on a "priceless" child?), and on the other highlights the atypical or non-canonical character of countless and highly diversified officially economic behaviours, when there are affective elements and/or value frameworks that end up determining apparently disconcerting attitudes, such as symbolically "ear-marking" diverse monies and preventing them from communicating or being mutually transacted.

An analogous approach in certain aspects, and susceptible to being placed in parallel with the diverse heterodox currents of economic science, we find in many authors traditionally signposted as belonging to NES, such as Paul DiMaggio and his known emphasis on the cultural aspects associated with the embeddedness of economic life. And also, if we follow the trail of Harrison White (1981, 1993, 2001), on the "isomorphism" traits detectable across various levels of social conduct, buyers and sellers choosing niches and seeking more than mere adjustment to the competition, markets being thereby displaced from the model of universal auction house with market-clearing prices, and instead corresponding more with

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[1] As to the setting out of lists of landmark contributors to economic sociology, cf. Smelser & Swedberg, 1994b and 2005b; Aspers, 1999 and 2001a; Zafirovski, 2001. For sociology in general, see the usual galleries of egregious predecessors, forced – for better or worse – into consensus, in the style of Aron, 1991; Bourdieu et al., 1998; Giddens, 1976 and 1998. See also, how truly emblematic, the justification provided by Jeffrey Alexander, 1988, is on the insistence of the supposed importance of the "sociologic pantheon". As regards analogous efforts, relating to the intended importance of the canon in the history of economic thought, and later inciting the production of an assumedly hagiographic group memory, see also Rosner, 2000.

an interspersing of diverse local orders that mostly evokes models of the so-called "imperfect competition". We should also mention the works of Søren Jagd, that broadly deal with a dialogue or interface between NES and the so-called "economy of conventions", and which indeed have various points of contact with the models mentioned just above, as it happens also with Patrik Aspers and his work on fashion and "aesthetic markets" (2001b, 2011; see also Beckert & Aspers, Eds., 2011), in which is highlighted the notion of "social markets" as social structures that reproduce themselves: companies operating in cliques and actors oriented through a performance of roles that largely occurs through the imitation of others. On a different ground, mention should also be made to the works of Bruce Carruthers and others (1998, 1999, 2000a, 2000b) on the interactions between legal systems and attitudes vis-à-vis financial markets, or rather — and together with those of Mitchel Abolafia (1997) — on the interfaces of finance, law and morals.

However, the list of authors and works is in practice endless (and therefore the mentions made ought to be taken as merely indicative or suggestive, and necessarily numberless omissions disregarded). At least, to the extent the hypothesis is accepted that the characterisation or otherwise of various types of works as economic sociology depends mostly on the fact of whether the respective protagonists do or do not consider themselves actual sociologists (and of course being recognised as such by other members of the network). And perhaps a feature that the field has recently so very frequently insisted upon, that of "performativity," may be superlatively applied to precisely economic sociology? That is something to consider in case we think about, for example, the works of Garcia-Parpet (1986) or those of Donald Mackenzie (2006), indeed, by academic background an economist turned anthropologist and a mathematician concerned about the political usage of statistics, respectively. Do these works on "performative" aspects in the economic life amount to economic sociology and in particular to "new economic sociology"? The only aspect that would seem clear is that, should they be considered as such, should the bundle of social interactions subsequently elicited be confirmed through collective recognition of these assumptions, in that case, well…

Some distinct features of NES outputs, still, deserve both explicit reference and highlighting. One of them is of course the abundance of "borderline" or interdisciplinary studies, such as with the works of Benjamin Nelson (1969), Nicole Woolsey Biggart (2001, 2002) and Philippe Steiner (1995, 1999), clearly in interfaces of sociology with anthropology, historiography and other academically recognized disciplines, in fact sometimes classified as "historical sociology", "history of economic thought" or some other denomination. Another trait, although indeed comparatively a minor one, is the tendency for the consolidation of something like "national" economic sociology currents or trends, such as is the case with authors like Arnaldo Bagnasco (1977, 1988, 1993), Carlo Trigilia (1998), Enzo Mingione (1991, 1997, 1999) and Filippo Barbera (2000) being susceptible of being taken en bloc as an "Italian school" or something akin.

Another feature, and definitely a very relevant one, is the importance acquired by the concepts of confidence, social capital and social networks attested to by the proliferation of works around such concepts. As regards networks, mention should be made of the works of Ronald Burt (1982, 1992, 2000) and of Samuel Bowles and Herbert Gintis (1998, 1999, 2000, 2002, 2003, 2004), irrespective of their official academic labels — and indeed notwithstanding the fact that they are usually not considered sociologists. The distinction between "strong

ties" and "weak ties", crucial to the studies of Granovetter, appears here somewhat reformulated and referring to the concepts of "social entrepreneur" or "gatekeeper", with the importance of what is termed "strong reciprocity" underlined and associated to the co-called "small-world networks" (cf. the works of Bowles & Gintis, Burt, and also Mendes 2004).

Regarding confidence and social capital, mentions must be made to the crucial contribution of Partha Dasgupta (1988) and, as a sociological epitome, the work of Sztompka (1999). A particularly interesting vein of this group of investigations seems to be the one associated with migrations, concerning which the name of Alejandro Portes (1993, 1995, 1996) has to be referred, among other things out of having precisely noticed the multiplicity of effects, and indeed possible "downsides" correspondent to "social capital". The generality of subsequent works within the field is prone to surround the specificities of the diverse processes of economic development, and indeed to a large extent fall within the scope of "culturalist" studies that once and again tend to elaborate on "our" success mostly out of opposition to "their" failure, and thereby also tend to proclaim an explanation based upon the supposed singularity of "our" culture. Proliferating in an "Atlantist" context marked by the spirit of the so-called "clash of civilizations", it is understandable that much of the "social capital" sociological literature has basically really enabled an endless "blaming the victims", as has already been defined by a range of commentators on the problematic dimensions to economic transitions, and particularly development processes (cf. Joseph Stiglitz 1994, 2003), but which in these cases, under the form of a sociological proclamation, assumes undoubtedly more sophisticated forms and wrapped up in the "culturalist" ways of approach: if "they" have not prospered or do not prosper, the "problem" and the "fault" must clearly be "theirs", given they are obviously "primitive"... or better still, they lack a "culture" inducing "social capital" or enough "confidence", so that… In fact, and should we consider the non-surmountable analytical difficulties involved in accurately measuring "social capital" and "confidence" (Dasgupta 1988), otherwise associated with huge imprecision of their content and the boundless variety of the circumstances in which these formulas are invoked (Koniordos 2005), we clearly now approach a highly treacherous analytical terrain within which tautological truths tend to predominate, rather in the fashion of the celebrated parable about the *virtus dormitiva* of opium (cf. Graça 2009).

One last (but not least) feature directly approaches the inherent conditions of sociology. Seeking to characterise the NES associated projects through the detection of their basic unity, in addition to highlighting (following Granovetter) their methodological postulates of a "middle way", Rafael Marques (2003) points to the alleged fundamental of what constitutes it: more than a science of unique or unrepeatable economic realities — in the fashion of some "ideographic" cult of uniqueness, in the Weberian tradition — or a practice of capturing the bundle of meanings and feelings inherently associated — in taking up a "comprehensive" attitude corresponding to the same tradition — what truly defines NES is an approach to economic realities that highlights the aspects stemming from the rare, the counter-intuitive and the extravagant.

We may, in fact, to a large extent state that economic sociology is conceived here as something like a "weird economics", a science of apparently paradoxical and aberrant facts. And here the central epistemological question thus becomes whether we truly approach the antipodes of the model of the "science of moral facts", according to which

the generality of social sciences was initially drafted. Rather than the daily, the banal and the repetitive, supposedly unattractive — but which the "moral sciences" of late 18th and 19th centuries (or corresponding to the social sciences project as such, sociology and political economy alike) had perceived as the "silent motor" of social evolution and the central object of the attention of new wisdom — we thus seem to be approximating the cult of the exceptional, of prowess, of extravagance and generically of counter-intuitive and paradoxical effects, traditionally the object of historiography, which had slowly opened the way to its successors to the extent that it had become *raisonée*, that is to say, mostly a detector and an indicator of trends.

And how to avoid, in such a case, the objection that economic sociology, seeking to flee the "positivity" of mainstream economics, ended up purely and simply falling into the arms of the traditional worship of *res gestae*? Does this truly represent its fundamental tendency? Once assumed the "escape route" out of official economics, does the inevitable destiny consist of dissolution into the traditional historiography of the *événementiel*? Notice should be taken, however, that according to Paul Veyne (1984) both historiography and the group of studies that are labelled as sociology may indeed largely oscillate between intellectual enterprises acknowledged to aim at the *événementiel* and others officially more "generalizing" in scope, still without the foundations for the separation between the two academic fields being more than a mere convention that for the sake of the pursuit of knowledge would probably rather be suppressed than sustained.

Furthermore, and on gentler reflection, we ought to recognize that the problems of the disciplinary boundaries in effect are perhaps of relatively small importance. Clearly, at least partially, the viability of NES might also be referred to in terms of its own inclination towards trans-disciplinarity, where not actually stating *in*disciplinarity, endowed or suggested by a certain social de-differentiation (in this case academic de-differentiation) that some assumed to be one of the characterising traits of post-modernity (cf. Anderson, 1998). The issue here is nevertheless far from being handed over to the cult of the transient that is commonly associated with theories stemming from the aforementioned post-modernity. Perhaps NES, independent of its limitations and inhibitions, represents a project to be welcomed above all because it remains open, with nothing or almost nothing excluded from the outset; for its expressing that opportunity for an enriching "synthesis" of the diverse "memetic" heritages which is much likely the basic condition for vitality. Indeed and as it was already noticed (see Hodgson 1997, Graça 2005), whereas at the level of biological realities convergences are only possible in terms of phenotypes, since within the material of genotypes inherently emerges an indefinitely diversifying and distancing logic that is particular to the very idea of "tree of life", with cultural realities, implicit and given the fundamental lack of distinction between genotype and phenotype in matters of "memetic" transmission, the effective in-depth mergers become possible. And thus seems to prove for evolution rather than the metaphor of the tree — based upon unity and leading to irreversible displacement — the one of the labyrinth — in which displacements and re-approximations are both indefinitely possible, though not necessary.

And just what subject demonstrates a better vocation for evolution in (and through) the labyrinth than exactly the one which carries out the analysis of social networks as one of its principal themes, where not its very own theme par excellence?

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A Meta-Analysis Framework and Its Application for Exploring the Driving Causes to Social Vulnerability

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1. Introduction

Since 1970s, along with the emerging of concept of complex problems, especially in the fields of environment, socioeconomic, population and sustainable development, there has been more and more studies turned from mathematical modeling or other qualitative methods to qualitative analysis and synthesis. Partly it is because that the studies becomes more and more cross-disciplined, on the other hand, difficulties to quantify them are the reasons. But as yet, little accumulation of the understandings have been gained from these studies. Compared to the considerable amount of attention on quantitative modeling and analysis, the attentions on the qualitative synthesis still keep a relative lack generally.

Along with increasing recognisation on the important implications for both knowledge development and the utilization of qualitative research methods in practice，and along with the explosively growing amount of scientific research, there progressed the integration synthesis method – meta-analysis. Meta-analysis helps to ensure that relevant qualitative studies are not lost in the growing body of research(Evans 2002); also meta-analysis permits those studies to be appraised and their findings to be combined (Jones 2004). More importantly, under the current situation that qualitative research is still falsely characterized as ungeneralizable, when generalization is narrowly conceived in terms of sampling and statistical significance (Sandelowski, Docherty et al. 1997), meta-analysis could achieve greater generalizability with higher level of abstraction(Estabrooks, Field et al. 1994).

Vulnerability to natural hazard is a typical research area of qualitative and multi-disciplined. A wealth of empirical case studies on risk and vulnerability has been undertaken at scales ranging from household to global level. The experience in undertaking such assessments is diverse and the findings are highly context and place specific (B. L. Turner, Kasperson et al. 2003). Also, the understanding of the causal structures and dynamics of vulnerability remains patchy and anecdotal despite the advances of vulnerability research in the past two decades (Adger et al., 2005; Kasperson 2006). To-date, very few rigorous comparative studies that aim to synthesise this collective experience have been undertaken. Examples are the work of Misselhorn (2006) in the area of food insecurity in Southern Africa and that of Geist (2004) and Geist and Lambin (2004) in the area of land cover change.

Therefore, the rationale of this study is promoted by factors on both sides of methodology and research question:

- What are the pivotal methodological issues of the qualitative meta-analysis when applied? With the development of more than three decades, various frameworks have been brought out for the application of meta-analysis. Although it is widely accepted that with the basic principles, the techniques could be different according to characteristics of research fields, there are still problems of relative uncertainty. The aim of methodological is to discuss these pivotal issues with the vulnerability research as an applied case.
- What are the key driving causes to the vulnerability to natural hazards? Compared with the increase in the number of advanced research on vulnerability, in the real world people are still suffering from rising vulnerability to natural hazards. Especially with the shocks from 2004 tsunami, 2005 and 2007 hurricanes, the coastal hazards came to the attention focus. With the application of meta-analysis, the aim of research is to recognize the key factors contributing to vulnerability, and synthesize the driving relationship between these factors.

To achieve the above aims, this paper applies meta-analysis in the qualitative studies with the context of the vulnerability research questions. In the second section, the methodology of meta-analysis is introduced; in the third section, the findings of the application of meta-analysis in vulnerability research are presented; finally, in the forth section, there are the discussions on both the vulnerability and the implementation of meta-analysis itself.

2. Methodology of meta-analysis

The results of a single study can be influenced by characteristics of the study setting, the sampled population, timing, locations and the subjective bias of the researchers. Causal factors of certain effects can only be unearthed by a synthesis of multiple studies rather than a single study. Some general trends and underlying principles can only be deduced across a large body of case studies or empirical studies. Therefore, since its very beginning, the methodology of meta-analysis is expected to be such a solution to synthesize amount of studies and get to the essences of problems with as least as possible bias.

Beecher (1995) undertook the earliest example of a meta-analysis and Glass (1976) coined the term "meta-analysis" to refer to a philosophy, not a statistical technique. The meta-analysis method began as a statistical procedure for combining and comparing research findings from different studies focusing on similar phenomena (Nijkamp and Pepping 1997-98), and a variety of meta-analytical methods have been developed in the past decades(Nijkamp 1999).

In some studies, "meta-analysis", "meta-synthesis", "synthesis review", and some other terms, are not distinguished clearly, but there are uses of the technique in various research fields. While some researchers refer to the term "meta-analysis" as the quantitative integration and analysis of the findings from all empirical studies relevant to an issue and amenable to quantitative aggregation (Glass 1976), most treat the terms "literature review", "synthesis review", "synthesis analysis" and "meta-analysis" as equivalent. Also some researchers separate "meta-summary" and "meta-synthesis". For example, in study of Sandolowski and Barroso (2003) in the field of nursing, the qualitative meta-summary is explained as involving the extraction and further abstraction of findings, and the calculation

of manifest frequency effect sizes while meta-synthesis is an interpretive integration of qualitative findings that are themselves interpretive syntheses of data, including the phenomenologies, ethnographies, grounded theories, and other integrated and coherent descriptions or explanations of phenomena, events, or cases that are the hallmarks of qualitative research. (Sandelowski and Barroso 2003).

Here the definition of "meta-analysis" is simply taken as the general term of all the different nominal meta-methods, as "…an analytical framework for comparative research that aims to draw inferences on common issues with different but allied empirical backgrounds" (Matarazzo and Nijkamp 1997).

Meta-analysis has now become a widely accepted research tool, encompassing a range of procedures used in a variety of disciplines, such as medicine, nursing, psychology, labor economics, environmental science, and transportation science (Gaarder 2002; Yu 2002; Greenaway, Milne et al. 2004; Travisi, Florax et al. 2004). The wide employment of meta-analysis is partially because that it is an integration which is more than the sum of parts in that it offers novel interpretations of findings(Sandelowski and Barroso 2003). In the study of Sandolowski and Barroso(2003), they found that this kind of interpretations will not be found in any single report, but rather are inferences derived from taking all of the reports in a sample as a whole. Their validity does not reside in replication logic, but rather in inclusive logic whereby all findings are accommodated and in the craftsmanship exhibited in the final product(Sandelowski and Barroso 2003).

Under the Meta-analysis framework, appropriate methods can be selected according to different research questions. Commonly used methods include the counting method, classical Meta-analysis method, Meta-analysis on effectiveness, homogeneity testing and other methods.

1. Vote-counting

This approach is similar to the narrative review, which divides the results of previous researches into three groups of significant positive results, significant negative results, and non-significant results. The result of the group with most literature number then represents the entire field of study. This method is relatively simple to determine the general trend of a large number of case studies. However, this is an inaccurate statistics which relies on the statistical significance. Also each individual study is limited by the collection of samples, so the final results of vote-counting do not necessarily reflect the true situation.

2. Classic or Glassian Meta-analysis

This approach evolves from the early Glass Meta-analysis. It defines research questions first, then collects case studies, followed by encoding the outputs of each features, and finally analyzes the relationship between the output values and the study characteristics. This method of Meta-analysis and its subsequent improved methods have three common characteristics: First, the selection criteria of literature is liberal, generally based on the research needs. Second, the units of analysis are the results of each single studies, and through selecting the appropriate sample size (ie, the number of literature)**,** the comparative analysis is taken. Third, Meta-analysis methods usually weaken the characteristics of each individual study, and present the overall average characteristics instead.

Practice has proved that the classic Meta-analysis in many areas has good applicability, and is considered as "research on research" (Greenaway, Milne et al. 2004). However, this classical method has some weaknesses. The most obvious one is that because this method averages all case studies, and the differences between the various studies are ignored. Therefore the reliability of the analysis results is very susceptible to those flawed researches. In addition, if a single case study has a large sample size, it is possible that the weight given to this study is relatively large, which affects the results of the analysis.

3.   Study effect meta-analysis

This method of Meta-analysis improves the classical methods on two aspects. First, the literature becomes more selective, excluding case studies which have defects in the methods and probably mislead the analysis results. Second, the method takes each individual study as the unit of analysis, rather than the results of each individual study. Thus, in essence, each individual research is given the same weight, and the results of the Meta-analysis will not be affected by sample size. However, this method will directly reduce the amount of data involved in the analysis, also the subjectivity of the researchers possibly affects the research.

4.   Tests of homogeneity

The idea of homogeneity testing originated from pattern recognition. Some scholars believe that the traditional statistical test method is not suitable for Meta-analysis. The effective sample size is affected by many factors: the reliability of measurement, sampling limits, reporting errors of data processing, unreported factors, etc. Homogeneity test can effectively distinguish the nuances in different samples. If the homogeneity test is significant for a group of researches, it can be deduced that this group of researches belongs to one category. With this method, people can classified the collected large number of empirical studies, figuring out the similar characteristics of each category.

A variety of Meta-analysis methods has long been used in research field of laboratory medicine, clinical medicine and behavioral science. There are also applications in experimental or quasi-experimental studies in the economic environment (Travisi, Florax et al. 2004). For example, a New Zealand government-funded research built a framework for future implementation of very effective guidelines drawn from the Meta-analysis of 10 government aided community projects (Greenaway, Milne et al. 2004). In recent years, Meta-analysis methods began to be used in the environment and climate change related researches.

3. A meta-analysis framework for exploring the driving causes to vulnerability for coastal hazards

3.1 Process of meta-analysis

Meta-analysis involves a critical examination of multiple accounts of phenomena to review similarities and differences among them (Nijkamp and Pepping 1997-98). The purpose of meta-analysis is to combine findings from separate but largely similar studies. According to some researchers, such studies may be suitable for the application of a variety of analysis techniques (common literature review, formal statistical approaches, etc.) for combining, comparing, selecting or seeking out common elements, relevant results, cumulative properties etc. from a broad set of individual cases (Matarazzo and Nijkamp 1997).

Generally, Meta-analysis methods include constant comparison, taxonomic analysis, the reciprocal translation of in vivo concepts, and the use of imported concepts to frame data(Sandelowski and Barroso 2003).

The mata-analysis requires the establishment of an analytic strategy and coding system to categorize data and to interpret findings in relation to predefined research questions. According to Glasmeier and Farrigan (2005) the synthesis process on qualitative research comprises seven steps:

1. Formulation of the research questions;
2. Selection and appraisal of primary research (development of a literature search strategy);
3. Analysis and synthesis of the theories (meta-theory);
4. Identification of an analytic strategy (meta-analysis)；
5. Analysis of the methods in collected cases (meta-method)；
6. Synthesis of the outputs of the above processes (meta-synthesis);
7. Presentation and dissemination of the findings.

The process of meta-analysis is not a linear process. 3), 4) and 5) are parallel steps that focus on different aspects of theories, contents and methodologies. Also, the various steps overlap and are circular. The development of the coding system continues throughout all stages, in order to substantiate the process and make sure that all important information is included. In this way, the coding system can be modified, revised and supplemented according to the concrete cases.

Also Matarazzo and Nijkamp (1997) present the meta-study as six different "levels", each of which assumes a particular importance from a methodological point of vview. The levels are named real-world level, study level, pre-meta-analysis level, study selection level, meta-analysis level and implementation level(Matarazzo and Nijkamp 1997).

Combining the different steps and the levels together, meta-analysis is essentially a kind of "mining" or "emerging" of integrated findings. An integrated map of undertaking meta-analysis steps is shown in figure 1.
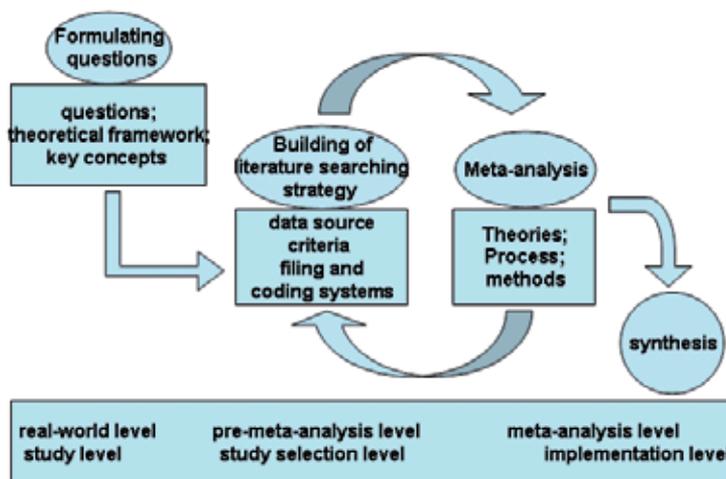

Fig. 1. The levels and corresponding steps of a meta-analysis

3.2 Undertaking meta-analysis: Case in research of vulnerability to coastal hazards

Although the meta-analysis has developed remarkably, there are however few uses of this methodology in the field of natural hazard research. Harremoes, Gee et al. (2001) studied 14 "man-made" disaster cases and investigated the reasons behind ineffective early warnings. The study demonstrated that in most cases information warning of the potential harm was available at an early stage, but that due to the complexity of the situation, lack of awareness, and the politically high stakes of the decision-making process, many warnings were not implemented effectively or not implemented at all. Other typical researches in environment-related and vulnerability researches are those from Geist and Lambin (2004) on the desertification in tropical areas and from Misselhorn (2005) on the vulnerability to food security in Africa (Geist and Lambin 2004; Misselhorn 2005).

Here in this study, the meta-analysis is practicalized in 6 steps: 1) formulating the research questions, 2) choosing an appropriate conceptual framework, 3) developing a literature search strategy, 4) collecting case studies, 5) coding information from individual case studies, 5) formulating and describing the object under investigation, and 6) synthesizing the data collected from individual case studies.

3.2.1 Formulating research questions

In order to conduct a meta-analysis it is necessary to define a clear outcome of vulnerability as a basis of the analysis and to narrow down the large volume of research that has been undertaken in this area to-date. In this study, the research questions are:

1. What are the key factors contributing to vulnerability? And
2. What is the current status of research in the vulnerability field?

3.2.2 Choosing conceptual framework

In some sense, the choice of the conceptual framework is the most important phase beside the formulating of research problems. Choosing which framework indicates the connotations, scales, and philosophy of the concepts and relative terms and definitions. Therefore, the conceptual framework in this analysis should reflect the complex interactions in the coupled social environmental vulnerability system.

Additionally, the choice of conceptual framework impacts the following process of meta-analysis. Though the causes to vulnerability exist no matter what methodology is chosen, the organization and categorization of the information would be different. Further, the presentation of the analysis results would be different.

The Turner et al. (2003) framework takes the concerned coupled social environmental system in which vulnerability resides as the core system, with consideration of functions from broader social and biophysical conditions' interactions. With the three elements of exposure, sensitivity and resilience, this framework presents the complexity and the multi-scale characteristics in the system(Turner, Kasperson et al. 2003).

3.2.3 Searching and selecting literatures

In this study, peer-reviewed scientific articles including place-based vulnerability case studies and theoretical and conceptual discussion papers are included. The literature search was undertaken in two steps:

1. Scoping of the literature: A set of search filters (combinations of search terms) is set up to identify articles relevant to the objectives of the review and undertook scoping searches including searches for existing reviews and primary studies relevant to the objectives of the review.
2. Review of questions: The goal of reviewing questions was to determine the true topical similarity of studies. This entailed the comparison of studies on broad surface parameters, including stated research purposes, research questions asked, and the outputs produced (Sandelowski, Docherty et al. 1997).

In order to minimise the likelihood of excluding important information or views (Sherwood 1999), a thorough and comprehensive literature search was undertaken. This required an appropriate and efficient search strategy. In this study we chose to limit our search to coastal hazards defined by Adger, Hughes et al. (2005): coastal floods (storm surges), tsunamis, tidal waves, hurricanes and marine-related infectious diseases (Adger, Hughes et al. 2005). Geographically, we limited our search to eight East and Southeast Asia countries: Laos, Malaysia, Philippines, Thailand and Vietnam, Bangladesh, India, and Indonesia.

Considering the availability and authenticity, the following electronic databases were used as mining places: JSTOR (www.jstor.org), Sciencedirect (www.sciencedirect.com), Springerlink (www.springerlink.com), Synergy (www.blackwell-synergy.com), Google (http://scholar.google.com), and Emerald (www.emeraldinsight.com).

For those databases that allowed searches in several languages, the search was limited to documents in English. The time period searched was from 1970 to March 2006. The key words are grouped in three kinds: type of hazards, region and aspects of hazards vulnerability. Through combining the key words, the searching strategy is set up as shown in Table 1.

The collected literatures are sifted further to insure all the articles are related to the aims of this study. Firstly the articles are browsed by titles, but the relevance of a qualitative study is often not clear from its title alone. Second round of sifting is on abstracts. But as (Evans 2002) has noted, the abstracts of qualitative studies vary considerable in the contents, and some are without addressing the research methods used. If a study could not be determined whether should be included in the meta-analysis, a full text reading is required as the last way.

3.2.4 Coding the information

After getting the collection of sifted literature, the papers are read fully one by one, to abstract the needed information. In order to avoid limiting the approach or excluding relevant literature, we do not apply a pre-defined coding system as in other meta-analysis research, but develop a new system which is flexible enough to be updated throughout the process as new information becomes available.

The coding needs to be done in a way that allows both quantitative and qualitative analysis of the information recorded. Quantitative analysis includes statistical analysis on the numbers and frequencies of certain kinds of information, such as how many times a particular cause of vulnerability is mentioned or how many case studies were conducted in a particular country. Qualitative analysis is aimed at gaining an improved understanding of

the key causes of vulnerability, their complex interactions, and key lessons for vulnerability reduction.

steps	keywords	notes
1	Coastal disasters	Type I: Type of hazard
2	Coastal Floods	
3	Hurricanes	
4	Tsunamis	
5	Storm surges	
6	Tidal waves	
7	Marine-related infectious diseases	
8	Combinations of 1-7	
9	South-east Asia	Type II: Region
10	South Asia	
11	East Asia	
12	Asia	
13	Islands	
14	Any of the countries' name	
15	Loss of life	Type 3: Aspects of hazard vulnerability
16	Deaths (death rate)	
17	Mortality (mortality rate)	
18	diseases	
19	health	
20	social	
21	impacts	
22	Vulnerability (vulnerable)	
23	Causes	
24	Consequences	
25	development	
26	23+15(or 16 or 17)	
27	23+18	
28	23+22	
29	20+21	
30	20+22	
31	20+24	
32	20+25	

Table 1. Searching strategy for literatures in meta-analysis of vulnerability to coastal hazards

In this study a synchronous way of coding is set up. At the very beginning there are only some basic questions in the coding system. Along with the progress of review, more and more information would be found in the literatures. These "newly" found information will be formatted into a question and added into the coding system and form a new cause to the vulnerability according to some regulation (for example the key words drawing scheme). After going through all the literature, there will be a long but unstructured list of causes and

other information. This information and their interrelationships (for example the cause-effect relations) will be categorized and structured according to the philosophy of the conceptual framework.

There are 7 sections designed in the coding system: basic information, type of scale of assessment, methodology and data, definition of vulnerability, causes of vulnerability, vulnerability indicators, and recommendations for policy and management. The basic information section is about the literatures themselves, such as the article title, authors' name and disciplines. The causes of vulnerability and recommendations for policy and management sections are the main two sections, in which the list of causes and the recommendations in different scales and levels will be set up. And further analysis on the interactions will also be set up on the basis of these two sections. Other sections are aimed to detect the current situation of vulnerability community itself. Additionally, since the scientific inquiry should remain logical and straightforward(Rosenthal and DiMatteo 2001), and to make the analyzing easier and more accurately, the questions are standardized designed as yes-or-no questions. Then in the later analysis, the statistics of various information will be simplified into vote counting.

4. Results from a case: Driving causes to vulnerability to coastal hazards in Southeast Asia

The literature search results in a total of 128 eligible papers. Of these, 120 are scientific articles published in academic journals and 8 are journal editorials or communications. This body of literature is statistically analysed to reveal information on the types of study undertaken, the spatial scale of analysis, country or regional focus, hazard types, disaster management phase, conceptual approach, and research methodology.

In the analyzing process, vote counting, qualitative analysis and statistical methods are employed. The selected documents are characterized in terms of the disciplinary and geographical affiliations of the authors, their epistemological approaches and methodologies, and the focus of their work within the disaster risk reduction cycle. In 128 selected articles, a total of 336 vulnerability factors and 227 recommendations are identified and analyzed.

Some of the main findings about the vulnerability are as below:

- Population dynamics, development, cooperation and power relations, and institutional organization and culture are the most important driving causes to vulnerability in the study area.
- Increase hazard awareness and knowledge, improve early warning systems and evacuation procedures, improve communication and cooperation, and strengthen environmental protection and post-disaster rehabilitation are the most popular recommendations to decrease the vulnerability.
- Limited understanding of vulnerability patterns, recommendations ignoring the most important underlying causes of vulnerability, lack of conceptual frameworks in guiding vulnerability case study analysis, and gaps between assessment, policy and practice are the main insufficiencies in existing researches.

Also there are several key findings arising from this synthesis on the research communities:

- There is a clear gap between conceptual and theoretical work and empirically based case studies where deployment of or even reference to particular conceptual frameworks are rare.
- Second, partly as a result of the existing gap, there seems no clear pattern or causal structure emerging from the reviewed researches, with all the factors interwoven in a complicated way. Interpretations of how these factors interact to produce social vulnerability to coastal hazards in different environmental, historical, and social contexts are still largely idiosyncratic.
- Third and most importantly, there are mismatches between causal factors of social vulnerability and the recommendations for its reduction and management. With most of the recommendations do not target the underlying factors but rather focusing on short-term relief.

This work highlights the urgent need for a multi-scaled and multi-disciplined research approach that addresses the gaps between field-based case studies, larger-scale vulnerability assessments, conceptual frameworks and theory, and the implications for policy and practice.

5. Conclusions and discussions

The objective of this project lies in two folds: one is to undertake a comprehensive systematic analysis of the scientific literature on coastal hazards to identify the factors contributing to hazard vulnerability, the other is to explore the utility of meta-analysis method in the research of vulnerability. Therefore, based on the eight East and Southeast Asia countries, a meta-analysis methodology is applied, including the development of a system for coding information, statistical characterization, and the synthesis of key findings.

Reviewing the historical routine it could be seen that in mid 1990s to early 2000s, the qualitative meta-analysis got a booming development. In that period, from the very beginning of application in nursing research(Beecher 1955) and psychology research(Glass 1976), these methods have been employed in many research areas. In fact the quantitative meta-analysis also progressed and even developed into a relative complete system with key parameters measuring the quality of analysis. By examining the dynamics that go beyond individual studies, in this meta-analysis we are aiming to extrapolate from lessons learnt (from the case studies and previous works), and to contribute to the body of knowledge about the driving forces and dynamics of the vulnerability to natural hazards. During the process of meta-analysis, technique issues are also addressed.

5.1 Sample size of the collected literature

The decision of how many studies should be included in a meta-analysis is always a hot spot of argument. Some researchers think that the inclusion of all studies, following an exhaustive literature search, could help to prevent the exclusion of important information or views, and thus strengthens the findings because they are generated from a broader base(Sherwood 1999; Jones 2004). On the other hand, some argue that in any kind of qualitative research, overly large sample sizes tended to impede deep analysis and threaten the interpretive validity of findings(Sandelowski, Docherty et al. 1997). Also Paterson et al.

(2001) suggest that working with more than 100 studies may be "overly ambitious", and recommend focusing the research question more tightly(Paterson, Thorne et al. 2001).

The field of Sandelowski's study was health and nursing, in which there were relatively fewer uncertainties and the topics mainly focused on the effectiveness of certain remedies, the environment around the illness and the impacts of some external factors to the therapies. For more complex issues that involve many uncertainties, more studies are required in order to ensure a complete and comprehensive analysis.

Furthermore, if a "purposive sampling or saturation techniques" brought out by Booth (2001) is employed in a meta-analysis(Booth 2001), a criteria would be set up even implicitly. Then a bias in sampling would be inevitable. Although every meta-analysis has some inherent bias by virtue of the inclusion/exclusion criteria and the methods chosen to review the literature(Rosenthal and DiMatteo 2001), in this study the bias is minimized as possible.

Based on the above consideration, for the process of sampling, the method of (Suri 1999) was applied. According to this method, the search for additional literature can be terminated once the stage of data-redundancy is reached where every additional case included in the synthesis is likely to tell the same story rather than provide a new perspective. Preliminary content analysis was used to determine redundancy.

5.2 Criteria of entering meta-analysis

Some researchers argue that the mixing of various literature in meta-analysis can be confusing and obscure the understanding of the facts each single studies trying to tell(Guss 1995). Also meta-analysis is sometimes criticized for mixing good and bad studies together, which is known as "garbage in and garbage out(Hunt 1997)" issue (Rosenthal and DiMatteo 2001).

Although this criticism is mainly from the quantitative research field, same suspicion exists in the qualitative field. For example, in the research of Barroso et al. (2003), when taking a meta-analysis on HIV infection, around 20% are excluded(Barroso, Gollop et al. 2003). In the research of Jones (2004) on pragmatic health service, 132 papers were read in full, but only 17 met the inclusion criteria.

Meta-analysis seeks to identify as many potentially relevant studies as possible that meet the research question for a given review topic. The included studies vary considerably in their objectives, methods, data and findings. Excluding some studies indicates factitious frame that restricts the boundary of researches. But in reality, along with the merging and crossing among disciplines and methodologies, it is impossible to limit the research views, thus unadvisable to set strict criteria. In fact, the criteria of goodness and badness are objective and in some sense context dependent. Different communities of researchers have different criteria of goodness and these criteria change all time. Additionally, it is with large possibility that the criteria will bring along the problem of rising bias in the meta-analysis.

From the view of vulnerability research, because vulnerability is such a complex characteristic of society-economy-nature system, and is impacted by almost all aspects in this system, in part of the studies the vulnerability is expressed implicit and even equivocal, especially in qualitative studies, where the concepts, meanings and expressions are diversely. This is substantiated in the literature searching in this study. In fact among the 128 collected studies,

over 50% are with the expression of "impacts", "losses", "suffering from", or "changes of life", even no these kind of words but only a description of the phenomena. Therefore, this study on the vulnerability to coastal hazards includes as many as possible literatures, and no special criteria set up to exclude or include studies. In the process of full-text reading, the synthesists analyze the literatures and mine the connotative driving factors and their causing relations of vulnerability from all studies. This requires skills in semantic (literal) and idiomatic (meaning) translation of key ideas in studies(Noblit and Hare 1988).

5.3 Weighting factors in synthesis

By virtue of their emphasis on idiographic knowledge, or the complexities and contradictions of particulars, in some sense qualitative studies resist "summing up"(Light and Pillemer 1984). Then developing a technique to compare the findings of each study, along with determining the methodological comparability, or the similarities and differences among studies is the permanent challenge to meta-analysis. Some researchers argue that a "quality weighting" could be set to weight the studies and then to make the comparison of findings(DiMatteo, Morton et al. 1996). But then the problem of "criteria by qualify" would be introduced inevitably.

The meta-analysis of vulnerability in this study meets the same problem. The factors in category "Geography and Environment" possess the highest total number of mentioned times and the highest percentage of times mentioned. But in some of the documents, the geography of the particular case under investigation is presented simply as background information rather than a contributing factor to hazard vulnerability. Then when determine the relative importance of factors only by counting the frequencies, geography and environmental factors would be the most important, which obviously is a misleading conclusion. On the other hand, if the relative importance is determined by other criteria of weight, such as the background of authors, the disciplines, the geographic affiliations, it would plunge in the bias of quality or sampling again.

Also the weighting of factors is related directly to the outputs of meta-analysis. Additionally, how to weight the difference and the similarity between studies is a complex problem which depends on the aims of meta-analysis, methods employed, criteria of selection and even the expectation of outputs.

Meta-analysis is a systematic framework that could be applied in the synthesis and comparison of accumulated studies, no matter literatures or field data. Unlike quantitative meta-analysis, in the qualitative research field the methods employed in meta-analysis is various according to different studies. Currently the main methods used in qualitative meta-analysis are still vote-counting or similar methods (Geist and Lambin 2001; Kevale 2001; Misselhorn 2005). But this is an inexact approach to integrating research, because it depends on the sample size very much. In fact, the wide variety of presentation ways, the artificial lines drawn in research reports among methods, results, discussions and findings are all challenges to the meta-analysis methods. Therefore, progressed approaches are expected in qualitative meta-analysis to match the progressed research framework.

From the view of applied fields, meta-analysis approach has been used for a long time mainly in the field of experimental medicine, clinical pharmacology, and behavioral sciences. Also it has been used in quasi or non-experimental contexts of economic research

and some social science studies (Travisi, Florax et al. 2004). For example, a meta-analysis funded by New Zealand government provided insights into the lessons learnt from 10 very different community action projects funded by a range of government agencies in New Zealand, and The analysis has been used to inform a framework for community action projects, which identifies key developmental practices that will strengthen similar projects (Greenaway, Milne et al. 2004). It has begun to be used in some fields linked to environmental problems or climate change. In the work of Gaarder (2002), a regression analysis is undertaken using the large sample of air pollution mortality studies to date, from both developing and developed countries, to further the understanding of the relationship between suspended particles and mortality(Gaarder 2002).

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Can Sociology Help Us to Live a Better Life ? A Phenomenological Approach to Clinical Sociology

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1. Introduction

This question, although trivial as it could appear, is neither so easy to by-pass, nor so useless: as I hope to show a little later.

Sociology consists, at first, of a lot of concepts (better: "ideal types", according with Weber), statements, theories, all grounded on observations and reasoning. In other words, it consists of knowing something, but also of thinking about the reliability of the way we put together such concepts, statements etc. Exactly the same as other sciences do.

According with a common sense shared by both laymen and most scholars, at the first level all kinds of knowledge are the outcome of some methodical actions aiming to reproduce within human mind some features of "reality". At the second level, they come from a methodical reasoning aiming to "explain" the events observed. And finally, they consist of drawing some conclusions useful to forecast what could arrive in the future, more or less far.

Some basic assumptions taken for granted are connected with such statements. The first one is that there is a "reality" existing behind and before our observations, independently on them; secondly, such reality is (or at least ought to be) rationally arranged to give place to a *Kosmos*, so as the ancient Greeks said. Then, human reason is able to catch such rational arrangements, because of a real similarity between both reasons: human and natural, subjective and objective. Finally, the three levels are "rationally" ordered according with the above hierarchy of priority: observing, explaining, forecasting.

Philosophers have many different opinions about such statements, but anyway they couldn't be demonstrated. Then I think it would be dangerous to build our knowledge on such unsettled grounds. Of course we can let laymen do so: indeed by this way they usually build a common sense knowledge permitting them to manage their everyday life. Moreover the same happened successfully along many centuries, before the modern pattern of science elaborated by Royal Society would be established.

We know very well that such a pattern has been revised several times: during the Enlightenment, by the nineteenth century Positivists and the neo-Kantian philosophers, until the sophisticated discourses of twentieth century epistemologists (see mainly the

sceptical thesis of the post-Popper ones, so as Feyerabend). Nevertheless there are, I think, good reasons to suspect that all these theories involve some metaphysic assumptions, generally not made explicit. The only basic feature we can assume as a solid ground to build our discourses is that both modern science and sociology are someway kinds of critical knowledge: that means, according with the most philosophers, a knowledge involving reflexive thinking about its foundations and methods as well.

In my opinion, we should first of all go back to the starting point of the so called modern science: when scholars decided to put apart from their field of research the *end*, the *aim* of the nature, and to pay attention only to the *causes* of natural phenomena. But refusing *teleology* involves to give no relevance to the *sense* of nature taken as a whole, as well as seen in its particular features. It seems to me that such a refuse should be maintained, in general, for the science, but on the other hand one should also deal with some consequences, that we could resume by speaking about the following three points.

First of all, people can hardly survive without giving sense to their *world of life* (the little section of the universe they live in, then the persons, animals and things they find during their everyday life, as well as the set of ideas, beliefs, information they have at hand for managing their life). People know very well that behind their own world of life there is a big world, the very universe, within which their own one has to make *sense*. Therefore they cannot be satisfied only with a science taking for irrelevant the problem of the sense of the whole: then, facing such a state of things, some ones shut their eyes and carry on their lives in apnoea. Some other ones (particularly within secularized societies) are in quest of satisfaction by living from hand to mouth, enjoying as much as possible every single moment: in other words, by living an *aesthetic life* (according to Kierkegaard). Finally there are some other ones who are in quest of sense by asking for it from religion. Only a few persons indeed are able to make sense by their own for their life, and that happens mostly by making a personal use of religious convictions. Then, generally speaking, we could point out that in the quest for sense religion plays a very important role.

A second question concerns the difference between *nature* and *human world*, as to the relevance of the *sense* for scientific research. Questing for the sense of human world (taken as a whole) means obviously to search for the place of such a whole within the universe: that's exactly the same as to search for the sense of the universe itself (that modern science refused to do). But usually social sciences don't pursue such an aim: they generally pay attention to specific features of human world, namely to human behaviour (individual, collective or institutional). That's namely the same as Weber pointed out by speaking about a sociology concerned with *human behaviour provided with a sense given by the actor himself.*

Then sociologists not only cannot put away the problem of the sense in the same way as physicists or chemists: on the contrary, they have to do namely with the sense, in some way. And moreover (so as philosophers and historians) they usually *speak about* science: in other words they make a *meta-discourse* where science and scientists are the object (and maybe this is the reason why such other members are so suspicious of sociologists: they could feel not so happy for being taken as an object).

Indeed we are just now choosing an approach like that: we are going to *speak about* sociology, as well as about science (then taking the former as it would share the same nature as the latter).

Our very discourse deals with the *reason why people would like to know something* : because knowing is finally a social action, then it has to make sense (for the actor), which consists first of all (according with Weber) of the reason why they do so. We have already spoken about the common idea of science as something reflecting the world outside within the human mind. And we have pointed out some doubts about the consistency of metaphysical foundations of such a thesis. But now we would like to skip such problem by putting down a new question: *Why indeed people (including scientists) do make an effort like that*? The Italian poet Dante Alighieri during the XIVth century put on the lips of Ulysses the famous speech about "*virtute e conoscenza*": that means "human beings have not been created to live as animals, but to pursue virtue and knowledge". Behind such a sentence we can find a philosophical reasoning as well a theological one, well mixed so as it usually happened during the Middle Ages. The *sense* of mankind, that's the *reason why* it has been created (by God: Who likely had just this intention, and then this waiting from His creature) is to pursue virtue and knowledge. Then for our Middle Ages ancestors the effort to learn always more, to build an ever growing knowledge, depends on a moral obligation.

Nowadays on the contrary, after the scientific revolution of the XVIIth century, we can no longer take into consideration the *sense* of mankind, and namely a sense given it by God. A basic assumption of modern knowledge is not to need the hypothesis of God to explain anything in the world. Then we have to search for another explanation of the *social practice named "knowledge"*.

2. From the wild life until institutions

Knowledge is indeed a social practice, and science (together with sociology) is included within knowledge. But what means to be a *social practice*?

A *practice* indeed is whatever (human) activity aiming to manage the world of life, to satisfy some need by changing something, by solving some problem. Of course, we know that all along the Western philosophical tradition people have distinguished the practical activity from the theoretical one: and knowledge has been considered as pertaining to the latter. But such a view, albeit very influential (have we to remind the two "reasons", the theoretical and the practical one, separately examined by Kant?), implies many metaphysical presuppositions which are not only indemonstrable, but finally contrasting with a phenomenological overview of the process of building human knowledge. That we are going to show here below.

Human life (something namely practical) flows always and overall within a social dimension. Never human beings lived all alone, running prairies and forests so as other wild beasts do: because they need to meet each other and share the efforts to gain what is necessary for collective surviving and to avert dangers coming from natural forces. In other words, they have to share social practices: i.e. making tools, hunting, caring kids and the elders, defending the group from enemies, etc. So as Durkheim pointed out, sharing working practices made societies consistent, that's giving the ground of human solidarity.

At this point we have to take note that no one, individual as well as human group, could survive without interpreting the events arriving all around: that's giving them a meaning as a sign of somewhat likely to arrive in a future, immediate as well as far. Animals too do

something like that: they can interpret signs of a coming tempest, as well as of an earthquake etc. But human beings don't rely only upon their instincts (anyway not so strong as those of animals), but their interpretation of events needs *fitting these ones within their context* : in other words, giving them a *sense*.

Sense is actually, indeed, the *meaning of an event (considered as a message) within its own context*. The same event, when it arrives in different contexts, has indeed different meanings: it could involve different consequences and give rise to different reactions from the part of the interpreter.

The last sentence should be emphasized, because it can really help us to understand the sense of knowledge. Let we explain such a statement as it follows.

-   What means "to know something"? It means to be able *to give it a sense* (i.e. a specific meaning: that coming from its relationships with its own context).
-   What means then "its own context"? The net of events and phenomena drawing a picture where the object we are interpreting takes a specific role.
-   Why do we need to know such a picture? Because, by enabling us to give a meaning to the object, it could help us to understand where it is coming from and what consequences could arrive from it.
-   Why is it so important, to forecast such consequences? Because we need to organize just in time our reaction to the object, so that it couldn't overwhelm us, while, at the same time, we could be able to take advantage from it for our strategic behaviour.

Then finally, knowledge has a very big role within our strategy of living: this is its specific, very practical sense. But such a sense could in no way be given individually, that's by each individual independently from the other members of his (her) social context. Otherwise people could whenever disagree about managing what's necessary to collective surviving. And that makes the difference with the usual idea of knowledge as a "mirror of the reality".

Someone could feel a scent of pragmatism in such a statement. Actually, it is not so far from pragmatism: which, from its part, flourished in the same Chicagoan context where American sociology was born. But I think that the following difference from pragmatism ought to be emphasized. Pragmatism was coming directly from an Anglo-Saxon utilitarian outlook, with its materialistic taste, but anyway it was a philosophical theory, stating how to understand what happens in the world, from its point of view. Our statement, on the contrary, comes from a sheer observation of what happens within a specific field of experience, without drawing from it a general theory on the world.

On the other hand, drawing the picture we spoke about involves a previous conceptual building where the things Aristotle and Kant named *categories* are methodically employed. Such conceptual buildings are systems of meanings, rules, social roles having the function of explaining what happens in the practical experience, at the same time as they are ruling it. In other words, such conceptual buildings are what sociologists usually name *institutions*.

To understand what happens in our world of life, we need to know previously the institutions governing such a world: otherwise, how could we give sense to what happens? But at this point one could ask: how could people build institutions without having previously understood particular events of their world? This question deals with the so

called *reflexivity principle*, which many sociologists (as well as philosophers of science) so as Garfinkel and the ethnomethodologists have very much spoken about.

I propose two ways to get off, phenomenologically, from this paradox: the one philogenetic and the other ontogenetic. Let us begin with the first one.

Primitive men saw the natural phenomena and gave them a sense, aiming to forecast what consequences these ones could involve for them. We don't name this kind of knowing "science", because of its very distance from the rules and the criteria of modern science. But it was something very different from the forecasting attitude of animals: events and phenomena related with the *thing* we are speaking about, and composing the picture giving it a sense, are not specific events and phenomena but abstract models of them, that's *concepts*.

Concepts are actually something not existing in nature: they exist only by a human mental working. But no work would be done having no real function for satisfying a need: otherwise, why should someone accomplish such a heavy task? Indeed what a need could be satisfied by building concepts? That of drawing up one's strategies for living. Human natural instincts are not enough to make such strategies safe, so as it happens with animals; but humans can employ their mind as a tool for gaining the same (or maybe a better) outcome.

Mind is a very particular tool: it makes it possible, to keep as present something that is past, or could be future, or is far from our eyes, but also something abstract, that could never become perceivable by our senses. By keeping present such things, we are enabled to compare different experiences (real or virtual), and then to build *empirical* concepts. On the other hand, by employing *abstract* concepts (categories), we can establish relations between empirical concepts, and by this way we can build theories. The system of theories built by human beings and shared within a human group represents their outlook over the world as a whole. This is true not only for primitive men, but for the overall mankind.

As a matter of fact, such an outlook does in no way represent a *mirror* of the world, but rather an *interpretation* of it, a conceptual structure built within the community. The whole world we think to *know*, or we think *existing* independently on us, is finally no other thing but such system of theories, such outlook, such interpretation: and we can in no way go beyond it. Moreover it does not hold sheer descriptions of its single features, but on the contrary it involves a lot of value judgements, of rules for using better the opportunities offered by that world. In other words, such an outlook represents the *culture* of the group.

Single theories held within a culture are neither true absolutely, nor false: each one comes from repeated experiences compared with each other, and keeps its validity until a new experience could not confirm it. Tarski and Popper (and many other philosophers) speak at this concern of crashing with "facts", but this involves having solved the metaphysical problem of the nature of such *facts* as well as that of our relation with such facts. On the contrary, phenomenologically we can say that single human beings living within groups make only *experiences*, they compare these ones with those of other members, and together with them they try to build socially shared theories over their common world of life. This is finally the *social building of reality*. That can also overcome the paradox of reflexivity, by this coming and going from new and old experiences, from concepts and theories keeping their validity and the necessity of building more suitable ones.

The ontogenetic way to overcome the reflexivity paradox deals, on the other hand, with the steps a single individual moves during his (her) biological and cultural development. Little kids need not only to be fed but also to understand what happens all around them in order to organize their reaction to it, first of all by applying to parents for protection. The most effective protection adults can supply consists of showing them the meaning of their world of life (common to adults and kids), beginning from that of each single object therein. "Meaning" is generally employed to signify the relation between a word and an object; but by that proceeding kids don't learn only their mother-tongue: they learn mainly how to consider those objects (positive or negative, good or bad) and how to refer to them in case of need. So *meaning* becomes something relevant not only from a semantic, but also from a pragmatic point of view: it is closely related with the world of life, by the means of *institutions*.

So as we saw shortly before, institutions are systems of meanings, rules, social roles having the function of explaining theoretically what could happen in the practical experience. Then they are first of all systems of meanings: *politics*, *economy*, *religion*, *market*, *family* are all examples of institutions able to give a specific meaning to behaviours connected with each of them.

Little kids cannot understand immediately such systems, nor the system of these systems. As they go on by learning the meaning of single specific objects (things, events, behaviours etc.) they compare such meanings with each other and then they build concepts. Some years ago I had the occasion to observe a little boy one year old, having had prior experience of dogs named collectively "bau"; such boy, paying attention to a picture representing a bird, stated it was a "bau": so he had built the concept of "animal", by setting together birds and dogs at least.

Could we consider such a concept, built by this way, as "right" or "true"? I think this is a really misleading question. Actually humans (including the kids) build their concepts each one by himself, and each one tests the "rightness" of his (her) work by making use of it to understand messages coming from the world of life. "Understanding" means giving a meaning to the message, rather a specific meaning connected with the actual circumstances where the message is given out: in other words, "understanding" means giving a *sense* to a message. People consider "right" the sense given to a message when, by relying on it, the outcome of their behaviour is not deceiving. In case of deception, indeed, they have to amend their mental building in order to implement its fitness. And so on: to understand messages (that's all kinds of information coming from outside), people employ reflexively concepts they have at their disposal, but new experiences compel them to amend and implement again and again their conceptual patrimony. That is by no way "true" or "false": it is (considered by the actor) fit or unfit to understand successfully the world of life. But the same road is covered also by scholars, who by this way contribute to make up the complex building of science: we will come back later to this specific concern.

From all this discourse comes, evidently, that concepts are not built only to reproduce the external world inside one's own mind: why indeed should we make such a duplication of the world? This process of building comes, on the contrary, from our need of *organizing* (Weick). Organizing means to single out an aim to reach and to arrange suitable means in order to pursue it. Singling out as well as arranging some means involves a prior typification (Schutz) of single experiences: then building empirical concepts. But organizing is not an accidental behaviour: people (both adults and kids) organize something in order to satisfy some needs; so concepts too depend on needs.

Need is a key concept in behavioural sciences. Usually it is considered a psychological one, as needs are studied as elements making up the structure of human mind. But the concept of need can also be grounded on common sense as a starting point for all behavioural sciences. We know very well indeed how much this makes sense for economics. Then, why couldn't it be the same for sociology?

As a matter of fact, human life as a whole is an acting process: *we are what we do*, also when it seems that we are doing nothing at all. Whatever action is anyway an answer to some need: but needs, as manifold as they appear, can at any rate be assembled in two big categories: those aiming to survival (of the individual as well as of the species), on the one hand, and those aiming to get recognition from the part of other members of society, to gain more and more implementation of his (her) own personal identity, on the other hand. People don't need simply eating, sleeping or making love; they also strongly need to see their *Me* well appreciated by the *Generalized Other* (Mead). A good appreciation from the part of members of our social group can reassure us that our life is going on the right way, and that we could get protection in case of need.

Emphasizing such second category of needs is something of great moment. The most widespread opinion (among laymen, but among scholars too, beginning with Weber) about the dynamic of social action is that it is moved by reason and/or social rules in the better cases, or by passions in the worse ones. On the one hand, maybe laymen are right when they put a rigid opposition between "good action" (that inspired by reason and/or social rules) and "bad action": communities hardly could survive without widely shared convictions about what is right and what is wrong for public welfare.

But, in my opinion, scholars and especially social scientists have to penetrate somewhat more inside the question. Coming back once again to little kids, we have yet stated they learn the meanings concerning their world of life not only from a semantic, but also from a pragmatic point of view. This means that they don't learn only the names of objects (things, events and situations, humans and animals, etc.) but also how to manage them: in other words, the meanings are so closely related with the rules for using objects denoted, that the former ones could also be identified with the latter. All socialization processes finally consist of learning meanings with rules: "this has to be made so and so", "this other in not so good to be done", "It is better to go to sleep and to awake pretty earl", and so on.

By *socialization practices* new generations are informed about the *culture* shared within their community, that's the whole of institutions, meanings and rules in use therein. But at this point I suggest to pay attention to the fact that *information* doesn't mean the same as *interiorization*. According with Parsons, *socialization*, the only social practice assuring social order (in opposition to the Hobbes's Leviathan), consists of *interiorization*, from the part of members, of *all values shared within the community*: otherwise people may be considered at risk of deviance, and society at risk of trouble. "Interiorization of values" indeed means that people not only know their existence, but share them so far as they get ready to inspire their behaviour.

The inconvenience of this theory is that such an hyper-socialized member (Granovetter) doesn't exist at all. While, on the other hand, it would be not so welcome, as it would be only consistent with a "plastered" society. But fortunately it is actually impossible, because of the following reasons.

Coming back once again to the little kids, we said that they learn the *meaning* of objects composing their world of life, in order to become able to manage them conveniently. To this end such meanings have to incorporate rules concerning the management of the related objects. Rules are indeed prescriptions implying value judgements. Parsons and the most sociologists after him have employed the term "value" to mean the good principles inspiring human societies and permitting them to reduce social conflict in order to live in peace. In my opinion, according with the most philosophers, it would be more exact to mean by the term "value" only a particular kind of concepts: those related with "positive/negative" or "better/worse" criterion, instead of that of "true/false"; so that value judgements actually involve a choice concerning a behaviour (actual or virtual), otherwise than factual ones. Then, a meaning involving a value judgement could be better named *cultural pattern*: as a matter of fact, the concept of pattern involves a favour, an attitude fair to choice, while meanings theoretically are indifferent to choice (though practically they are usually embodied within cultural patterns).

Socialization finally consists of conveying the culture of old generations to younger ones, beginning by a lot of cultural patterns: "this behaviour is allowed", "this other one is forbidden", "this can be made this way", "in such situations well educated people do so…", etc. But phenomenologically it would be better to distinguish socialization from the point of view of "teachers" on the one hand, and of "pupils" on the other. The first one consists of giving "pupils" the fittest information about the world of life shared by the both (teachers and pupils): that involves giving rules for managing it "conveniently" (from the point of view of the teachers); and it is supported by the hope that pupils will make a good use of such information. One could suppose that Parsons's theories about the matter started from this point of view.

But in my opinion the more interesting point of view is that of pupils. As far as they get ready to pay attention, they will *keep* information they are receiving; but this doesn't mean that they would like to *interiorize* it. In any case, at first they likely feel troubled by the new things they should memorize, mostly because of the new obligations there involved, but generally by becoming less free. We have not to bypass too quickly such children's reactions, because adults too have just the same reaction when they face some new information. Everyone would like to avoid any complication of his (her) outlook on the world; then as they cannot anyway reject such new information, they get engaged to demonstrate that there is no new matter: they still knew it since a long time, and had always behaved consistently with it (they think).

Actually there is no fault in this defence mechanism: indeed it is very important, in order to diminish the complexity of the world, and to allow an easier management of it. Otherwise we would be overwhelmed by a redundant complexity. Even the basic philosophical principle "*entia non sunt multiplicanda praeter necessitatem*" is grounded on the same logic. Anyway what is important to mind is to keep a good balance between such a disposition to simplification, on the one hand, and the necessity to improve more and more our outlook on the world, in order to better understand it, on the other one.

As a matter of fact, fortunately kids are anyway pretty well balanced between these two attitudes: idleness on the one hand, and curiosity on the other, both stress them to take the right way, that consists of making a selection. In order to get over their first rejecting attitude, they indeed take into consideration the usefulness of the proposals they receive for

solving problems connected with their everyday life. While, at the same time, they keep in mind that the other ones too have some bad consequences in case of infringement. So inside the mind of each single kid (as a paradigm of what happens also within grown-up people) the proposals coming from the "teachers" grow to form two groups. The first one includes the cultural patterns which have not (yet) been considered useful to solve problems interesting the subject. Who hence gets ready to decide case by case whether to enforce the rule there embodied, in order to avoid the bad consequences of non-conforming to it, or on the contrary, to face (the risk of) such bad consequences as a price for pursuing anyway some ends more important for the subject. But in any case we must emphasize that this group of cultural patterns has not been interiorized by the subject, so that they don't become for him (her) a stimulus to act. Conforming to them or not, is the outcome of an opportunistic choice, so that when there are chances enough to escape their bad consequences, infringement would become very likely.

In the second group of cultural patterns everyone sets up those that he (she) has had the chance of testing positively: he (she) has tried that such patterns supply good ways to get ends he (she) was searching for. By repeating the experience, such patterns can become something which the subject refers to as good and dutiful: at first, dutiful as necessary in order to get wanted ends, but in the long run, right dutiful. At this point they have been interiorized.

During the early childhood such patterns are concerned mainly with biological life: eating, sleeping, controlling sphincters, etc. But as the subject grows up he (she) does more and more feel new needs of self-recognition, especially from the part of parents and of close relations. Then enforcing the proposed cultural patterns becomes for him (her) a way to get the favourite kind of recognition.

Transactional analysts, so as Berne, have spoken about two main kinds of childish attitudes (often kept up also by grown people): the one characterizing a type named *adapted kid*, and the other one the type of *rebellious kid*. The both are searching for recognition from the part of members of their reference group (parents and relations, playmates, etc.), but the adapted ones make it by confirming explicitly the rules coming from the grown-up people, while the rebellious ones aim to be recognized as more independent individuals both by grown-up people and by their playmates.

Taking for granted that people are usually inclined to keep their childish choice also when they grow up, we can point out that the choice between the above attitudes depends on a prior attitude pertaining to the subject: indeed somebody prefers getting recognition first of all through an immediate approval from the part of grown-up members of their family and of their milieu as well; whilst somebody else prefers getting it indirectly, by imposing on the whole milieu their personality as playing a relevant role within the context.

In any case, the both types can attain to a good standard of socialization when the interiorized cultural patterns become for the subject a source of moral suasion impelling to action in the same way as needs: indeed they become a sort of needs.

It is worth emphasizing this last statement: interiorized cultural patterns can perform as needs, in order to stimulate action, because of their close relationships with the actor's aim of being positively recognized. By whom? First of all by the *Generalized Other* (Mead):

members of the actor's milieu so as the actor himself could think at them. But at the same time, a positive recognition must come from the actor himself, as far as he (she) could feel his (her) own identity empowered by enforcing such patterns.

The theory here outlined could actually account for the Weber's twofold rationality, especially for the one related with values: which indeed has been only enunciated without any explanation, from the part of Weber, about the logic that should inspire human non-utilitarian behaviour.

The same theory could however also account for the relationships between the two dimensions of culture: the individual and the collective one. Some pages before we have still spoken about culture, but without specifying which dimension we were referring to: since it is well known that people in their everyday life often speak about "enriching one's own culture", where "culture" is identified with the whole "knowledge" of a single person. While scholars, on the other hand, usually speak about culture as an inheritance of a whole community.

Actually however, there is no inconsistency between the two points of view. As a matter of fact, culture is something mental, it consists of some contents of mind: then it couldn't stay outside of the mind of single persons. And we have yet indirectly analyzed the process of building a culture inside of a single's mind. At first a kid, but later a grown-up too, they constantly receive messages from the world outside; messages consisting of some information about the state of things, including also cultural patterns. This means that he (she) gets informed not only about the objective situation of things, but also about opinions and preferences of the *Generalized Other*, that's of the people living within the same milieu: opinions and preferences that people have set up formerly by having made experiences, and tried reactions together with their consequences, and having compared all this with experiences of other members. In other words, by this way our subject gets informed about the actual *culture* of the whole community where he (she) lives and grows up.

So culture becomes a collective inheritance of a community, that's the outcome of experiences of all members, shared and compared with one another, and related with needs individually as well as collectively felt. Whereas collective needs are needs individually felt by the most of members of a community, and then considered "right": so that behaviours aiming to satisfy them give place to shared cultural patterns. Whilst individual needs can have the same outcome only if they are consistent with the satisfaction of collective ones: otherwise they give place to negative cultural patterns.

Of course we yet know that culture is no mirror of a (supposed) pre-existing reality; now we see that it's rather a knowledge oriented to the action: information about the state of things in the world, but also patterns of action; and then it may be described not only by assertions, but also by prescriptions.

Why do we need just such kind of knowledge? Because the world is not something similar to a (traditional) classroom, where pupils ought to put in their mind some information without realizing its usefulness. On the contrary, since the beginnings of mankind people, thrown in their *world of life,* have been obliged to essay to survive, and in order to achieve such an end people have tried to *understand* what happened all around them: that means to give each event the "right" place within the whole image people had of the world around

(their *world of life*). The place of an event indeed may be "right" if people know what normally precedes such kind of events and what follows, as well as what consequences it might make for the people themselves, and how far they could control the whole process. In other words, to understand is to give a *meaning*: where one could suggest to employ the word "meaning" to denote the "right place" of a *whole kind of events*, while it would be much better to employ the word "sense" to denote the particular meaning of a *specific event* within its own context. Since a specific context could influence very deeply the real meaning of an event, as we all could see very well, looking at our everyday life: it would be enough to put our mind to the difference between an event so as a kiss in general, and that given Jesus by Jude.

In order to organize any kind of strategic behaviour, we need to know as much meanings and senses of events likely to happen in our world of life. So we need culture: a culture that we have built by ourselves, by our own experiences, but much more by putting together the information coming from people around as well as from books and other media. In other words, we need a personal culture, but something that is mostly shared by the members of our milieu, with a little part specific to each different subject. In the most cases such a personal dimension of culture is not so noteworthy: people share with the other members of their milieu almost all cultural patterns really relevant for the everyday life (the only one interesting such members). There are indeed some cases (usually those of scholars or of other persons intellectually creative) where that personal dimension of culture is so relevant that it influences their whole outlook on the world: from here comes the ongoing implementation of collective culture (the progress of science etc.).

Such a process is in no way typical of modern societies; on the contrary, it characterizes all phases of human history. Primitive men too, facing events influencing their survival, needed to *understand the sense* of them: where did they come from, and what consequences could they produce for themselves. The first kind of explication and understanding of events (natural as well as human) was religious: religion was the first *institution* created by primitive communities.

That of *institution* is maybe the basic concept in sociology; certainly it is the most cited, but often not so well definitely. First of all, *an institution is a system of meanings carrying out (at least) a function relevant in order to influence positively or negatively the steadiness of the social system as a whole*. Where it would be better to remind *that a system is a set of elements (material or immaterial) each one of which carries out a function relevant for the whole set*.

Maybe someone could be astonished by finding some explicit references to concepts as *system* and *function* within a discourse inspired by a phenomenological approach. But we have to remember that sociology is in no way a philosophical system: it consists of a set of theories (the so called *social theory*) having the *function* to support the understanding of social phenomena with their mutual relationships. And in order to pursue such an aim sociologists can employ all useful concepts, which are mere instruments, no metaphysical realities.

On the other hand, as we observe our definition at close, we have to emphasize that a function doesn't necessarily play a positive role for the steadiness of the system (so as functionalist sociologists generally take for granted). On the contrary it could also play a negative one, so as it happens for example in the case of gangs of offenders: they too being

institutions, in their way. But at last we couldn't forget that many scholars so as Foucault, Erikson and most labelling theorists, have emphasized the role of deviance for strengthening the social cohesion: where the boundaries between positive and negative role are put seriously in doubt (fortunately).

In our perspective, institutions are neither coercive, nor super-individual subjects compelling humans to behave in some ways fixed in advance: as a system of meanings, they are instruments created by the humans themselves to support their understanding of states of things in order to allow them to better organize their strategic behaviour.

First of all, institutions supply humans with meanings denoting classes of events: then, generic meanings. But in second and more realistic place, a combination of different classes of events coinciding in the same situation supply the specific meaning of a particular event, its *sense*. At this point, we ought to pay attention to the fact that among such events coinciding in the named situation there is also the Self of the actor interpreting the same situation, a Self with its image of the world, its personal culture, its specific ends to pursue. Then it contributes to form the context, the *frame* (to employ the term fortunately introduced by Goffman). So the sense given to the named situation is somewhat personalized, and by this way the institution itself is really influenced: another way to contest a functionalistic, coercive conception of institutions.

We still told that primitive humans tended to interpret (that's: to give sense) the most events by referring to the religious institution: for them, all the meanings of natural events, as well as human ones, were connected with religion, as far as humans are not able to control natural ones (and then they have to be controlled by much stronger forces). While human behaviour have to be not contradictory with such stronger forces.

During the following phases of human development, different institutions became independent on religion: politics, economics, law, art, knowledge (formerly philosophical, later scientific). Such process is named *laïcization*, that means reciprocal independence of the different systems of meaning. While by *secularization* (a process that we ought not to mistake for the former one) the religious outlook over the world tends to loose importance, until becoming irrelevant.

When we put laïcization in relationship with the constructivist perspective before illustrated (where knowledge isn't mirroring an external "reality", but interpreting experiences by building theories for giving sense to them), then we could infer some relevant consequences. Berger and Kellner have very well analyzed the modern mind as "homeless", while formerly Max Weber had spoken about a "values polytheism" referring to modernity. The real reason of such lack of firmness, much more than the cultural relativism connected with the present trend to globalization, is the (unavoidable) pluralism of different systems of meaning (institutions), each one of which involving a specific outlook on the whole world. For example, the religious quest for sense of the universe cannot be confronted and made consistent with the scientific perspective: none of them is "right" nor "wrong", each one must be considered within its own institutional context. Philosophers of the Middle Ages spoke about a theory of "double truth": that's really inconsistent only when we think at the truth as an external reality existent independently on us. But it becomes plainly consistent when the truth is considered only as "consistency with facts" (Tarski) or better (as we have pointed out) with experiences. Where experiences (the same experiences) could be interpreted within different contexts (frames)

pertaining to different institutions. Then, to sum up, creationism could be rejected from a scientific point of view, but accepted from a religious one (the one legitimated to make a quest for sense of the universe).

Institutions indeed are not only that macro-systems of meanings about which we have spoken so far. They are also smaller systems produced inside of each macro-system, and then smaller and smaller ones, as a set of Chinese boxes. For example, education is an institution inside of *knowledge*, universities and schools are institutions inside of education, etc. Market is an institution inside of economics, banks and stock exchange are institutions inside of market, etc. The whole of our world of life is enveloped by a thick net of institutions, but this is in no way a restriction of our freedom: on the contrary, it allows us to give a meaning to all our behaviours and to inform others that we are doing so. Sometimes maybe we would prefer not to inform others about our behaviour, and then we try to do it secretly; but generally social interaction needs an effective circulation of such information, mediated by institutions. Sociologists pertaining to the school of *symbolic interactionism* think at the society as grounded on interaction mediated by symbols; but symbols are meanings, that need to be integrated within a system: in other words, within an institution. Without institutions we would be unable to give sense to our behaviour, or more or less to our everyday life, as far as they supply the best ways to realize all kinds of good social practices, or to avoid all kinds of dangerous ones.

3. The institution sociology within the institution knowledge

Now it should be better to come back to our first question: can sociology help us to live a better life? But in order to answer such a question we should at first solve some preliminary problems.

Pointing out that institutions supply the best ways to realize all kinds of social practices, it's evident that to live a better life depends on which social practices we have to realize: for example, legal or criminal ones. And it depends as well on which relationships we have with such social practices: for example, whether we are gangsters or good citizens. But generally speaking and adopting in this case a relativistic attitude, we can say that they can help us, some way, to live a better life.

But then, is sociology an institution? If so, is it a good or a bad one? And in any case, in which way could sociology help us to live a better life? But at last, what means "to live a better life"? As we could see, the question is manifold and not plain.

We can start from the fact that knowledge is an institution. "Knowledge" corresponds to the Greek term *Sophia,* the friends of which have been named philosophers. In ancient Greece during the classic period (since the VI century b.C.) for the first time someone tried to detect the nature in order to give sense to the world around without referring to religion. Formerly in Greece, so as by all other known civilizations, only religion gave sense to the world, and only the priests were authorized to interpret it. Among the first philosophers, all laymen, some ones were also mathematicians (Thales, Pythagoras), while Chaldean mathematicians were priests. So in Greece mathematics and philosophy were for the first time considered features of a laïc knowledge. Until it circulated within a closed social milieu, this kind of knowledge was considered not so dangerous. But when Socrates began to spread this new critical attitude, he was convicted for corrupting Athenian youth: actually he was showing

them the possibility to refer to a truth not depending on religion. And by this way he was disconcerting young people as far as they were trying the first experience of the Weberian *Entzeuberung* of the world. But at last the game was over: laïcization of knowledge was made.

Starting from the first Greek philosophers until Newton and even longer, the word "philosophy" has been synonymous of "high knowledge" (to distinguish it from the "low knowledge" of peasants, craftsmen and housewives). Christian theologians and philosophers have tried, since the first centuries of Christendom, to reconcile philosophy with religion, and mostly to reabsorb the former within the latter. But at last the both remained reciprocally independent, for the sources as well as for the style of reasoning, notwithstanding the fact that the both aimed to give sense to the world as a whole. So when philosophers, during the Renaissance and the earl Modern Age, began to put aside the problem of the sense of the world by abolishing *teleology* (the discourse concerning the *ends* of the nature), modern *science* came into the world as a new kind of knowledge, really different from both philosophy and theology.

This description of the birth of modern science, though the best known in the schools, might be considered too plain, somewhat trivial as far as historians of science could tell a story much more complicated. We can only say, at this concern, that we haven't described the historical process of its coming into the world, but rather that of the *ideal type* (Weber) of modern science. Then we couldn't anywhere try realized the perfect theoretical model of modern science, corresponding to the one above illustrated, but we can single out only some relevant features of it.

First of all, we can state that, according with such ideal type, science would share with knowledge in general the basic couple of values they refer to: the couple *true/false*. As a matter of fact, indeed, when we want interpret a statement from the point of view of the institution *knowledge*, we have to ascertain whether it is *true* or *false (not true)*. But when we refer to *truth* within our discourse we have to pay attention to the context where such discourse is placed: when the context refers mainly to the institution *religion*, truth is strictly related with God and His messages; when it refers mainly to metaphysics taken as a chapter of philosophy, truth is related with some kind of reality existing somewhere with a nature independent on us and on our relationships with it. In both cases *truth* pertains to somewhat real (God or Nature, or Nature as God: Spinoza). But this is an hypostatical use of a concept that originally refers to the speech, not to things or persons: so a more suitable use of *truth* is that of the common sense, when for example we say "it is true that it rains", or "it is true that I had a headache", or "please, say the truth!". The common sense use of the concept of *truth*, indeed, is strictly related with the so called *low knowledge*, since the craftsmen' world of life as well as that of housewives are overall included in the everyday life.

The common sense statements are strictly empirical: they are true until a new experience give them the lie. Could the same be said with regard to the statement by the logic Tarski "Snow is white only if and until snow is white"? I'm not sure. Because Tarski refers to the *fact* that snow is white, and the same do all those empiricist philosophers that Lakatos names *positivists*: according with whom statements are true if, and only if they are proved by *facts*. But only a metaphysical assumption could authorize us to presuppose a relationship between speeches and *facts* (existing somewhere independently on us). While we wouldn't

face the same problem if we speak about *experiences* instead of facts: because experiences pertain to our world of life independently on the *reality* of the things there involved.

Why do empirical common sense statements seem to be fit, while logical and more generally scientific ones give no confidence when grounded on a sheer empirical basis? Because of their difference from the point of view of the respective *pragmatic* functions. The later presuppose a mirroring function of mind and, consequently, of the speech: then they imply a metaphysical involvement in the problem of *reality*. Whilst the former can be verified or falsified only by everyday experience: if you ground your behaviour on a false statement, you cannot pursue your aim. Stop!

Could a scientist adopt the same criterion? Of course: since he (she) would agree about taking his (her) statements only as interpretations of the state of things in order to carry on some new step of his (her) project (for example, some new step of the research he (she) is working about). From this point of view, *true* doesn't mean *corresponding to the reality (or to facts)*, but rather *fit to pursue our aim*.

On the other hand, Lakatos told us that many scientists and philosophers, among whom some physicists as Planck, Bohr, Heisenberg, thought that scientific theories are neither true nor false, but simply *conventions* working as *instruments* (whence such an attitude is named *conventionalism*). Someone could note a close resemblance between such conventionalism and our pragmatic empiricism (the foregoing theory). Actually there is some resemblance, but we have to mind also important differences between the both: conventionalism deals mainly with *theories* (systems of statements describing a phenomenon); while pragmatic empiricism deals not only with theories but also with basic statements (describing single experiences). Moreover (and more important), conventionalism considers theories only as instruments for *forecasting*: that's essentially to *know the future*, to *reproduce a (future) reality* in our mind; whereas pragmatic empiricism looks mainly at action.

But anyway, putting aside the pragmatic dimension, the both outlooks share the same thesis about knowledge, and particularly about science: that scientific theories haven't to be considered *true* nor *false*, but only *fit* or *unfit* (to preview some effects, or to gain some outcomes). At last we could also say that our pragmatic empiricism is a variant of conventionalism, where the value *truth* is assimilated to *fitness*, so as it happens in the everyday speech.

Truth, on the other hand, has no better chance by other philosophical schools, different from the ones we have just spoken about. For example, according with anarchist theories *à la* Feyerabend, science has had an important political function during the first centuries of Modern Age, when it has contributed to destroy the traditional, well arranged idea of universe, the *Kosmos* of the Greeks or the Creation of God. But nowadays it has become a big business and an arena where different theories and schools struggle each other against, for prevailing independently on the respective relation with *truth*. According with Feyerabend, epistemological anarchists seem as Dadaïsts, but we could add that they renew some well known attitudes of ancient Sophists. In any case, they radically undervalue the quest for truth, but by their relativism they bar the way to any effort to introduce some order (as conventional as it may be) within the complex and complicated world we live in.

These remarks about epistemological anarchism couldn't anyway stop us from admitting that science, becoming a big business, has only shown more clearly a phenomenon really

concerning the whole history of high knowledge. One could ask indeed how far through the history the truth principle has worked as a sheer justification (or mystification) of interest and power clashes: for example between philosophical schools in ancient Greece, or during the rising of the Royal Society, or around the awarding of Nobel Prizes. According with Lakatos, Polanyi has to be considered the strongest supporter of this "authoritarian" view over the history of science: it's a matter of fact that to establish which scientific theory has to prevail implies a power role; while on the other hand, to get so recognized involves winning a relevant role of power.

Such authoritarian view is considered by Lakatos as one of the philosophical theories concerning the relation between science and truth; but in my opinion it is much more a sociological than a philosophical view over science and its history. And as a sociological theory it points out some absolutely real phenomena, even if it doesn't face the problem of the nature of truth (a philosophical one) nor that of its function in the society (a sociological one).

While on the other hand it helps us to point out the sociological nature of (high) knowledge and of science, taken as institutions. Indeed pre-modern philosophy was an institution, inside which there were other institutions so as the Platonic Academy, the ancient schools of rhetoric, the universities of the Middle Ages, etc. But also the new science is an institution, with its system of meanings and its new particular institutions: the Royal Society, the laboratories, the new scientific academies, later the policlinics, and overall the universities. All these particular institutions can be summed up to give place to the so called Scientific Community: the supreme judge over the outcomes of all subjects working within science, from the utterances of which comes the sense of all their work in general, as well as the meaning of each particular behaviour of theirs.

A philosopher of science aiming to establish the best criteria for pursuing the *truth* may be much troubled by such discourse; but a sociologist has to interpret it as the way to understand what really happens (and likely couldn't not happen) in the relationships between knowledge and society. Which actually can be interpreted as it follows.

People build their culture each one by him(her)self, so as we have seen above. Each personal culture consists of cultural patterns: in other words, ways to solve little and big problems of the everyday life, mostly meeting the approval of the referring social group.(By the way, we could point out that this is the reason why it is so difficult to rescue deviant people, when they live their everyday life within a social milieu where their deviant cultural patterns are shared by the most other members). The process by which the content of a personal culture becomes widespread inside its milieu is imitation of successful patterns: there is no need of so much discourse, nor verbal elaboration and conceptualization, because imitation of a concrete successful behaviour is enough.

But all this happens within the boards of everyday life; primitive societies, where almost all experiences of each member took place within the everyday life, and where social communication was quite face to face, were characterized by fully shared cultural patterns. As societies are becoming more and more complex, on the contrary, people make different experiences and give them a different sense; then they begin to need to compare each other their cultural patterns, and by this way to build a collective culture. But the last one is always somewhat different from those pertaining to each one of the single members of the community.

A single member could feel uncomfortable with some of his (her) own patterns, because it seems to be unfit to pursue the expected aim. In such case, he (she) could compare this pattern with the collective culture, and then he (she) could look for modify it in order to make it more fit; but he (she) could also engage him(her)self for a change in the collective culture (that's a very hard political task, indeed). When social change becomes more and more fast, and local communities are put in always closer relationships with a bigger context, even with a global one, then confusion of patterns becomes very likely, deception of expectations is very frequent and discontent is widespread.

Such discontent dips its roots within the global social and cultural change, but it is felt at last by single people or little groups within their world of life. For them it becomes a *social problem*.

Very often such discontent is considered as a kind of mental trouble and moves a psychological intervention. But usually its real roots don't plunge in a mental disease: on the contrary, they refer to social phenomena which can be studied and understood in their mutual relationships. And this is indeed a sociological task.

That's the reason why just during the first decades after industrial revolution, people needed for the first time some kind of knowledge which could help to understand, by scientific methods, the increasing social change consequent to that big phenomenon. And Comte proposed to name it "sociology". That's also the reason why during the XX century the rushing increase of social change gave a so strong impetus to sociological knowledge: sociologists have the task of studying the relationships between social phenomena (or also between other kinds of phenomena and at least one social phenomenon) in order to give them a sense.

European sociologists at first paid the most attention to the big social phenomena, in order to map out the mega-trends of human development. So their work remained very close to that of historians, on the one hand, and to that of social philosophers on the other one. Later (namely in America with the Chicagoan school) sociologists turned their attention to local social problems by empirical research, but mostly with a descriptive approach. R.K. Merton the first, at the middle of XX century, tried to connect each other theory and research, proposing to develop theories of middle range, able to help us to better explain particular social problems. But afterwards sociologists have not always followed such very wise proposition.

Nevertheless, they continue to face day by day *social problems*: situations where people feel uncomfortable with something related with their social context. That makes an important difference between sociology and other (hard) sciences. When sociologists don't want to map out a big historical-theoretical picture of human development, they must not take the themes upon which to make research from the work (theoretical as well as empirical) of preceding sociologists (so as it happens with physicists, chemists or mathematicians), but rather from direct or indirect experience of actual and present social problems. As a matter of fact they are almost all *clinical sociologists*: that's sociologists aiming to give people actually an answer enabling them to better face their difficult situation.

But sociologists are neither physicians nor thaumaturgists: they only manage a scientific knowledge which aims to make understandable the relationships between different

phenomena in society. How could such a knowledge help people to solve their problems? How, finally, should a clinical sociologist work?

To answer such a question we have first of all to remember that sociology doesn't pertain to the low knowledge, to that usually employed by the members in their everyday life: as a matter of fact indeed, ordinary members of a community think about their problems in their turn, and often build some kinds of theories about them. The way they build such theories is just the matter ethnomethodologists are mainly involved in. But if by this way ordinary people could well manage all their problems, nobody would have invented sociology.

Then sociology must pertain to the high knowledge. We have still seen how much problems would arise about the nature of science and of its methodology; even more problems would arise about the question whether sociology is a real science or not. But I suggest not to take a definite party in this debate, because anyway, in my opinion, it is not so useful: scholars make their research and pursue some outcomes (often very important ones) independently on the answers given to that questions (and almost all philosophers of science agree about that).

But in any case high knowledge must differ from the low one as to the *rigour*: its discourses can't be made casually nor approximately; they can't be built on sheer personal opinions, nor on some kind of wishful thinking. Rigour implies first of all a good faith from the part of the sociologist: he (she) has to take seriously the problem at stake in order to really help the social partner to feel fit with the answers given by sociology. In the second place, sociologists have to single out as much phenomena likely to be someway connected with that which gave rise to the problem, without deceiving him(her)self as well as the partner about the real cause of the problem: to seek the *causes* of a social phenomenon (then also of a problematic one) can be misleading, because social phenomena are usually so interconnected that the one can influence the other and vice-versa. Then actually we can only observe that a change in the one is very likely to modify the whole net of phenomena, but it is very difficult to forecast exactly how much and in which direction it will be modified.

In third place, rigour in the sociological discourse implies to clear all the premises of each reasoning as well as all consequences that one could forecast as likely. Thus any partner of the sociologist, should he (she) be a colleague or a layman, can verify his agreement or disagreement by furnishing arguments for it. Confronting and comparing such discourses could bring to a final agreement, or to an explicit disagreement, but the both grounded on clear basis.

Rigour is not only a moral rule for a scholar. In the case of a sociologist involved in solving some social problem it is necessary to avoid any kind of wishful thinking: that's a real danger, one of the worst, for people managing or feeling pain.

But rigour is not enough to implement a clinical approach in sociology, that is in its turn a condition for helping someone to live a better life. At this point sociologists have no remedy, no drug for directly helping partners feeling pain in the middle of a problematic situation. They only can resort to a technique still well known, coming from the professional experience of psychoanalysts: they too don't use indeed any drug to face the disease of their patients.

This technique consists of making partners (patients for the psychoanalysts, members of a little or big community, for sociologists) conscious of the whole net of phenomena (variables) inside which the pain flows. At first this could increase the pain, but then professionals must intervene for helping to try some change in some point of the net where it is possible, and to experience the outcomes of such a change.

For the members of a community (a big or a little one) consciousness not only of the whole net of variables defining their situation, but also of their power for influencing it in some direction, could be undoubtedly a factor of strengthening the *identity* of single members as well as of the group as a whole. Where identity is, at last, the image each one (single or group) has of his (her) Self compared with that they think *Generalized Other* have of the same Self (Mead, Corsale). While, in its turn, the content of such image consists at last, for the single members, of the net of cultural patterns (i.e. the personal culture) he (she) has interiorized during his (her) lifelong socialization. And for the groups or communities, it consists of the collective culture members have built by comparing each other and finally by sharing mutually cultural patterns coming from the members (among whom the leaders of the group play a main role).

But coming back to our question posed at the beginning of our discourse, what is finally a *good life*? If one looks at a happy life, neither sociology nor anyone other could really help him (her) in such direction. But if one looks at a life with a strong and gratified identity, then sociology could really be useful. And namely clinical sociology.

I said "could" and not "can", because nobody can assure us that members of the community helped by sociologists are actually able to change their situation in a positive direction. But that derives from the human nature (of the members as well as of sociologists), to which almightiness is not granted.

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Sociology's Neglect of Ecological Context

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1. Introduction

Probably for as long as there have been literate humans on this planet, living together in groups, drawing survival strength from such group life, some have wondered whether there were explanations for the patterns and regularities in their lives in company with one another. Their speculative answers about such matters would have constituted a kind of folk sociology, although nobody at the time called these ideas by such a phrase.

When Auguste Comte decided to coin the word "sociology" (Ca. 1839) to refer to a new science he was seeking to launch, he knew of recent societal change and was concerned to foresee the further evolution of societies and cultures. Humanity's recent intellectual history, Comte believed, had involved a constructing of one science atop another, resulting in a hierarchy with mathematics at the foundation, then astronomy, followed by physics, then chemistry, topped by biology (with psychology included therein), and to be crowned by sociology. He discerned three stages of advancement to the attainment of each layer, from people explaining the world in theological terms, through a metaphysical style of thought, and finally to positivism—understanding a given level of phenomena through scientific reasoning from observations. He believed this "law of three stages" was true for all societies, and he hopefully regarded Europe (France in particular) as on the verge of the third stage as he wrote.

Comte's views on societal evolution preceded by two decades the existence of an adequate theory of the evolution even of plant and animal communities. The products of such societal evolution observable in his time had yet to be complicated by some major developments that have happened since. The industrial revolution had only begun to get under way. There were only about one-fifth as many human beings on this planet as there are alive today, and none were then equipped to amplify their lives and abilities with such an array of powerful technological apparatus as has since become prevalent in many nations. The implications of that fact have not been as obvious as one might suppose. Today there are many more of us, and we have acquired by technological change gigantic powers to reshape our planetary environment, extracting resources from it to feed our proliferating machines, and injecting into it the products and by-products of all our activities.

Herbert Spencer in Britain, conceiving a human society as a kind of organism, wrote a multivolume *The Principles of Sociology* (1876-1896) as a component of his series of works on a *Synthetic Philosophy*, including volumes on *First Principles*, *Principles of Biology*, and *The Principles of Psychology*. It is doubtful that many sociologists read Spencer's other books

(those without the word sociology in their titles). It might have been found instructive, however, if sociologists had looked into his *Principles of Biology,* as we shall see in a moment.

An earlier book by Spencer, *The Study of Sociology* (1873) was used as a textbook in one of the first courses in sociology offered in America, by William Graham Sumner (who served as the second president of the American Sociological Society). Among Sumner's many sociological writings was an essay decrying the early steps toward American imperialism by the acquisition of overseas territories (Sumner 1896). Insightful as that essay was, it fell short of seeing a human society's ecosystem dependence. So from today's perspective it appears to have been a missed opportunity for now badly needed enlightenment.

Spencer's was a long and productive writing career, facilitated by an inheritance which made paid employment unnecessary. It involved revised editions of several things he wrote. A young scholar, Arthur Tansley, who assisted him in the revision of *Principles of Biology* went on to become in 1913 the founding president of the British Ecological Society, and one wonders how much he may have influenced Spencer in a direction that might have, had there been enough time remaining in Spencer's career, caused salient ecological concepts and principles to percolate into his sociology, and thence into the discipline's further development. Perhaps this was another (narrowly) missed opportunity to provide needed foresight about today's global human condition.

As sociology developed, from Comte's time and Spencer's until recently, there were other grand system-builders, but there was an over all trend toward studying smaller aspects of societal living (Catton 1964). As sociology achieved academic status as an established discipline, it had come to include demographic studies, analyses of social organizations (large and small), interpersonal relations in families and other small groups, social effects of mass communication. industrial relations, race relations, social change processes, and various "sociologies of" (religion, education, politics, economic development, science, etc.).

For a while it was fashionable to think about various "schools of thought" among sociologists, but indications of agreement among different writers who attempted to list the schools were quite rare. Comprehensive system-building occasionally recurs, but it no longer dominates the field. In time the word "sociology" came to denote the body of knowledge acquired by using more or less scientific procedures to study human interactions at all levels from whole societies down to small groups (such as families) and even dyads, temporary or lasting.

Toward the end of the 19th century, another Frenchman, Emile Durkheim, sought to establish sociology's qualification as a real science by actually doing scientific research on specific sociological topics, exemplifying such a program by his studies of The *Division of Labor in Society* (1893), *Suicide* (1897), and *Elementary Forms of the Religious Life* (1912). He also established a journal, the *Annee Sociologique*. Today there are numerous sociology periodicals, published in numerous countries. Most of the articles they publish are studies of social phenomena farther down the scale from the grand philosophizing of a Comte or other pioneers. And, naturally there are many sociology courses offered in colleges and universities around the world, but especially it has become established in the tertiary curricula in the United States.

2. Anthropocentrism

The attention of people calling themselves sociologists has been almost entirely focussed on one species—*Homo sapiens*. Nature is replete with instances of interspecific interactions, and the lives of many organisms depend heavily upon their involvement in *ecosystems*. Only recently, however, has much attention begun to be paid by academic sociologists to social organization *among other species*, or to possibly instructive parallels between societal and communal relations among creatures of various non-human species (e.g., "social insects;" monkeys and apes) and human social life.

Individuals of species *Homo sapiens* influence one another's actions as members of whole societies and as members of subgroups within them. Collective actions become structured. Sociology has provided ways of conceptualizing recurrent behavior patterns, roles, norms and sanctioning processes. More than a century of sociological research has yielded principles that enable some prediction of outcomes in the course of societal events and organizational activities. Only recently, however, has serious attention been paid by a few sociologists to the possibility that human lives are importantly subject to ecosystem constraints. "Human ecology" became a specialty within sociology largely by analogical reasoning when sociologists at the University of Chicago, studying urban growth patterns, saw parallels between their work and that of some pioneering biologists at that university studying plant and animal associations in the region (Faris 1967). At the time it seemed not to occur to anyone that perhaps it was (human) sociology that should be seen as a specialty within a larger science of ecology. Here again we have an instance of a missed opportunity to have acquired an ability to foresee today's ominous human predicament (Catton, 1980).

Although all humans living today, of all races, sizes, genders and persuasions, are members of the single species, *Homo sapiens*, sociologists do study, among other things, processes of *social* differentiation, by which various human individuals acquire in their experiences of interacting with others different skills, tastes, habits, desires, expectations, etc. Becoming differentiated by social processes, humans can function in relation to one another almost as separate *quasi-species*. Thus, when a field of knowledge developed within biology concerned with interdependence of various species collectively adapting to the environment surrounding them, its concepts and principles did attract attention among neighboring sociologists (Park et al. 1925; Park 1952; Hawley 1950). Parallels would be noted between division of labor among humans and the division of functions between assorted species populations associated in an ecosystem.

These developments were highlights of sociology's first century of existence as an academic discipline. It flourished especially at a university located in a young and growing American metropolis located at a transportation crossroads, linking urban and rural lives—Chicago. The USA saw itself at the time as a "young nation," *expecting* to grow and advance. It was perhaps expectable that a world's fair in that heartland city, held as a worldwide depression in the 1930s inflicted a serious interruption on the adolescent nation's onward-and-upward course of development, would call itself the "Century of Progress Exposition." Americans believed progress was inevitable, and were disinclined to question decades later the slogan "Progress is our most important product" in TV commercials narrated by an actor who later became the nation's president.

3. The new challenge

But today again we live in a troubled time, in various ways reminiscent of those 1930s. Erosion of optimism today has deeper ecological roots than sociologists have been inclined to consider. The lack of vital ecological insights, both among the public (and their elected representatives in government) and among most sociologists is proving tragic. Principles of ecology as developed in the biological sciences suggest that this twenty-first century will most probably be seen in retrospect as "the bottleneck century." Human societies will have had to pass through a period of monumental hazards, resource insufficiencies, hostile interactions, and inequitably distributed hardships. Human numbers will have ceased growing; in many parts of the world, population will have actually declined. Standards of living will have fallen.

Sociological attempts to explain these conditions and calamities will be constricted by lack of ecological understanding. Sociological predictions will likely founder in misconception of our true ecological condition, misconceptions enabled by our anthropocentric restriction of the scope of "human ecology" (Freese, 1997).

Public recognition of, and adequate adaptation to, the deteriorating ecological context of human life has been impeded by conventional preoccupations. Short-term concerns tend to blind people at all societal levels to omens of a fundamentally altered future. To elude such preoccupations, sociologists must at last abandon the notion that "human ecology" is only a minor subdiscipline of sociology, of marginal relevance to "the big issues." That is a notion prevalent since "the Chicago School" of sociologists early in the 20th century imported into the sociological vocabulary a few ecological terms and applied them principally to the study of *urban* life.

Certain crucial ambiguities in pioneer writings about the sociological applicability of ecological principles had enabled derailment of recognition that humans are inextricably involved along with other species in ecosystem patterns and principles. This necessary understanding was lost in treatment of human ecology as *merely analogous* to bio-ecology (Catton 1992).

4. Collective response to carrying capacity deficit

Earth has just added a seven-billionth person to its contemporary human population-load as I write this, a mere dozen years after this finite planet reached the six billion mark! Moreover, much of that enormous population has been living prodigally by lavish use of non-renewable resources. In the aftermath of "the" industrial revolution, adopting internal combustion engines for the accomplishment of many human tasks had made "developed" societies increasingly dependent upon Earth's inevitably dwindling stocks of crude oil. Since Earth's finite deposits of this fundamentally non-renewable natural resource were destined to become scarcer and scarcer as a result of rapid use, modern lifestyles, present or aspired to, were thus inherently self-destructive. A crescendo of difficult circumstances that will confront human societies has been forecast by a growing number of ecologically informed writers (Udall, 1980; Youngquist, 1997; Greer, 2011).

This developing predicament cannot be wished away, but many sociologists have disregarded its relevance to their discipline's concerns. However, at least collective behavior

theory in sociology (Turner, 1964) has developed enough research-supported insights to shed important light on the ways people, organizations and societies can be expected to respond to such circumstances. Such light may be as unwelcome as is the changed state of the world it reveals. Even if the facts made evident are unwelcome, sociologists are obliged to face and clarify them.

In coming decades, because of changes to planet Earth wrought by human activities since the industrial revolution, mankind is certain to experience frustrated hopes, declining material wealth, deteriorating quality of life in befouled and ravaged environments on every continent. Intensified worldwide competition for diminishing natural resources has become inevitable, as have mounting pressures toward social reorganization along unwelcome lines (see Brown, 1981; CEQ and Dept. of State, 1980; Hayes, 1979; Henshaw, 1971; Lerner, 1981; Peccei, 1981; Stoel, 1979). On the basis of collective behavior theory we can expect one or more of the following responses: panic, terror, genocidal wars. These are likely responses to our deepening ecological predicament. Only if accurately foreseen, may the pressures otherwise likely to induce destructive responses not have to impel people and nations to commit disastrously misguided and seriously counterproductive reactions.

5. The situation confronting humanity

Humanity's ecological situation can be succinctly described as follows: Earth, the solar system's third planet from the sun, is the sole dwelling place for our species, and functions both as the source of material supplies required for whatever we do and as the repository for noxious and/or toxic by-products of our activities, as well as the arena in which we live and act.. Seven billion of us residing on this planet, many living with the aid of potent technology, are an enormous ecological load. The load imposed upon Earth's ecosystems has grown so large that the three functions of environment—"supply depot," "activity space," and "disposal site" —increasingly encroach upon one another. Recognition of that should become an essential part of modern sociology's working paradigm.

Human demands have grown to exceed sustainable yields from four indispensable biological systems: forests, cropland, grazing lands, and fisheries (Brown, 1981; Catton, 1980; Webb and Jacobsen, 1982). Not only for this reason, but also because the most technologically advanced peoples have committed themselves to largely disregarding the distinction between renewable and nonrenewable resources, we are courting disaster.   A nonrenewable resource is anything we use in any of our activities that doesn't grow like a crop—so that it only gets replenished at rates that are enormously slower than our human ability to use it up. Substances that are resupplied only by slow geological processes (minerals, fossil fuels) cannot perpetually be obtained for human use in escalating (or even in constantly large) annual amounts. Any society's reliance upon drawing down finite and diminishing stocks of nonrenewable resources means present human wants can be satisfied only by depriving posterity of those resources.

These statements may not have been regarded as "principles of sociology" but that neither falsifies them nor makes them sociologically irrelevant. Because what we use up our descendants will lack, we are stealing from posterity. Both theft of any sort, and intergenerational relations, are legitimate sociological topics.

Natural systems have limits of tolerance that produce a bundle of interacting constraints on human action. Most sociologists have been as reluctant as people in other walks of life to confront this fact. These constraining influences from nature's systems are pressing people and nations toward zero-sum competition. Over the past century, we humans have brought upon ourselves an era of carrying capacity deficit. Collective behavior theory achieved by sociological studies has advanced enough to show us the social dilemmas and structurally conducive conditions for targeted hostility we can expect in such circumstances. After centuries of economic and social development which we regarded as progress, mankind now faces sharp reversal, making revolutions likely within nations, and wars over access to scarce resources likely between nations. People have been slow to recognize the vulnerability of ecosystems and the seriousness of pressures that overload them, but such awareness may be an essential basis for a critical ability needed to protect us from panic and from resort to catastrophic violence.

Our societies have already inflicted by customary collective activities significant changes to the physical and biological world upon which human lives and activities depend. These have rendered continuation of present patterns of sociocultural allocation of valued goods impossible. Distribution norms that were long taken as normal will inevitably be challenged. Sociologists should ask, among other things, whether such challenges are likely to involve violence. With what consequences?

Distribution standards that were formerly workable and prevalent but are becoming increasingly infeasible and obsolescent will continue to have their adherents. Cultural lags (Ogburn 1922) may be expected, so outmoded standards will continue to express themselves in unrealistic expectations. This will multiply tensions and value conflicts between social classes, or between other distinguishable identity groups—and between the living and the unborn. Indeed, some of the tension and violence occurring within the most recent half century or so should not have surprised us. It has been known for some time that future resource shortages would occur. As early as the first decade of the twentieth century, President Theodore Roosevelt warned of the need for conserving natural resources, and nearly five decades later in 1952, President Truman's Materials Policy Commission, headed by William S. Paley, acknowledged that the United States had a "Gargantuan . . . insatiable" appetite for materials, so even that long ago there was scarcely a metal or mineral fuel for which the quantity Americans had used since the beginning of World War I had not already exceeded the total previous cumulative use by all nations (Wyant, 1982: 368-369). Ever since Western societies began to industrialize and became increasingly dependent upon using nonrenewable resources, eventual scarcity has been our destiny.

6. Illusions persist

People who live in industrialized nations have commonly supposed any future beset with pervasive scarcity was "merely theoretical." Problems of scarcity were projected to some future time, to some other place, or to some different social stratum than our own. Almost non-existent was public awareness of the fact, or of its human significance, that in nature an environment's suitability for a particular use can be diminished by overuse. Recognition of that fact was obligatory for ecologists; it should have been equally so for sociologists (Odum, 1975).

Middle-class people in North America, having little or no warning by sociologists, went on escalating their energy consumption. This, together with political tensions in a part of the world from which we were increasingly obtaining an indispensable portion of the fuel we consumed, made scarcity "real" at last. To our astonishment we found that our own daily lives were affected by geophysical facts and far-away turmoil (Peachy and Lerner, 1981: 454).

Much public discussion of current troubles seems persistently oblivious of this finite planet's ecological constraints. Familiarity with the ecological concept of carrying capacity remains rare. Therefore people at large, and sociologists to a shocking degree, do not yet comprehend the full range of social, political, and economic implications of our transition from a condition of carrying capacity surplus to carrying capacity deficit.

Carrying capacity is a term denoting the amount of use of a particular kind that an environment can endure more or less perpetually without impairment of its suitability for that use (Catton, 1983). Any user population, animal or human, imposes a load upon the environment that supports it. Loads may temporarily exceed carrying capacities, but when they do, environmental degradation *from overuse* has to undermine carrying capacity, and this leads sooner or later to some form of load reduction—either a reduced number of users or reduced per capita intensity of their use of the environment. These points are true even when the environment in question is an entire planet.

For several centuries after Europeans got over supposing the world was flat, and began to discover land masses in another hemisphere, the New World's existence (and its "newness") powerfully shaped history and human expectations. An unanticipated abundance of resources invited exploitation. Although the term "carrying capacity" had not yet been coined, the thrust of history in those centuries was predicated upon what seemed a vast carrying capacity surplus. Eventually there was an industrial revolution—which hastened conversion of carrying capacity surplus into carrying capacity deficit, while *seeming* to magnify abundance.

Mankind must now struggle to come to terms with an unfamiliar situation—the replacement of a marvelous but temporary carrying capacity surplus by a deepening carrying capacity deficit. The deficit has resulted from exponential human load expansion during the past several centuries, due both to population increase and technological progress. Human societies have been undergoing great change in recent decades. Sociologists attempting to describe and explain contemporary social change (Nordskog 1960; Etzioni and Etzioni 1964; Noble 2000) have largely neglected the influence of a possible transition from carrying capacity surplus to deficit. These concepts have been deemed "not social" and thus outside the domain of sociological thought. Their exclusion from a conventional sociological vocabulary, however, does not diminish their effect.

Sociologists who want to clarify and explain future social actions must acknowledge three converging trends that have put humankind in much deeper peril than is generally understood. First, there are many more humans inhabiting this planet than it can sustain. Second, technological advances of recent centuries have made gigantic and prodigal the per capita resource appetites of people and their per capita environmental impacts. Third, even though, as the symbol-using species, humans conceivably could do better at anticipating future circumstances and planning ahead, the general evolutionary heritage of *Homo sapiens*

continues to impede foresight. Like other species evolved by natural selection, we adapt to *existing* circumstances, not to future conditions our adaptations may be creating.

In the 1980s, global economic recession appreciably reduced effective demand for various resources (despite continuing growth of world population and continuing aspirations for modernization among "underdeveloped" countries). A so-called "oil glut," following soon after the OPEC-embargo-induced shortages, tempted many to resume old illusions that scarcity is not inherently the destiny of industrialism. To avoid self-deception in this matter, it was important to recognize that filled storage tanks and falling oil prices in no way reflected any increase in the stock of crude oil contained in Earth's crust. People (apparently including even the majority of sociologists) too easily forgot the nonrenewable nature of petroleum and many other resources still required by conventional human activities. Demand for various non-renewable natural resources was only slightly (and temporarily) abated then or by subsequent economic recessions. We allowed ourselves too often to disregard the interdependent ecological limits upon a populous Earth's capacity to serve human needs in three ways—as home, supply depot, and disposal site (Dunlap and Catton 2002).

Oil depletion may hit soonest and hardest (Deffeyes 2005), but as a political science PhD and former Foreign Service officer William Ophuls (1977: 9) tried to tell the world some years ago, scarcity is no longer merely a problem with incidental short supply of some isolated commodity. It takes "a new and more daunting form" that he called "ecological scarcity." The modern world must address not just "simple Malthusian overpopulation and famine," he wrote, "we must now also worry about shortages of the vast array of energy and mineral resources necessary to keep the engines of industrial production running . . ." In this changed world, he said, we must also be concerned "about pollution and other limits of tolerance in natural systems, about such physical constraints as the laws of thermodynamics. . . ." (Greer, 2011; Heinberg, 2003, 2011). Unless sociologists take such "non-sociological" constraints into account, the sociology discipline is likely to cause its adherents to misconstrue future events and draw erroneous conclusions about social changes observed in decades ahead. Advice they might offer to policy-makers could thus be seriously counterproductive (Catton, 2009).

7. Collective behavior prospects

As mankind increasingly encounters depleted stocks of essential non-renewable resources required to support modern lifestyles, what changes in human relationships must be expected? A dramatic increase in the potential for conflict, seemed likely to Peachey and Lerner (1981: 454). They expected there would be "heightened distrust and suspicion." They expected we would also see "the complete justification of what would otherwise be considered selfish and immoral behavior." Competition would be "perceived in 'zero-sum' terms" with "derogation of the perceived competitor." Many events of the past three decades seem to confirm their expectations. They foresaw acceptance and even admiration for successful use of extra-legal means in competitive pursuit of goals.

In a context of resource scarcity, individuals will anticipate competitive encounters and this anticipation will stimulate cognitive changes as a means of adapting. Contesting nation-states will tend to vilify each other, increasingly portraying the competitor "enemy" as

untrustworthy—and perhaps so malevolent that eventually "any action" in opposition to the enemy "is justified, including 'pre-emptive' aggression" (Peachey and Lerner, 1981: 453-454; cf. Klapp, 1972: 158). These expectations appear to have been born out in the conduct of recent U.S. wars.

Ecological knowledge is fundamental to understanding the lives, the opportunities, and the limitations of humans (and of human societies) in a world shaped by and comprising geological and meteorological features and billions of non-human organisms—i.e. the real world. The environment we inhabit, with all its given biological, chemical, and physical characteristics, often tremendously influential, has changed enormously in recent times. Human societal actions have wrought much of the change.

To anticipate and explain the catastrophic changes set in motion by twentieth-century progress, and its division of the human world into "overdeveloped" and "underdeveloped" societies, sociologists must begin at last to see sociology itself as an excessively circumscribed treatment of processes requiring a fundamentally ecological worldview. If sociological thought becomes less anthropocentric it will be better prepared to understand future reality.

8. Return to foraging

It is time for sociologists to emancipate themselves from certain assumptions that have been imbedded too deeply in the surrounding modern culture. Human lives depend on adaptively using the planet on which we evolved. Not all major changes in human ways of using it have been actual progress. This might have been easier to see if academic departments had not become too large and unwieldy, so that sociologists and anthropologists largely drifted apart into separate disciplinary organizations. Sociologists mostly focused their attention on "modern" societies and their components, and largely lost interest in non-literate peoples, in hunter-gatherer societies. We knew, as taken-for-granted background, that some people especially in hunter-gatherer societies had long ago discovered ways of "managing" local ecosystems (and begun planting and harvesting crops and herding consumable or otherwise useful animals). We assumed this was an important step forward. We assumed it was a permanent achievement, that could be just accepted as a given fact. Pre-agricultural societies became the province of anthropologists, and ceased to interest most sociologists.

Ecologically speaking, those early people had taken steps to ensure local portions of nature would more reliably provide nutrition for the human species, perhaps to the detriment of local populations of other competing species. We never doubted that advancement by *Homo sapiens* from foraging to farming was advantageous, and if ever superseded it would be by another advancement.

With the industrial revolution, however, some *Homo sapiens* became committed to reliance again on natural resources *not* subject to annual renewal by humanly managed processes of reproduction among domesticated resource species. Industries and the general public in modern societies seemed to suppose *rates of discovery* of previously unfound deposits of iron ore, coal, petroleum, etc. were equivalent to *replenishment* of stocks being drawn down by our extraction efforts (which we conventionally called "production," even though nature, not human effort, had *produced* the substances we were taking out of the Earth). As long as

discovery rates matched or exceeded depletion rates we were comfortably oblivious of future supply problems.

We *Homo sapiens* tended not to ask how sapient this conventional thoughtway truly was. But a substantial portion of our species (we called ourselves "the developed nations") had reverted to foraging—hunting and gathering resources available only in places and amounts determined long ago by nature, not by human management. We had new foraging tools—e.g., drilling rigs and enormous offshore oil platforms, vast digging machines, dynamite, chainsaws, huge pumps, etc.. But reverting to foraging in support of modern living (on a planet we seemed to forget was finite) could not ensure an onward-and-upward future for our species. It ensured instead that we would rapidly deplete nature's deposits of one essential resource after another and continue building our societies around unrealistic expectations of perpetual growth in numbers and affluence, on a planet that would not get any larger.

Some sociologists today define their field as a humanistic study (involving "qualitative" reasoning). Others favor a quantitative approach, regarding themselves as adherents of "scientific method." For both types, until they escape the blinding assumptions of the surrounding culture enough to see that reversion to foraging has been a *retrograde* step—which must have serious adverse consequences—sociological efforts to explain future social change will misfire.

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Zoological Collections and the Effects of Scientific Territorialism

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1. Introduction

In the area of the biological sciences, it is usual that scientists store biodiversity material in scientific collections. As a means for obtaining greatest results in researches, it becomes natural to establish mutual cooperation between collections.

Unfortunately, one recurrently encounters conflict of interests among scientists, affecting the functioning of scientific collections. Although papers illustrating the human side of scientists, including their frailties, are quite popular (e.g., Hellman, 1998), cases specifically involving collections are less well known.

Researchers that study a specific group of organisms seem to create an affective bond so strong for the animals-objects studied that they often act as the owners of some samples of the collection or even of the whole taxonomic group. As a consequence, when exchange and access to material or information are needed, difficulties may be created: samples are hidden and information is not fully disclosed.

In this chapter, we explicit the behavior of scientists[1] with reference to scientific collections, their obstacles, beliefs, fears and greeds. We demonstrate that the conduct of scientists sometimes resembles a behavior present in social animals, known as territorialism[2]. Thus maybe some of the observed conducts could be justified by the soft politics of power, camouflaged in publications, that arises in the science fields.

For this purpose, we introduce Bourdieu's idea of hierarchy inside the sciences and Foucault's conceptions of power. Unhappily, we demonstrate that power conflicts are closer to us scientists than we thought or wished to be true. Therefore, this chapter intends to make a reflection over the professional conduct dynamics in scientific collections.

In behalf of our objective, it is important that the reader understand the meaning of a few biological contexts. That's why we clarify some aspects of ethology (the study of animal

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[1] We realize that this behavior must not and cannot be generalized to the entire group of professionals that work with scientifc collections. However, this chapter concerns behavior pertaining to a by no means negligible portion of this group. Therefore we apologize to those professional that feel unjustly affected by this exposure.

[2] We take into consideration the diferent perspectives (sociological, geographical, political, etc.) of territory and territoriality. However, in this chapter, territorialism is quoted as a concept belonging to the biological sciences, as explained in the following topic.

behavior) and zoology (the science that deals with animals). In topic two, we explain the social behavior of animals. We emphasize their relation in and outside the group and their relation to the environment. In topic three we make clear what a scientific collection is, explaining its aims and importance. In subject four we demonstrate the dynamics between some professionals that work on those collections. And in topic five we associate this behavior with animal territorialism, which is established as a consequence of the hierarchy that is maximized by the illusion of power existing inside the scientific academy.

2. Animal social behavior: Territorialism

The objective of explaining this behavior is that we expect the reader, in later topics, to be able to imagine an entertaining picture of us biologists acting similarly to other social animals[3].

Animal behavior is one of the several attributes of animals that can only be studied in nature (Fig. 1), when the animal is still alive. The majority of ethological and ecological characters can't be preserved in scientific collections, in contrast to other sources of knowledge on biodiversity (Martins, 1994). That's why the combination of both practices is so important to unveil biological knowledge.
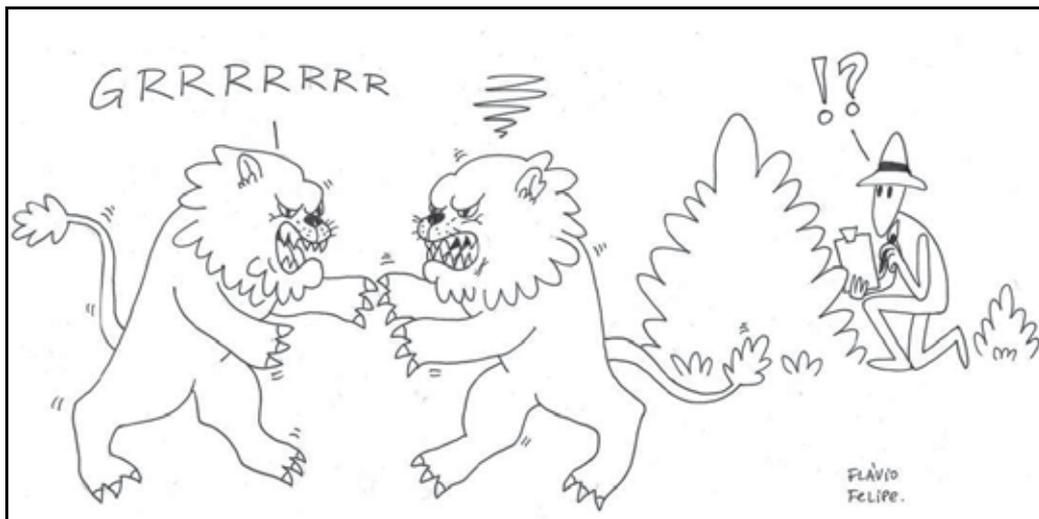
Fig. 1. Territorial conflict among animals.

Few animals manage to live completely alone. Most need, at least, to find a partner of their own species (Carthy, 1974). The interaction between individuals is not random and it is possible to find a pattern in social relationships. This pattern is called social organization (Deag, 1980).

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[3] We hope to make clear that we do not intend to extrapolate animal behavior as a fixed pattern for human behavior. We realize the complexity involved in this assertation. Therefore, we tried to take all precautions to avoid falling into the deterministic fallacy of sociobiology. Our goal was to show how similar the behaviors can be in some situations.

Co-habitation and acquaintance in groups require behavior adaptations to maintain the cohesion of the group, either temporally or permanently. As a result, it is possible to observe a complex net of relationships characterizing social positions among members of the same groups (Carthy, 1974).

In some societies with hierarchical positions it is possible to see a dominant-subordinate relationship where violence becomes minimized. In some cases a stable dominant relation arises because the dominant animal is bigger and stronger than the others (Hutingford & Chellapa, 2006, as cited in Chase et al., 2002). Once this hierarchy is established, this configuration will be stable. Generally, the situation is accepted with no confusion. This implies that a hierarchical ordination decreases the mutual aggressiveness in the group. There's no doubt that this represents an advantage from the biological point of view. Combats are harmful not only because of the physical damages, but also because of the time spent in an activity that is otherwise useless for the needs of the group (Carthy, 1974).

There are a huge amount of social behaviors inside a group of animals, such as reproduction, foraging, play, and so on. The social behavior with most interest to us in this paper is territoriality. Territory defense occurs when animals adjust their struggle behavior to their position in space, defending a specific area. Such protected areas allow the attainment of food, water, rest spots, shelter, or sexual and cleaning partners. Depending on the species, these areas can be maintained for distinct periods of time, such as a few hours a day, a whole station, or a year, and it could be defended for one individual, for a couple, or for a group of animals (Hutingford & Chellapa, 2006).

In territorial systems the size of the land and the configuration of their boundaries are the result of a state of equilibrium between the behaviors of neighbors. There is a minimal limit to the size of the territory. When population density is high, the boundaries of the land may overlap, making the lands relatively smaller. In such occasions, the limits of defense and aggressive reactions between neighbors are established (Sire, 1960).

The winners obtain the best territories, while the losers stay with the worst areas or end without land. Quality land and land achievement will depend on the density of a population, defensibility of the area, availability of resources, and the age of the animal. Territorial males can expel each other with strength and still allow the presence of some subordinate (non-territorial) males on their land. Animals with lower hierarchical position have their access to resources limited by those with higher positions and therefore suffer more debilitating effects, aggression and sometimes are forced to migrate (Deag, 1980).

In some species the presence of aggressive and strong members in the society preclude that other members have access to the limiting resources. As a consequence, the excluded animals use different tactics in order to share the forbidden resources (Krebs & Davis, 1993). The animals with no land can live in a tolerable way in the areas that belong to other well succeeded animals. Alternatively, animals with no land could spend the whole or part of the time on the boundaries of the land, exploring the resources of that region without being observed (Hutingford & Chellapa, 2006).

The defense of a territory implies the existence of something that must be defended against competitors. Why would an animal try to take a resource that already is being protected, if there were plenty of undefended resources? The fact that competition occurs implies that

the resources are limited, or that there are considerable differences between their qualities (Deag, 1980).

Animals fight each other for two basic reasons: to establish a domain in a social hierarchy or to establish territory. Some species are purely hierarchical, with no territory. Others are purely territorial, with no hierarchical issues being involved. Still others keep hierarchy in their own territory and must face all kinds of aggressiveness. We, the naked apes (as Desmond Morris would say), belong to the last group: we face both problems (Morris, 1984).

3. Scientific collections

3.1 Short overview of the history of museums

The history of museums may be separated into six epochs: Greco-Roman (until 400 A.D.), Pre-Renaissance (400 A.D. – 1400), Renaissance (1400 – 1600), Pre-Linnaean (1600 – 1750), Linnaean (1750 – 1850) and Modern (1850 onwards). We will not discuss these periods, but when one looks into their history it may be realized that collections have always reflected the social atmosphere and the state of knowledge of that specific period (Whitehead, 1970).

Natural history documents were not only words, texts or archives, but bright places where things overlap: herbaria, collections, gardens (Foucault, 1966) and cabinets of curiosities (Fig. 2; Papavero et al., 1997). These cabinets of curiosities were rooms designated to store exquisite material that was collected throughout the world. The owner could also buy goods from world travelers that gathered uncommon material in expedition journeys, such as unicorn horns, plants, animals, objects, etc. (to see more on expeditions, see Papavero et al., 1995). As the museums in former periods were private collections, one common practice was to buy, sell and exchange items. This activity could be very promising, depending on the size of the collection, the materials themselves, and their degree of conservation.

One important function of museums in past centuries was to pull together several casual and disjointed collections split throughout the world. The worship of what is rare, unusual, marvelous, miraculous and sacred (R. Morris & D. Morris, 1965) make these places sets of natural and artificial objects ideal for study or, alternatively, for gaining prestige in society (Whitehead, 1970).

It is usual to affirm that the constitutions of botanical gardens and zoological collections reflected a new curiosity stimulated by the exotic plants and animals. The bizarre, mysterious and glamorous were spectacular; these facets were exposed in parties and amusement parks. Legendary reconstructions (as pictures and drawings) where presented in which the beast showed its mythical facets (Foucault, 1966; cf. Almaça, 2002).

These places were not dedicated exclusively to scientific studies. They were also places for social meetings, where the aristocrats went to discuss politics, art, economy, etc. The more rare materials present in a collection, the more valuable they became economically and socially.

Therefore, in the several facets that the museum represents throughout history, they do not only reflect the state of knowledge of zoology, but also the social atmosphere. These features could determine if a museum could only raise the prestige of their owner or if they could also add to the progress of knowledge (Whitehead, 1970).
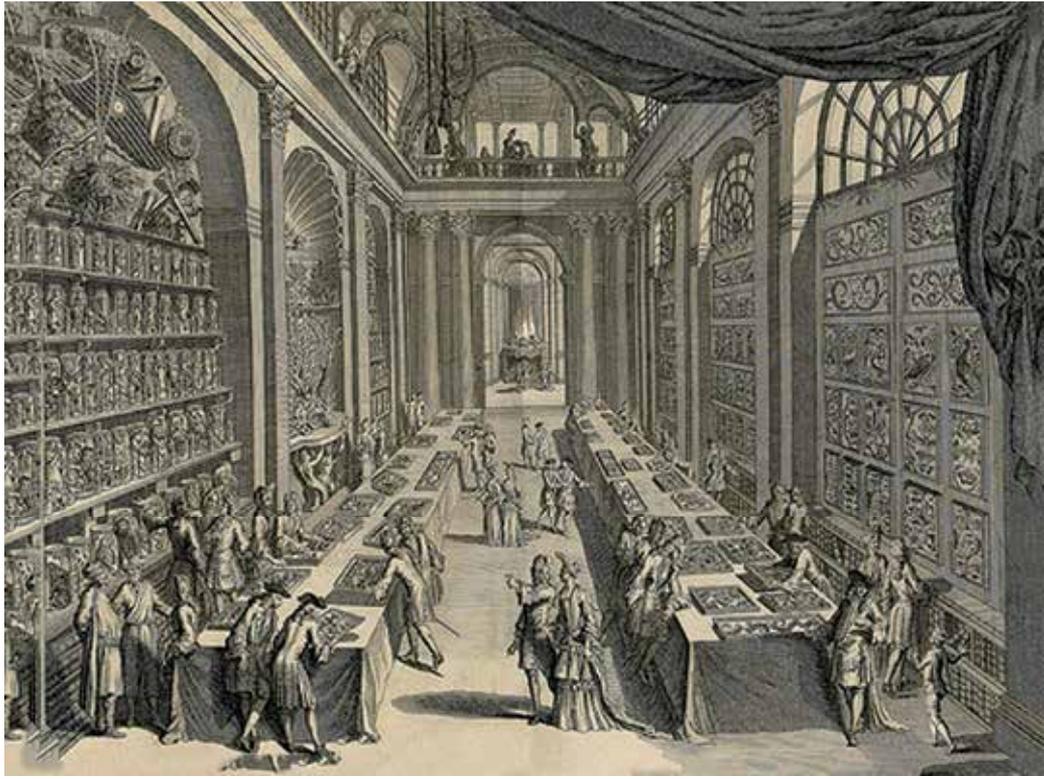
Fig. 2. A rich "cabinet of curiosity". Adapted from Papavero et al. (1997).

As the disciplines of zoology and botany turned into sciences that required observation and experimentation, a huge proliferation of museums occurred. They were the natural history museums. During this period the museums changed from a pure catalogue of natural objects to an attempt of men to classify them. This part of Biology that aims to classify organisms in a systematic order is called taxonomy. The classification of data is the first step in any investigation. The objects acquire significance when they are classified because they facilitate a comparison between objects, which leads to the understanding of their nature (Foucault, 1966; Whitehead, 1970).

In 1850 the bases of the natural history museums were revolutionized by Charles Darwin. All community sectors interested in museums increased. At the same time, the value of the scientific work made the museums gain reconnaissance not only in academic aspects but also in economics. From this period, the private museums declined. They were intense through the XIX century and some still exist nowadays. More and more, however, museums belong to scientific societies or to State associations (Whitehead, 1970).

3.2 Museums today

Many researchers around the world study biodiversity. Nowadays, the basic documentation of biodiversity is found in scientific collections at museums, institutions and universities (Silveira & Oliveira, 2008) split all over the world. The main goal of the natural history

museums is to store, maintain and organize collections of specimens that represent the biological diversity of organisms (fossils and modern) that once colonized the Earth (Zaher & Young, 2003).

Several kinds of collections with different aims exist. The most common are for teaching purposes, for scientific research and with economic interest (Martins, 1994). In this chapter we will only discuss the scientific ones. Scientific collections exist for all kinds of materials. Some of them shelter millions of samples that may contain a diversity of animals, parts of animals, or even of objects or signs that belong to the species. As examples, one may find nests, shelters, footprints, excrements, hairs, etc. It is possible to appreciate different kinds of collections with different purposes. An anatomical collection will contain a lot of bones, parts of bodies, organs, etc. In a biogeographical collection it will be possible to see specimens from different parts of the globe that correspond to their distribution.

Scientific collections represent a crucial source of information for those who work with living things. They are of great importance because they help in education and scientific activities, providing reliable information about all animals (Silveira & Oliveira, 2008), including samples of the extinct fauna. Under the molecular revolution, they begin to provide genetic banks where tissues are stored for further studies. They also cover strategic areas of governmental issues like environment management, agronomics, medical and pharmaceutical research, having serious implications at all levels of society. These collections also represent a cultural legacy. Finally, they play an important role in the professional formation in several careers, providing increasing qualification to face the challenge of a sustainable development. In this sense, collections constitute an essential source of data for studies of environmental impact (Zaher & Young, 2003).

A great zoological collection keeps biological material on all kinds of groups from all over the world. Normally the groups of animals that most researchers work with are the major ones. They are in public institutions, usually in museums and universities. It is thus possible to deal with two realities or perspectives: large collections and small collections.

Large collections (usually in museums and institutions) commonly count with large funds and investments for huge gathering expeditions with adequate staff to maintain the collections. In counterpart, small collections (usually inside universities) are not necessarily strategically located, being usually regional, peripheral, and cannot afford neither small nor larger expeditions. In these marginal collections, expedition expenses (transportation, equipment, alimentation, accommodation, etc.) and collection management are under the responsibility of the researcher.

Clarifying, material in a collection requires massive dedication to keep the biological material in good shape for future users and to extend its lifetime. The following activities are examples: material that is preserved in alcohol must be refilled to avoid dilution of preserved liquid; bottles must be verified for adequate levels of preservation liquid to avoid desiccation; large animals need taxidermy; bug collections need attention against ants, fungi, etc. All of these cares need effort and time. Inappropriately stored material reduces the utility of the collection. For this reason, important collections that were gathered for decades of hard work have been lost. Since these scientific collections represent national and international heritage, the maintainer institutions must be in tune with the needs that a scientific collection requires to be in good conditions for future users (Martins, 1994).

Each species has a specific methodology for gathering and preserving. The animal world is vast, with more than 1.5 million known species. This represents a huge restraint for zoologists since it is impossible to collect, preserve and study all zoological groups. That's one reason why zoologists must limit themselves to study only specific groups.

As collections grow according to the differently available human specialists, one may find a very complete representation of one group in museum x, and another very different group in university y. Because of this, exchange of materials and researchers are promoted, as loans of material are needed for the development of particular scientific activities. It is clear that a vast and close relationship between institutions and researchers is desirable and mandatory (Martins, 1994).

A standard procedure is that zoological collections keep (when possible) more than one copy of each species. The model organism, used to describe and fix the name of a species, is called the holotype. This specimen usually remains in the collection and may leave only in very special conditions and exceptional occasions. Other copies are often borrowed, exchanged or donated. Besides such exchange of material, it is usual that a scientist plans visits to particular collection of his interest for research. Sometimes specialists are requested to assist on some particular difficulties or even to teach courses.

The professional responsible for the collections is the curator. One of his tasks is to manage all the data that is produced within the collection. Some collections or institutions have their own policies for using their records. However, various categories of data may exist: those that are only interesting for institutional issues; those that are of restricted use, needing a permission for access (unpublished data); and those of free access to the public (published). Either way the uses of those data may be restricted to scientific, educational and public management. Notwithstanding, recommendations are usually made for future handling of any of the data used. For example, the specification of the collection to which the zoological material belongs is usually demanded, etc.

All these normative designations, policies of access, and eventually any misunderstandings within the collection are elucidated by the curator in smaller collections or by committees and advisory boards at the large ones. Therefore, the curator must also act as a public relations manager.

4. Researcher's conduct

As we saw, great collections benefit from great funds. But biodiversity is not concentrated only in the vast scientific collections. A lot of important material is preserved in minor institutions. These peripheral collections are frequently forgotten. Resources, interests, time, support or special guidelines to make good collections are often missing. Most of the time, the management is made by the professionals themselves and the money necessary is provided by the researchers. The scientists, who use the zoological material from the collection, usually work together with the curator. This association guarantees some basic conditions and guarantees the continuing survival of the collection. As peripheral collections are usually smaller, each research becomes responsible for the group he works with. Collecting, identification, fixation, cataloguing and administration in practice become the responsibility of the scientists. This excessive dedication by the researchers makes them feel much attached to the animals-objects studied. This may sometimes retard the optimal collaboration between

institutions because the researchers feel like the owners of their study material. There are those who go to such extents as to hide samples from other fellow visitors.

It is known that when a researcher from another institution arrives with the intent of studying a specific taxonomic group, he may encounter only a few broken, dried, immature, or otherwise scientifically less relevant data for the research in question. This may be equally true when material is requested on loan. The institution tries to avoid any chances of loosing material, refraining to loan to marginal collections or unknown researchers. This attitude is also enhanced by recent cases in which "international" material, already borrowed and on its path to the loaner, is detained at customs by the federal police and, sometimes, burned[4].

Although scientific collections are of public domain, in theory, and therefore are accessible to consulting by other scientists, when new researchers arrive with a claim to study a specific group, conflict may arise (Fig. 3).
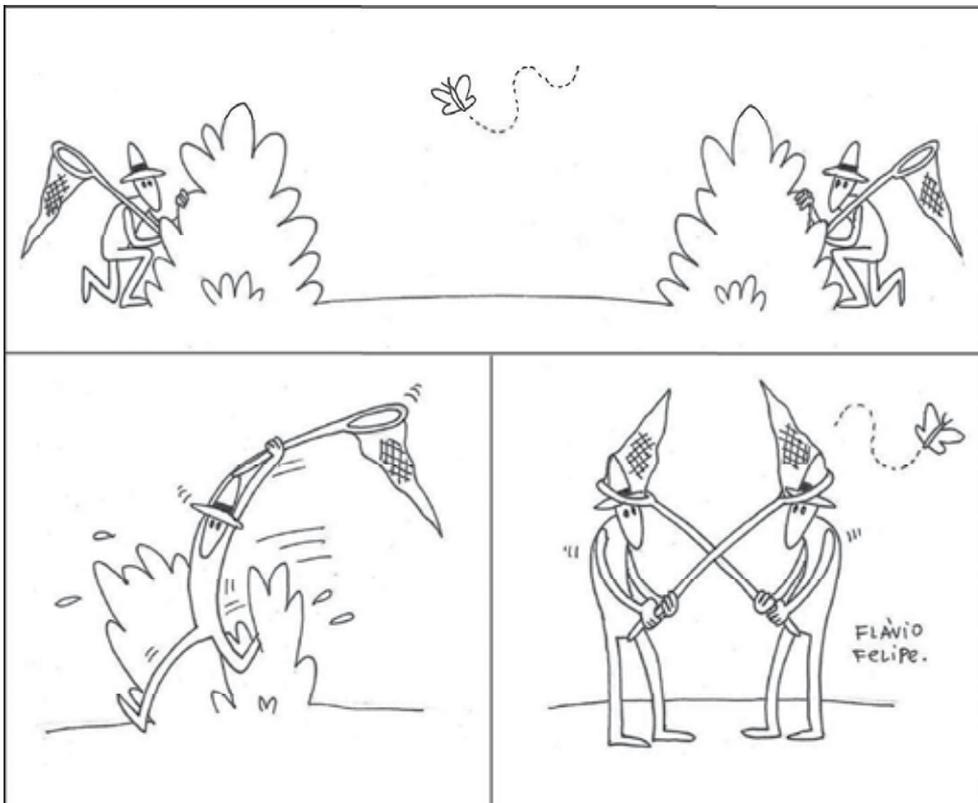
Fig. 3. Competition among researchers may occur for the same study group.

This is particularly true when these groups are already being studied by researchers or students at the institution in which the collection is housed. Scientists working on a group

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[4] This has happened even when the necessary permission documents were avaiable, due to wrong interpretations by the police officers in the particulars regarding the objects under study.

thus believe that they have some priority over the material they are studying for some reasonable amount of time (especially if the animal has some peculiarity as being an endangered species, a rare species, or a very difficult animal to collect – there being very few specimens in the collection). These assumptions may not always be entirely correct. Notwithstanding, for ethical reasons, the curator must respect those working on this group when new researchers arrive. In cases like this, the curator has to find a solution for both scientists to be able to work.

> Can both do the same work?
> If not, who is going to change and why?
> What are the criteria used to decide?
> Does this mean that only the older researcher working in a collection has the privilege/right to work on it?
> Will the other researcher need to find another institution to be able to work on his group of interest?

Proposals are made aiming at a resolution[5].

In traditional collections there usually is an established policy which is respected by those who work in the institution. For example, the paleontological protocol dictates that, while one researcher is writing primary descriptions of new material, other researchers cannot study it. In practice, that often means waiting years or decades until a senior researcher finishes a detailed reconstruction of the fossils under his charge (Gee, 1999). Probably this paleontological resolution was defined only after a huge quarrel centering on two 19th century zoologists, Cope versus March, over fossil bones, also known as the great dinosaur rush (Colbert, 1984). Each used devious methods to try to out-compete the other in the field, resorting to bribery, theft, and destruction of bones. Each scientist also attacked the other in scientific publications, seeking to ruin his credibility and have his funding cut off (Penick, 1971; Romer, 1964).

Another situation is also real: big collections tend to suffocate the marginal collections when projects such as making data available on internet and publishing catalogues are planned. Large collections usually house large amounts of previously published material, while smaller institutions are prone to be in the act of collecting, identifying and planning future publications. The first ones often use their coercive powers to obtain the rights over all unpublished data, claiming to avoid delays in making information public. This creates a natural resistance when researchers at these smaller collections are asked to simply share all their unpublished data. These events seems to be like vicious cycles and therefore justify why scientist tend to defend "their data" or "their collection".

5. Discussion

5.1 Power conflicts

We realize that the universe of science is a social world. Consequently, impositions and solicitations are made. The scientific field, as any other (religion, industry, arts), is a ground

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[5] A recurrent, although not entirely satisfactory solution, is to convince one researcher to change the animal group or to alter significant details of his research project. That's one of the reasons we may see, more and more often, very similar projects, differing only in the species, the place of study, or the method to be applied.

compounded with relations of strength. These strengths compete with each other to maintain or to transform the field in question in order to benefit one side. So, the scientific field can be described as a physical and ideological world that comprises relations of strength and relations of dominance. Strength is determined by how much the scientific community knows you through your work, and dominance is connected to the issue involving hierarchy, which is not separated from the first aspect. These relations are determined by the distribution of scientific capital (Bourdieu, 1984).

In a simpler way, scientific capital represents a form of power. For Foucault (1979), the power is not a natural object or a thing, it does not actually exist. What exist are social practices or relations of power. Therefore, power is not a unique or global entity. It exists in disparate, heterogeneous forms and is always in constant transformation. As such, it is built historically. It may be represented in a central or peripheral situation, in a macro or micro level. Which means to say that power is something exercised, performed, functional (Foucault, 1979) and is therefore symbolic (Bourdieu, 2002). It is struggle, confrontation, the building of strength relations in strategic situations. It is not a place to occupy, nor an object to own. It is not even univocal, a one-sided situation. In this struggle, you may lose or win. Power is a producer of individuality. The individual is a production of power and knowledge. All knowledge, scientific or ideological, can only exist under political conditions. These conditions are necessary to form the subject as the knowledge domain. The fundamental aspect of this analysis is to realize that knowledge and power imply reciprocity: there are no relations of power without the constitution of a knowledge field, as also the reciprocal, all knowledge constitutes new relations of power (Foucault, 1979).

There exist two forms of scientific capital that correspond to two forms of power: the political and the specific. The political power is temporal and it is connected to the fulfillment of important positions inside the institutions, laboratories, departments, boards. This kind of power reflects the possibility to command the scientific production through evaluation boards, as chief-editors, administrators, etc. The specific power is that strictly connected to the research, to the study. It will provide prestige and reconnaissance (Bourdieu, 1997).

Based on those ideas the collection, as well as the museum, the institution and the researcher, are characterized by their own capital. The volume of capital determines its space and strength. These capitals are compared to each other and also to the physical structure into which they are inserted. Depending on the fragility of their capital, the results from these comparisons may be hard to accept by the individuals involved (Bourdieu, 1997). For example, a powerful zoological collection should be sustained on these foundations: a good representation of animals; a large structure with sufficient capacity to conserve the specimens in an ideal way; a group of employees and a group of scientist working and publishing their efforts; and investment funds. So, a powerful zoological collection would aggregate both sorts of scientific capital: those that provide the physical structure and those that provide the intellectual structure. If one of these foundations is week or is missing, then you lose capital, i.e. a great scientist cannot work in plenitude with badly shaped specimens, or a large collection is worthless without specialists working with it. So any basic fragility affects the possibility to obtain funds for research.

When the strength of a collection is found in the amount of material deposited, it is very profitable because this museum, collection or institution becomes the first choice to store

material or even to receive financial support. The bigger the collection, the higher the possibility to work with different taxonomic groups and therefore the probability of publication increases. The merit of a museum goes not only to the researchers but also to all the agents that participate in the institution: the keeper, the guard, those who work with marketing and public relations, the director, counselors, and so on.

Unfortunately, not all collections have comparable scientific capitals to work with. Usually peripheral collections can only count with the students and researches for cleaning, managing, and financial support. That's one reason why their stored material cannot produce much beyond the local biodiversity. That's all the money investment and structure can afford.

In a strict sense the largest funds for collections are obtained by their researchers (past, present and future) that, beyond their efforts, manage to support and to start new projects or to continue old ones. For example, in the Brazilian evaluation system a researcher has more credibility and facility to have his project approved the more he has already accomplished. So the strength of a researcher is determined by the quality level of his curriculum, which is reflected in the amount of publications, titles, projects, financial history, awards, etc (Oliveira, 2009). Having a good curriculum may facilitate being invited to participate in committees, to be a coordinator, an evaluator or to belong to other bureaucratic functions. Equally, you may find professionals that, although they do not have the best curriculums, end up assuming these higher positions. This becomes a tool to get financial profits. For Bourdieu (1984) the academic administrators could be a compensatory substitute for the non-accomplishment of prestige by means of research. Either way, both cases reflect conditions of power.

One of the highest valued scientific accomplishments is to obtain recognition for the development of science, in the form of inventions, discoveries and publications in the most prestigious publishing houses (Bourdieu, 1997). Our discourse promotes recognition. Considering that not everyone can discuss all subjects at any one time, the discourse in an article represents the power that you have over that specific area of knowledge (Foucault, 1971). This striving for the reconnaissance of our accomplishment explains much restraint in the sharing of primary zoological information. There is always conscious or unconscious fear that someone else will achieve prestige ahead of us. This is quite interesting when compared with animal social behavior. Notwithstanding how awkward it may seem, sometimes scientists act as if they were protecting their animals-objects-data, in the same way that animals may protect their territory. This struggle for data only occurs because the number of publications and citations give prestige to authors in the scientific world (Christoffersen et al., 2009). This provokes a dispute of egos accompanied by a distorted notion of power associated with a pseudo-hierarchy created by the amounts of publications. Resembling territorial behavior, which becomes manifest as sympathy for the objects of study, this may result in lifetime disputes among scientists. All these little conflicts delay the rapid dissemination of information and reduce efficiency in the retrieval of data. It also may create awkward personal conflicts of interest, for example, regarding authorship of eventual papers to be published (Fig. 4).

It could be stated that the enigmatic aspect of such protection does not reside in the actual possession of the collections themselves, but in the knowledge capital that can be generated

from them through publications and recognition in the scientific community. But this is not entirely correct. The emotions of the scientist cannot and must not be separated and neglected. Let's explain why. Usually in any zoological collection there exist a certain number of taxonomic groups that are in standby because there are no researchers to work with them. So, if the only correct premise where to obtain scientific prestige, the biologists would fight over obtaining the whole collection for themselves, since there is plenty of data available to fulfill this objective. Instead, they only struggle for one or two groups. The situation is more complex than it seems to be at first site, and it could also be extended to a lot of other scientific areas (i.e. psychology, history, philosophy, etc.) not to mention just sociology. As Edgar Morin (2005) loves to assert so strongly, we must not mutilate reality into a few specific areas of knowledge, we should try to understand the reality in its own complexity.

Fig. 4. Territorial (=unpublished data) conflicts among researchers.

Looking at this picture of zoological collections, we can do an analysis from three points of view: the relations of Scientists x Scientists, Scientists x Institutions, and Institutions x Institutions.

The relationship Scientists x Scientists may be disturbing when foreign visitors arrive to work with the same taxonomic group, especially with the same project. This is awkward because the local researcher may feel like he's being injured by the new company. Therefore,

he feels the need to fight for his rights, defending "his" animal-object as if it were his own property (=territory). This also affects special issues concerning publications:

Will my chances of publications be harmed?
Will I or should I establish a partnership?
Who is going to be the first author?
Who will take the credit for the novelty of the work?

But in some cases, when this foreigner is a specialist in the animal-object in question, there's an interest in establishing the partnership. Pretty interesting! In such cases the threat turns into profit. The scientist that, in a first instance, posed as having the "rights" (=power over the animal-object studied), in a second moment donates all his power to share these rights (=authorship). This represents a struggle for the second scientific capital, the specific one.

The relation Scientist x Institutions is a bit more complicated because the collections, as the researchers working in it, are under the control by those with administrative functions (=power over the decisions about investment funds and over the physical structure of the collections) (see Waast & Gaillard, 1992). These last may be of two instances: only bureaucrats or scientists as well. The first usually doesn't feel attached to the collection because they no longer do research or never did. The "political scientist" that still does some research may create affection for the collection. There are plenty of possibilities, but two of them are most popular: when a visitor arrives to work with the same group, the chances for that to happen are minimal (who is going to take the work of the boss?); or he may sympathize with the person and propose project supervision with a fellowship, or some other form of collaboration.

Regarding professional relationships, a researcher may develop a charisma for his institution and fight for it (sometimes becoming territorial in the sense of not wanting to lend materials and not authorizing loans). In another situation the institutional commander may not sympathize with some researcher from his own or outside institution, thus arranging innumerable restrictions or obstacles.

So, inside the relations Scientists x Institutions, political power itself is at work, or then political power associated with some specific power.

The relation Institution x Institution are always seen as profit[6]. In spite of linguistic, cultural and ethnic differences, the alliances (national and international scientific exchange) can be very productive, opening new perspectives for the development of technologies (Christoffersen, 2002). If you took a deeper look you will realize that these relations will be steered by the other types of relationships discussed above.

So inside collections there exists a whole hierarchy of science coercing. In other words, the administrative and the research person, each one pulling the rope to his side, delimit the boundaries of possibilities for each other. There also exist, inside and outside of this hierarchy, invisible disputes, or other subtleties for the gain of power. On the bureaucratic side this is reflected by the possibility of control or even by the capability for decision in several areas of administrative procedures and physical structure. On the researcher side,

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[6] Except when alliances results in unequal relations: when 3rd world scientists are treated as helpers, cheap labor and of limited intellect (see Christoffersen, 2002).

this power is reflected in prestige, which is assigned to the number of publications[7] or, in an indirect way, to the possession of the animals-objects that will provide data which will result in publications. So, all this behavior (try to continue being the only one to work with a group), aggravated by the anguish of feeling threatened by our neighbor (since all scientists are clients and competitors at the same time, as Bourdieu affirms), would be similar to the territorial defense of social animals. This could be justified by the pressure that all researchers suffer as a consequence of the scientific system, especially those scientists that are inserted in a small, local, regional, peripheral and marginal collection.

5.2 Ethical implications

One of the causes of all such disputes is provoked by the disagreements that may arise concerning the authorship of the works in publications.

> Does one invite the other fellow researcher who works with the same group as me? Should I or must I?
> Should I include the name of my fellow (invite him to participate in my paper) for ethical reasons even if he didn't collaborate with it or only collaborated eventually?
> Should I invite him only for interest in future partnership?
> What if I publish my work all by myself? Will this occasion discomfort? Would the other researcher try to harm me at my institution?
> Which decisions are ethical?

All these questions may pass throw the researcher´s mind. Who should decide how to answer them? Each collection has its own policies or habits. There are those who adopt the following criterion: if one did the work alone then one publishes alone and therefore receives all the prestige. Others opt for publication in groups, with partnerships, and therefore for each new publication the whole group will participate again. This is particularly profitable, considering scientific evaluation nowadays.

These questions are quite difficult for the scientist to answer considering the nature of ethics. The individual and society have a double nature. The individual has the powerful principle of egocentrism that stimulates him to be selfish while the society has rivalry, competition, and struggle between the selfish. Society doesn't manage to impose its ethical norms to all individuals. These don't have an ethical behavior that overcomes selfish behavior at all times. This problem becomes worse in very complex societies, where the integration of traditional sympathy bonds is inseparable from the development of individuality (Morin, 2004). Remember that individuality is produced by power (Foucault, 1979).

Ethical sources are also natural because they are older than humanity. The principle of inclusion is prescript at the self-socio-biological organization of the individual, which is transmitted through a genetic path. Mammal societies are communal and rival; they feel at the same time an egocentric conflict and sympathy for the enemies outside. Sympathy for

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[7] We do not agree with such a simplistic evolution system inside the sciences, because it leads to an artificial partitioning of a scientific work into as many articles as possible, reflecting the greeds of the professional, who, seduced by this system, aims to take maximal advantages of it. This is also a consequence of manufacturing sciences, who see all the professionals as employees (see Callon & Foray, 1997; Oliveira, 2009).

the struggle against a prey or predator; rivals for alpha males, in fights for primacy, for domination, for conquest of females (Morin, 2004).

Human societies developed and incorporated this double sociological character: the interest-rivalry relation and the community bond. The feeling of community is and will be a source of responsibility and sympathy, and these are sources of ethics. Individuality is the source of personal responsibility by your life conduct, and it is also the source of strength of egocentrism. It grows in all fields and tends to inhibit the altruistic and sympathy potentialities, and this contributes to the disintegration of several groups (Morin, 2004).

The bases of ethical crisis belong to a general crisis of the certainty foundations: philosophical knowledge foundation crises and scientific knowledge foundation crises. This is emergence without knowing what emerges. Ethics, as emergence, depends on the social and historical conditions that make it emerge. But it is the individual that makes ethical decisions. It is his duty to choose his values and finalities (Morin, 2004).

So ethics is a relative aspect and that's why some institutions and museums, that usually have a large structure, utilize committees of morals or councils of ethics to decide about authorship, among other things. Usually these places have a previously established policy to follow. In this way, an uncomfortable situation may be avoided. In smaller collections these boards do not exist and the decisions of possible conflict are solved by the curator or even by the professionals themselves. In these cases the problems usually turn into personal problems, where the scientist does not differentiate professional from personal life, since he feels like the owner of the taxonomic groups.

This is one of the reasons why all zoological collections should implant an ethical committee, no matter how small they are. The optimal would be to standardize some protocols to be followed, for example:

1. All material in the collection can be studied by anyone who wishes to, with few exceptions:
   a. This material is already being studied at that specific moment in that same collection, and, therefore, there is no reason for two persons to develop the same project with the same group.
   b. The researcher is not connected with any institution or university program.
2. All research must result in scientific publications.
3. All material that is deposited at the collection is a public property under the guard of the institution.
4. All the right of the research is of the scientist, who must quote the collaboration of the collection and institution.

This protocol should take into account the particular needs of each collection. For example, consider the differences as well as the similarities between an entomological and a mastozoological collection. The elaboration of such a protocol should be accompanied by a juridical foundation, despite their particularities.

5.3 Beyond collections

We realize that the interest conflicts observed in this chapter are verifiable in other biological areas as ecology, ethology, etc. Actually such a conduct pertains to all non-scientifically fields with human interactions, as in medicine (doctor-patient relationships), in

hierarchical positions in a factory (boss, manager, workers), in public transportation (driver, collector, passenger), etc. Moral pluralism is real and ever present, affecting professional relationships (Englehardt Jr., 1996). Thus there is a primacy for ethics, according to Emmanuel Lévinas (Hughes, 1998). A new basic philosophy of bioethics is becoming fashionable to deal with moral diversity. If such a bioethics is ever possible (Engelhardt Jr., 2006), it must concern the relationships between nature and human beings, must value relativism, and must be grounded on the traditional ethos of each region (Sakamoto, 1999). In any case, bioethics becomes necessary to advance scientific knowledge in all areas of human interaction. The basis of such an integrated ethics is rational and naturalistic, that is, biological and evolutionary (Chiarelli & Birolo, 2011). Our present moral philosophy must be directed to guarantee the survival of man as an individual or as a group of individuals co-operating and living together in peace within communities.

In this context, we believe that the discourse ethics in Jürgen Habermas' moral theory is enlightening (Habermas, 1990). According to this author, language is the bridge that connects people and communication is a countervailing force against arbitrary power (Vandenberghe, 2011). Practical questions can in principle be settled by way of argumentation. Emancipation refers to a learning process by which a subject experiences how to change when it learns to see itself through the eyes of others (Habermas, 1971). Thus discourse ethics, as well as playing a role in justifying the ethical principles that underlie contemporary liberal democracy (Habermas, 1998), also provides a perspective for reconciling the powers inherent in real, practical discourse.

When pre-established ethical norms and ethical commissions fail to resolve pending conflicts, successful communication among confronting parties remains a last resource for reaching an agreement and mutual understanding. An agreement may be considered fair when all parties concerned have been afforded a maximum opportunity to give reasons or to state arguments before a final decision is reached. "Only those norms can claim to be valid that meet (or could meet) with the approval of all affected in their capacity as participants in a practical discourse" (Habermas, 1990).

We also find that what Hans-George Gadamer has said on philosophical hermeneutics is relevant to dialogue and conversation, as a guide to the interpretation and understanding of other peoples thinking when this conflicts with our own views. This is what he says: "Conversation is a process of two people understanding each other. Thus it is a characteristic of every true conversation that each opens himself to the other person, truly accepts his point of view as worthy of consideration, and gets inside the other to such an extent that he understands not a particular individual, but what he says. The thing that has to be grasped is the objective rightness, or otherwise, of his opinion, so that they can agree with each other on a subject" (Gadamer, 1979).

Bohm et al. (1991) established three basic conditions of dialogue: (1) Participants must suspend their assumptions; (2) participants must view each other as colleagues or peers; (3) in the early stages there needs to be a facilitator who 'holds the context' of dialogue.

Through conversation, testing our prejudices, searching our meaning, we become more critical (Smith, 2001). We may even be able to catch the collective consciousness (Bohm, 1996).

6. Conclusion

This chapter shows that zoological collections face a sociological issue of knowledge production and ownership. We realize that not all zoological collections are characterized by these kinds of antagonistic relationships. But, in a straightforward sense, animal collections are properties that require tremendous investments in money, time, and expertise for their acquisition and management. Although biodiversity information is an intellectual property of the institution in which the collection is housed, the access to these properties must thus be guarded or regulated at all costs.

Paradoxically, scientific knowledge is increased through its vast dissemination. It is crucial that the knowledge capital that can be generated from scientific collections, in the form of publications and general recognition in the scientific community, can be of free access. In other words, in spite of unpublished data, the biodiversity information obtained by means of public investments must be of open access for public use. The adequate and wide uses of such biodiversity information will increase their appreciation as an institutional resource. Their misuses and unnecessary restrictions will compromise their utility.

The puzzle, then, is how to transfer the actual possession of collections themselves (the property rights), to other researchers capable of generating from them the best knowledge capital that these collections potentially provide without promoting disagreements. We know that marginality and creativity are not opposed conditions (Christoffersen, 2002; Gardner, 1996). That is why cooperation and synergism are thus crucial elements for the rise and propagation of scientific knowledge. Great partnerships and joint projects are also accomplished by many scientists who work in laboratories (Joly, 1997).

Thus, defining who will have access and do research on these institutional biodiversity repositories becomes fundamental for defining the conditions of a research protocol and establishing collaborations.

We have tried to expose the reality found in some biological collections. Ethical, financial and framework problems were depicted in order to understand collection dynamics. We realize the level of complexity that emerges from these considerations. Notwithstanding, we do not attempt to solve these problems by offering a banal, simple and, perhaps, utopian solution. Instead, we leave here a first step for future considerations. To conclude in a nutshell, we have reflected that only what people manage to agree upon will represent the rule or arrangements to be followed.

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Part 2

Realities

The American Dream and Corporate Executive Fraud

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1. Introduction

In this paper, we first describe a "Broken Trust" theory that was introduced by Albrecht el al. (2004) to explain corporate executive fraud. The Broken Trust theory is primarily based on an "Agency" theory from economic literature and a "Stewardship" theory from psychology literature. We next describe an "American Dream" theory from sociology literature to complement Albrecht el al.'s (2004) Broken Trust theory. Like the Broken Trust theory, the American Dream theory relates to a "Fraud Triangle" concept to explain corporate executive fraud in America. We are motivated to explain corporate executive fraud because whenever corporate fraud has been studied, CEOs and CFOs are most involved. For example, the COSO-sponsored study by Beasley et al. (1999) found that CEOs were involved in 72% of the financial statement fraud cases. The next most frequent perpetrators in descending order of frequency were the controller, COO, vice presidents, and members of the board. In addition, we are motivated to provoke thoughts on corporate executive fraud in American society and to stimulate further empirical research on social variables of executive fraud.

We define "corporate executive fraud" as follows. First, a corporate scandal is a scandal involving allegations of unethical behavior on the part of a company. It follows that a corporate accounting scandal is a scandal involving unethical behavior in accounting, that is, accounting fraud. Accounting fraud includes intentional financial misrepresentations (e.g., falsification of accounts) and misappropriations of assets (e.g., theft of inventory) (AICPA 2002). Intentional financial misrepresentations involving the management of a company are referred to as corporate executive fraud, whereas misappropriations of assets involving the employee of a company are referred to as employee fraud. Taken together, corporate executive fraud is intentional financial misrepresentations by trusted executives of public companies, which typically involve creative methods for misusing or misdirecting funds, overstating revenues, understating expenses, overstating the value of corporate assets, or underreporting the existence of liabilities.

2. Theories of corporate executive fraud

Albrecht el al. (2004) describe a Broken Trust theory to explain corporate executive fraud. It should be noted that they have never used the term "Broken Trust" in their theory. We took the liberty of labeling their theory as the Broken Trust theory. Since Albrecht el al. (2004) derive their Broken Trust theory by linking the Agency theory and Stewardship theory to the Fraud Triangle concept in corporate fraud literature, we first describe the Agency theory, follow by the Stewardship theory, and then the Broken Trust theory. We are aware that research and publication in Agency and Stewardship theories are very extensive, but only those that are specifically related to corporate executive fraud are cited in this paper.

2.1 Agency theory

Agency theory was introduced into management literature by Jensen and Meckling (1976). The theme is based on economic theory and it describes a principal-agent relationship between owners (such as stockholders) and executives, with top executives acting as agents whose personal interests do not naturally align with shareholder interests.

The principal-agent relationship involves a transfer of trust and duty to the agent while assuming that the agent is opportunistic and will pursue interests, including executive fraud, which are in conflict with those of the principal. This potential conflict of interests is often referred to as "the agency problem" (Davis et al. 1997). A typical solution to the agency problem is to structure executive incentives, such as stock options, in such ways that they align executive behavior with stockholder goals. Another common solution to the agency problem is for the board of directors to control and curtail the "opportunistic behavior" of the executives by, for example, the audit committee (Donaldson and Davis 1991).

However, the studies cited in Davis et al. (1997) indicate corporate executives are extremely complex human beings and the agency problem persists. Recent studies by Daily et al. (2003) and Sundaramurthy and Lewis (2003) also show that, in practice, corporate executives have power to counteract the board's control over them. For example, the corporate executives can exercise influence over the board because they are more in tune with daily operations of the company, or they exercise influence over succession of the board to ensure that board members who agree with them are appointed. Finally, Bebchuk and Fried (2004) argue that corporate executives' influence over the board of directors on pay setting can explain a wide range of compensation practices and patterns. This includes ones that have long been viewed as puzzles by economists such as why pay is higher and less sensitive to bad performance, including fraud, in corporations in which executives are more entrenched or have more power vis-à-vis the board.

2.2 Stewardship theory

In contrast to Agency theory, Stewardship theory is based on psychology theory that views corporate executives as stewards of their companies who will choose the interests of the stockholders over the interests of self, regardless of personal motivations or incentives (Donaldson and Davis 1991; Sundaramurthy and Lewis 2003). Since the executives can be trusted to place stockholder interest first, the board of directors focuses on empowering rather than controlling the executives. Another theory that focuses on empowering the corporate

executives is Resource Dependency theory (Daily et al. 2003). This theory holds that the board of directors is boundary spanner of the company and its environment. It provides the corporate executives access to resources to which they would not normally have access. For example, a lawyer might be appointed to the board to provide legal advice to the executives.

Like Agency theory, Stewardship theory seeks the alignment of corporate executives with the stockholders interests. Also, like Agency theory, Stewardship theory cannot explain the complex behavior of the executives such as whether they will or will not break the trust and commit fraud. For example, the board's lack of psychological independence from the corporate executives underlying the stewardship relationship may be partly to blame for the executives' fraudulent behavior. Psychology independence refers to the board's lack objectivity both affectively (e.g., directors can be blind sighted by their admiration for the corporate executives' persona) and cognitively (e.g., directors can be blind sighted by their belief in the corporate executives' expertise). A lack of psychological independence is a problem in many boardrooms across corporate America. As pointed out by Lorsch (2005), directors tend to like and admire their corporate executives. They find it hard to penalize their corporate executives even when the company is doing badly and they tacitly tolerate the executives' fraudulent behavior.

2.3 Broken trust theory

Since Albrecht et al.'s (2004) Broken Trust theory is related to a "Fraud Triangle" concept from corporate fraud literature, we begin by describing the origin of the Fraud Triangle concept. Much of the current corporate fraud literature is based on the early work of Edwin H. Sutherland (1883-1950), a criminologist at Indiana University. Sutherland (1949) was particularly interested in fraud committed by the elite business executives against stockholders. He coined the term "white-collar crime" to mean criminal acts of corporations and individuals acting in their corporate capacity. One of Sutherland's Doctoral students was Donald R. Cressey (1919-1987). Cressey (1973) was especially interested in the circumstances that led embezzlers, whom he called "trust violators," to be overcome by temptation. His hypothesis about the psychology of the embezzlers was later become known as the "Fraud Triangle" concept, which consists of three variables: perceived financial need, perceived opportunity, and rationalization. In the early 1980s, the Fraud Triangle concept was adapted from criminology to accounting by Steve Albrecht of Brigham Young University. Albrecht was especially interested in identifying factors that led to occupational fraud and abuse. His study suggests that there are three variables involved in occupational fraud. Consistent with Cressey's Fraud Triangle concept: " … it appears that three elements must be present for a fraud to be committed: a situational pressure, a perceived opportunity to commit and conceal the dishonest act, and some way to rationalize the act as either being inconsistent with one's personal level of integrity" (Albrecht et al. 1984, p.5). Later, the *Statement on Auditing Standards No.99: Considerations of Fraud in a Financial Statement Audit* issued by the AICPA (2002) adopted much of Albrecht's work on the Fraud Triangle concept detailed in his book *Fraud Examination* (2003). The auditing standard also incorporated many fraud risk factors associated with the three variables of the Fraud Triangle concept: (1) a "pressure" such as a financial pressure to meet analysts' expectation, (2) an "opportunity" such as weak internal controls, and (3) some way to "rationalize" such as "our stock options depend on it."

In 2004, Albrecht et al. combined the Fraud Triangle concept, the Agency theory, and the Stewardship theory to develop a "Broken Trust" theory of corporate executive fraud. Their Broken Trust theory explains corporate executive fraud in a matrix that links the three variables to corporate executive whose behavior is either consistent with the stewardship theory or agency theory; whose corporate structure is either consistent with the stewardship-based structure or agency-based structure, and whose compensation is either consistent with the stewardship-based rewards and incentives or agency-based rewards and incentives. We summarized their matrix in Table 1. Albrecht et al. conclude that, "to a meaningful degree, executives self-identify with behavior either more consistent with the agency theory or stewardship theory of management, and that those whose behavior is, in fact, more consistent with stewardship theory are more trustworthy and generally less likely to commit fraud" (2004, p.109). A tenet of Albrecht et al.'s Broken Trust theory is that both the Agency theory and Stewardship theory share a common element, "transference of some measure of trust from shareholders to executive level managers," and when executives commit fraud they intentionally break the trust and betray shareholders.

Fraud Triangle Concept	Broken Trust Theory	American Dream Theory
Pressure	Pressure to commit fraud leads corporate executives to break their agency or stewardship relationship.	An intense emphasis on monetary success induces corporate executive fraud.
Opportunities	Corporate executives have opportunities to break their agency or stewardship relationship.	Corporate executives exploit/disregard regulatory controls to commit fraud.
Rationalization	Corporate executives are inclined to rationalize their fraudulent actions and behavior.	A corporate environment that is preoccupied with monetary success provides justification/rationalization for success by deviant means such as fraud.

Table 1. The Fraud Triangle Concept, Broken Trust Theory, and American Dream Theory

We next describe an "American Dream" theory from sociology literature as a complement to Albrecht el al.'s Broken Trust theory because we believe the Broken Trust theory has two key limitations. First, a vast majority of management research in Agency and Stewardship theories addresses executive behavior in stable or growing companies, but not in companies involved in fraud (Daily et al. 2003). Therefore, the Broken Trust theory, based on the

Agency and Stewardship theories, assumes it can explain executives' fraudulent behavior in both fraud and non-fraud companies. Such assumption is weak given that there is very little evidence in the Agency and Stewardship theories that addresses executive behavior in companies involved in fraud.

Second, we believe the Broken Trust theory relate well to the first two variables (Pressure and Opportunity) of the Fraud Triangle concept, but not the third variable (Rationalization) because Albrecht et al. (2004, Table 3, p.127) provide very little explanation on why or how the corporate executives would rationalize their fraudulent behavior under the Broken Trust theory.

3. Origin of the American Dream theory

The term "the American Dream" was introduced into contemporary social analysis in 1931 by historian James Truslow Adams to describe his vision of a society open to individual achievement. Interestingly, Adams sought to have his history of the United States, *Epic of America*, entitled *The America Dream*, but his publisher rejected the idea, believing that during the Great Depression, consumers would never spend three dollars "on a dream." (Adams 1931, p.68). The term soon became a sales slogan for the material comforts and individual opportunities of a middle-class lifestyle: a car, a house, education for the children, and a secure retirement.

The persistence of the term "the American Dream" over subsequent decades is documented in the work of Elizabeth Long, who has analyzed cultural changes in the United States during the years following World War II. Long examines the shifting meanings of the dream of success as reflected in best-selling novels published between 1945 and 1975. She concludes that the core components of the American Dream were reflected in popular writings throughout the thirty-years period following World War II (Long 1985, p.196).

An "American Dream" theory of crime in the United States was introduced into contemporary sociology by Messner and Rosenfeld (1994). They developed the American Dream theory as an extension to the "Anomie" theory associated with the work of the American sociologist Robert K. Merton (1938). A central idea of Merton's Anomie theory is that motivations for crime do not result simply from the flaws, failures, or free choices of individuals. A complete explanation of crime ultimately must consider the sociocultural environments in which people conduct their daily lives. Merton argues that the social system in the United States is a prime example of a system characterized by internal strain and contradictions. Specifically, Merton observes that an exaggerated emphasis is placed on the goal of monetary success in American society, coupled with a weak emphasis placed on the importance of using the socially acceptable means for achieving this goal. We realize that American capitalism put emphasis on socially acceptable means for financial success, such as competition. In addition, American education system put some emphasis on socially acceptable means for financial success, such as collaboration. However, as pointed out by Merton (1938), a key issue here is the exaggerated emphasis on financial success in a capitalist society that leads to socially unacceptable means. The result of these sociocultural environments is a pronounced strain toward anomie, that is, a tendency for social norms to

lose their regulatory force. Originally, an 18th century French sociologist, Emile D. Durkheim, defined the term "anomie" as a condition where social and/or moral norms are confused, unclear, or simply not present. Durkheim felt that this lack of norms – or pre-accepted limits on behavior in a society – led to deviant behavior such as individual suicide or executive fraud (Giddens 1972, p.184 – in *The Division of Labor in Society* translated by George Simpson). Later, Richard Cloward and Lloyd Olin (1960) expanded Merton's Anomie theory to include circumstances that provide the opportunity for people to acquire through illegitimate activities, such as gang activities, what they cannot achieve through accepted methods.

Messner and Rosenfeld (1994) observe that Merton's Anomie theory does not provide a fully comprehensive sociological explanation of crime in America. They argue that the most conspicuous limitation of Merton's theory is that it focuses exclusively on one aspect of the American social structure: inequality in access to the legitimate means for success. As a consequence, it does not explain how specific features of the broader institutional structure of society interrelate to produce the anomic pressures that are responsible for crime. Messner and Rosenfeld (1994, p.66) developed an institutional anomie theory similar to Merton's and called it the "American Dream" theory with specific reference to four social institutions – the family, the education, the polity (political system), and the economy. The institution of family bears the responsibility for the care of dependent persons and to provide emotional support for its members. The institution of education bears the responsibility for transmitting basic knowledge to new generations and to prepare youth for the demands of occupational roles. The institution of polity bears the responsibility for protecting members of society and to mobilize and distribute power to attain collective goals. Finally, the institution of economy bears the responsibility for the production and distribution of goods and services.

A basic tenet of Messner and Rosenfeld's (1994) American Dream theory is that the pursuit of monetary success (i.e., the institution of economy) has come to dominate the American society, and that the non-economic institutions (i.e., the institution of education, the institution of polity, and the institution of family) have tended to become subservient to the economy. For example, the entire educational system seems to have become driven by the job market, politicians get elected on the strength of the economy, and despite lip service to family values, executives are expected to uproot their families in service to corporate life. Goals other than material success, such as teaching, are missing from the portrait of the American Dream, as reflected in the old adage "Those who can, do; those who can't, teach" (Long 1985, p.196).

Messner and Rosenfeld's (1994) American Dream theory points to a broad cultural ethos in which the goal of monetary success is to be pursued by everyone in a mass society dominated by huge multinational corporations. As they observe: "Given the strong, relentless pressure for everyone to succeed, understood in terms of an inherently elusive monetary goal, people formulate wants and desires that are difficult, if not impossible, to satisfy within the confines of legally permissible behavior" (1994, p.77). This key feature of the American Dream helps explain corporate fraud that offers monetary success to corporate executives. Moreover, the distinctive cultural message accompanying the monetary success

goal is to pursue the American Dream by "any means necessary." This anomic orientation of the American Dream helps explain top executives' tacit approval of corporate fraud.[1]

We caution against an overly simplistic interpretation of American culture. The United States is a complex and, in many respects, culturally pluralistic society. It neither contains a single, monolithic value system nor exhibits complete consensus surrounding specific value issues. We nevertheless concur with Hochschild's (1995, p.xi) that the American Dream has been, and continues to be, a "defining characteristic of American culture," a cultural ethos "against which all competitors must contend." In addition, we believe a better understanding of corporate executive fraud is possible by relating three key features of the American Dream theory (Intense emphasis on monetary success, Corporate executives exploit/disregard regulatory controls, and Corporate executives justify/rationalize fraudulent behavior) with the three variables of the Fraud Triangle concept (Pressure, Opportunity, and Rationalization).

4. The American Dream theory and Fraud triangle concept

4.1 An intense emphasis on monetary success (Pressure)

An intense emphasis on monetary success in the corporate environment, which promotes productivity and innovation, also induces fraud by corporate executives. Messner and Rosenfeld (1994, p.8) argue that monetary success, which is responsible for the impressive accomplishments of American society, is also responsible for generating strong pressures to succeed in a narrowly defined way and to pursue such success by "any means necessary" including fraud. In other words, while monetary success has provided the motivational dynamic for entrepreneurship, corporate expansion, extraordinary technological innovation, and high rates of social mobility, it also has provided the motivational dynamic for greed, corporate fraud, unethical behavior, and illegal act.[2]

4.2 Corporate executives exploit/disregard regulatory controls (Opportunities)

An intense emphasis on monetary success leads to a pronounced strain toward anomie, that is, a tendency for corporate executives to exploit/disregard regulatory controls for monetary gains. The American Dream embodies the basic value of materialism that has been described as "fetishism of money" (Taylor et al. 1973, p.94). We realize that Americans are not uniquely materialistic, for a strong interest in material well-being can be found in most societies. Rather, the distinctive feature of American culture is the preeminent role of money as the "metric" of success. Orru succinctly expresses the idea in the following terms: "Money is literally, in this context, a currency for measuring achievement" (1990, p.235). This monetary value orientation contributes to the anomic character of the American Dream:

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[1] We should clarify that anomie is not only engendered by 'limited access' of social actors (i.e., CEOs) to legititmate means of achieving goals. Rather, deviance becomes a tempting and a viable option given the 'limited availability' of legitimate means, which is probably the critical reason why social actors resort to different means not only with the end of achieving the goals, but to "lighten the pressure" of attaining socially sanctioned goals (e.g., money, success, material opulence).

[2] Keane (1993) found some evidence of a latent relationship between corporate pressure to maximize financial performance and corporate crime.

its strong emphasis on the importance of accumulating monetary rewards with its relatively weak emphasis on the importance of following legitimate rules and regulations to do so. In other words, corporate executives seek opportunities to exploit/disregard normative rules and regulations when these rules and regulation threaten to interfere with the realization of their monetary success.

4.3 Corporate executives justify/rationalize fraudulent behavior (Rationalization)

A corporate environment that is preoccupied with monetary success, and that implicitly or explicitly allows corporate executives to exploit/disregard regulatory controls, also provides justification/rationalization for success by any means such as fraud. In this regard, the American Dream is a mixed blessing, providing justification/rationalization for both the best and the worst elements of the American character and society (Messner and Rosenfeld 1994, p.7), or in the words of sociologist Robert K. Merton, "A cardinal American virtue, 'ambition,' promotes a cardinal American vice, 'deviant behavior'" (Merton 1968, p.200).[3] Since monetary success is inherently open-ended, that is, it is always possible in principle to have more money; the American Dream offers "no final stopping point," and it requires "never-ending achievement." (Passas 1990, p.159). Therefore, the desire to accumulate money is relentless; it entices corporate executives to pursue their monetary goals by any means necessary and provides justification/rationalization for their monetary success by deviant means such as fraud.

5. Conclusion

To conclude, the three key features of the American Dream theory – Intense emphasis on monetary success, Corporate executives exploit/disregard regulatory controls, and Corporate executives justify/rationalize fraudulent behavior – have their institutional underpinnings in the capitalist economy of the United States. What is distinctive about the capitalist economy of the United States, however, is the exaggerated emphasis on monetary success, which overwhelms other corporate goals and becomes the principal measuring rod for success. The resulting proclivity and pressures to perform induce corporate executives to exploit rules and regulations that stand in the way of corporate success, and at the same time provides rationalization for their non-compliance with rules and regulations. We believe the exaggerated emphasis on monetary success incorporated in American Dream will continue to be a catalyst for fraud by corporate executives in the United States. As such, we wrote this paper to provoke thoughts on corporate executive fraud in American society and to stimulate further empirical research on social variables of executive fraud.

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[3] In Merton's subsequent publications and personal interviews, he reiterated that his notion of "deviant behavior" did not explicitly relate to individual level cognition; rather, it was implicitly related to individual cognitive behavior, such as justification, neutralization, and rationalization, as a consequent of external structural forces that impressed themselves upon individual human conduct.

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Education and the Reproduction of Inequalities

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1. Introduction[1]

It is one of the most fundamental and robust result of sociology of education research that the level of education one attains is strongly determined by the socio-economic status and education of his/her parents[2]. For example, children from industry or farm worker families attain lower education than children from higher social strata in all developed countries (Gambetta, 1987). In other words, education is reproduced from generation to generation.

Thus, for more than half a century, sociologists have posed research questions such as: Why is students' level of educational achievement correlated so strongly with their parents' educational attainment? What mechanisms underlie the reproduction of education from one generation to another? Since educational attainment represents one of the key factors of individual economic status (i.e., occupation, income etc.), the fact that it is strongly influenced by social background is perceived as an instance of social injustice. Therefore, many authors ask one more question apart from the above research and theoretical questions: How can we adapt education policy to ensure the weakest possible relationship between students' educational achievement and their social and economic background? And also, what institutional and organizational obstacles weaken the relationship between educational attainment and individual abilities/efforts?

However, the efforts to disentangle the complex set of factors behind the generation-to-generation education reproduction cannot avoid the questions of how exactly people obtain education and what processes are involved. In order to fully understand the process of education reproduction, we should not "only" analyze the relationship between the education of parents and their children but, unavoidably, we should delve into a vast array of other factors behind educational processes such as the education system's institutional design, parents and peers, teachers and teaching methods, school processes, school climate and many others.

Research evidence suggests that educational achievement is indeed determined by a large number of factors of different strengths. The strength of each factor can be best estimated by

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[2] Different operationalizations of the level of education exist. Primarily, it is distinguished between *educational achievement* such as school grades or test results and *educational attainment* such as receiving secondary or tertiary education certificate.

means of meta-analysis. For example, Hattie (1993, 2003) reviewed thousands of studies to analyze the influence of more than 30 factors on educational achievement. He ranked those factors by strength, type and percentage of variance explained. He reached an interesting conclusion: about 50% of variance was explained by student-related factors, about 5-10% by parent-related factors, 5-10% by school-related factors and another 5-10% by factors related to peers. The remaining variance, as much as about 30%, was attributed to teachers. Teacher-student feedback was considered the strongest single factor (its effect equaled to 1.13[3]). In contrast, making the student repeat a grade was the strongest single negative factor of academic achievement.

Nevertheless, research effort cannot stop at determining the approximate effect of the different factors behind educational achievement. This is because most factors are not isolated, and instead, they interact with and often determine one another. For example, individual educational aspiration, one of the main empirically identified factors behind one's choice of education track, is itself influenced by other factors like parents' education and socio-economic status. Thus, if we aim to *explain* the process of inequality reproduction, we must formulate the *mechanisms* behind such reproduction[4].

Given the large number of factors behind educational achievement and the nearly indefinite number of combinations thereof, a great many different theories of education inequality reproduction have been formulated. A brief review of education sociology literature reveals that researchers have formulated a very broad spectrum of alternative theories of education inequality. While some of those theories are mutually exclusive, most are rather complementary to one another, i.e. the fact that one theory is valid does not preclude the validity of another theory.

In this chapter, we will focus on theories which both (a) deal with the role of school and the education system and (b) have a direct relationship with education policy and the potential ways of addressing education inequalities (we will also focus on the empirical verifications of those theories). Our focus is also based on the fact that those theories have not received as much attention as others (e.g., the socialization theory) in scholarly discourse.

2. Theories of education inequality reproduction

A large number of different theories try to explain the reproduction of education from one generation to another. According to one well-known opinion that can also be identified within the scholarly discourse, the empirically observed correlation between the education of parents and their children is primarily determined by inherited genetic dispositions, or in other words, education reproduction follows the genetic transfer of intelligence and other personality traits between generations (Herrnstein, 1973; Herrnstein & Murray, 1994; Jensen, 1972).

While genetic factors clearly play an important role, the fact that children's education track and success are partially, perhaps even primarily, determined by a vast array of social and

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[3] An effect equal to 1 indicated the growth of standard deviation by 1. Effects above 0.8 were considered strong and apparent.

[4] See Veselý & Smith (2008) for discussion of the concept of mechanism in social sciences, and particularly in the study of social stratification.

economic factors seems evidence-based and undisputed (Pfeffer, 2008: 543)[5]. However, it is subject of argument what specific social and economic factors cause the reproduction. Some theories (e.g., Sewell & Shah, 1967) look for the explanation in individual education aspirations that are formed by one's significant others, including family and close friends, throughout socialization. Other theories (e.g., Bourdieu, 2004; Bourdieu & Passeron, 1977) find the main cause in the so-called cultural capital and the fact that children from lower social strata lack some of the knowledge and competencies schools evaluate but do not provide. Further authors (e.g., Boudon, 1974) identify the main cause in the insufficient economic resources of lower education families. Another stream of theories (e.g., Gamoran, 1987; Oakes, 2005) approach the issue from a completely different perspective and try to demonstrate that inequality reproduction is built in the education system's organization.

Given the diversity of theories of education inequality reproduction, it is hardly surprising that some authors have attempted to systematize those theories by creating typologies thereof. Based on a classic article by Kerckhoff (1976), two fundamental theory approaches have often been distinguished: the socialization model and the allocation model. While the socialization model represented a dominant theoretical perspective in the mid-1970s, now both approaches are considered equally legitimate and complementary today.

Kerckhoff identified the "**socialization model**" in the so-called Wisconsin model (Sewell & Shah, 1967; Sewell et al., 1969). The key factor consists of adolescents' education aspirations that are formed by the family and significant others, including friends and peer groups, during socialization. This model focuses on individual-level education reproduction and builds on the implicit assumption that the sources of one's educational attainment and status lie in the individual — his or her abilities, ambitions and aspirations.

While Kerckhoff (1976) admitted that the socialization model was important and both theoretically and empirically justified, he inferred that it was only concerned with one side of the coin. He argued that the approach he called "**allocation model**" had to be added to our explanation. The allocation model holds that the individual is strongly influenced – or even determined – by social institutions; what he or she achieves depends on what those institutions allow. The attainment of a certain level of education or status is subject to structural constraints, selective criteria applied in the education system, and barriers individuals cannot influence.

As Kerckhoff (1976) argued, few social scientists would identify exclusively with either the socialization or the allocation model. Both models are complementary, rather than exclusive. For example, one's life plans and education aspirations are strongly determined by the broader social context and the level of education system stratification. On the other hand, the mere existence of institutional constraints cannot fully explain how inequalities are reproduced. Democratic societies cannot tolerate open discrimination of any particular group, and therefore, any systematic disadvantaging of certain groups has to take place through latent, often social-psychological processes.

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[5] In this chapter we focus upon social and economic factors causing the reproduction of inequalities. Because of space limitation, the discussion of genetic factors is beyond the scope of this chapter (see e.g. Fraser 1995; Jacoby & Glauberman 1995).

Thus, while Kerckhoff (1976) called for a synthesis of both models, he personally became an important proponent of the allocation model. His work was strongly influenced by the idea that education institutions are a kind of societal "sorting machine" (Spring, 1976). According to this idea, it was one of the primary goals of the educational system to sort students into groups, creating a hierarchy based on educational attainment and formalizing it through established education certificates.

While the idea of sorting machine itself is rather trivial, Kerckhoff went on and placed it in a comparative perspective. He noticed the fact that entirely different systems of education certification, different ways of organizing education systems and different educational practices existed in different countries: "Not all 'sorting machines' work in the same way. Not only do they sort their students into different indigenous credential categories, but the ways in which these credentials are produced and affect adult outcomes also differ in important ways" (Kerckhoff, 2001: 4).

Thus, Kerckhoff witnessed the inception of large-scale comparative surveys about education system effects (Shavit & Blossfeld, 1993; Shavit & Müller, 1998) that contributed importantly to our understanding of the ways education institutions affect the reproduction of education inequalities. Shavit and Blossfeld (1993) demonstrated that while the strength of the relationship between educational attainment and social background is quite stable over time, some countries managed to weaken it (specifically, Sweden and The Netherlands). Thus, this kind of surveys shows us that while the reproduction of education inequalities is not automatic and may change over time, the phenomenon has a strongly long-term nature, resisting any attempts for change[6].

This does not alter the fact that all education systems include a more-or-less covert mechanism of student selection and differentiation which effectively reproduces education inequalities. They do so in different ways and to different extents. On the other hand, there is no system everyone would agree on as a model of justice with an acceptable strength of relationship between school achievement and the socio-economic background of one's family (e.g., OECD, 2004a).

The following parts of this chapter will deal with the allocation model as it was defined and studied by Kerckhoff. More specifically, it will outline how education inequalities are influenced by the institutional and organizational design of educational systems and schools. While this is a vast topic, we will not describe the entire spectrum of perspectives upon the role of school in reproducing inequalities; we will rather focus on factors in the **process of student differentiation and selection,** which is most prone to education policy intervention. However, there is no doubt that other, much less obvious ways schools reproduce inequalities, exist beside organizational factors[7].

For the purpose of clarity, we will distinguish between two parts of the discussion about the role of education institutions in reproducing education inequalities. First, we will deal with

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[6] Even the positive developments in Sweden and The Netherlands are mostly explained by the effects of an extensive welfare state, and in particular, general decline of social inequalities, rather than by education reforms themselves. This led some authors to conclude that education policy changes must be accompanied by changes in social policy as well (Walters, 2000, 2001).

[7] For example, P. Bourdieu's theory of cultural reproduction or P. Willis's (1977) theory of antischool culture.

the ways inequalities are determined by the educational system's overall design and management. Second, we will deal with school- and class-level practices. But we will have to start by defining two key terms used in the following: external and internal differentiation.

3. External and internal differentiation: A terminological note

Some of the most contested issues of education policy lie in the following questions: How should we organize education and how should we divide students between schools and classes? Some people believe that students should be grouped based on their abilities (or other characteristics such as interest or motivation) as soon as possible. According to others, such grouping at lower levels of education cannot be justified. English writing scholars usually refer to the sorting of students into separate schools and classes as *tracking*. Some other terms are also used for the same phenomenon (see below). Because a relatively big terminological chaos exists in this area, we will first attempt to clarify the basic English terms related to tracking.

The word **tracking** is probably the most usual term in relevant English scholarly literature. Table 1 outlines the definitions of tracking by some recent scholarly dictionaries as well as the key authorities in the field (Gamoran, Hallinan, Oakes, Slavin). The Table 1 makes it clear that the perspectives of most authors are relatively similar. One might extract the following from their definitions of tracking: "Tracking is the sorting of students into separately educated groups with different curricula and different education programs. Such sorting may occur at the level of the education system or individual classes".

Definition of tracking	Source
Broad, programmatic divisions that separate students for all subjects	Gamoran (1992a)
The term tracking refers to the practice of assigning students to instructional groups on the basis of ability	Hallinan (1994)
Process whereby students are divided into categories so that they can be assigned in groups to various kinds of classes.	Oakes (2005)
Educational tracking refers to the placement of students into different kinds of educational programs according to a defined criterion of similarity or dissimilarity, such as interest, ability, or achievement	Dietrich (2008)
Tracking in schools involves differentiating the curriculum and organizing students for instruction based on perceived academic ability levels.	Ellison (2008)
Tracking refers to the practice of grouping students according to achievement levels, either between or within classrooms, for the purposes of instruction.	Kelly & Covay (2008)
Tracking is an instructional management practice in which students are assessed on achievement or intelligence and then assigned to differentiated curricula to match their abilities	Yang (2009)

Table 1. Definitions of tracking in English literature

However, there is less consensus among the authors about the *criteria* governing grouping. Some see purported abilities and education achievement as the only criterion, while others think that even personal motivation or interest may serve as a criterion. These dual perspectives on the term perhaps arise out of the history of its use. Originally, tracking referred to the differentiation of curriculum in line with students' interests, educational plans and ambitions. It was only later that the term began to refer to the differentiation of curriculum in line with students' abilities (Watt, 2006).

Ability grouping is another frequently used term. The Table 2 contains some of its definitions. The table makes it clear that the terms tracking and ability grouping are, in many ways, used synonymously. Nevertheless, ability grouping appears as somewhat more specific. First, it deals explicitly with grouping students according to their abilities (whether purported or real), thus making the process somewhat involuntary (what students can matters, as opposed to what they want). Second, a few authors (e.g., Rosenthal, 2008) use the term ability grouping to refer to dividing students *within* one class and the term tracking for separate classes within and between schools.

Definition of ability grouping	Source
Any school or classroom organization plan that is intended to reduce the heterogeneity of instructional groups.	Slavin (1990)
Divisions among students for particular subjects, such as special class assignments for math or within-class groups for reading.	Gamoran (1992a)
Ability grouping is a broad term used to describe a set of educational practices that sort students for instructional purposes based on their perceived learning capacity, as measured by achievement tests, cognitive ability tests, past academic achievement (i.e., grade point average), and teacher recommendations.	Robinson et al. (2005)
Ability grouping refers to the organizing of elementary and secondary students into classrooms or courses for instruction according to actual or purported ability	Vergon (2008)
Ability grouping is the practice of teaching homogeneous groups of students, stratified by achievement or perceived ability. Among the various forms of ability grouping are within-class ability grouping, crossgrade grouping, and between-class ability grouping, also known as tracking.	Rosenthal (2008)
Ability grouping is the practice of making student groupings based on ability and achievement in an attempt to provide instruction specifically relevant to each group's needs.	Davidson (2009)

Table 2. Definitions of ability grouping in English literature

As we mentioned above, most authors do not distinguish between the terms *tracking* and *ability grouping*, treating them as synonyms. Therefore, one must always find out what exactly any given author has in mind. We suggest that future authors define clearly which concept of differentiation they bear in mind. We generally recommend the term *tracking* for dividing students between different classes and schools and the term *ability grouping* for

dividing students within the same class. This is in line with our intuitive understanding of those terms: while *tracking* implies something rather long-term and binding (the student creates a certain track and begins to follow it), the term *grouping* implies something rather small-scale and short-term.

Let us complete the terminological review by mentioning the term **branching**, which refers to dividing students between different *types of schools,* a common practice in especially Central European countries, like Germany, Austria or the Czech Republic (Brint, 1998: 229[8]; Walters, 2001). While the term is not used as frequently, it appears as a favorable complement to the above terms as it implies dividing students between different types of schools in the way educational tracks *branch*[9]. There are two main types of branches: "academic" branch, which as a rule provides general education and prepare for further education, and vocational education branch preparing students for certain occupations[10]. Even more concepts contribute to the terminological chaos. Similarly as American English distinguishes between ability grouping and tracking, British literature also operates with two concepts. While *streaming* corresponds to the American *tracking,* the term *setting* is analogous to *ability grouping* (e.g., Hallam et al., 2003; Ireson & Hallam, 1999).

Other scholars use more general terms and distinguish between external and internal differentiation. For example, Greger (2004) defines **external differentiation** as the creation of homogenous student groups that are educated separately all day long and for all courses. He understands **internal differentiation** as the grouping of students for certain courses (e.g., language classes for beginner and advanced students; electives) or the grouping of students within a class (e.g., group learning, cooperative learning). Thus, internal differentiation also includes the cases when students form a heterogeneous body (class) and are only grouped for a certain (small) part of the school day or for certain courses.

Time and the permanence of grouping represent Greger's main criterion for drawing the line between external and internal differentiation. External differentiation occurs when ability grouping affects all or most courses (or most of the school day); internal differentiation takes place, as Greger suggests, when such grouping is less frequent (affecting a small part of the school day or some courses only). Thus, according to this definition, there is no clear boundary between external and internal differentiation.

To sum it up, we can distinguish between three types of differentiation: at the educational system, school, and class levels (see Table 3). We recommend leaving to empirical investigation the question to what extent students are grouped based on their abilities and educational achievement, on one hand, and personal preferences, on the other hand. This is because those factors are sometimes quite difficult to disentangle. For example, when students appear to be grouped based on their academic achievement at first sight, their personal aspirations and interest in a certain type of education may play a key role. It should be emphasized that practice is always richer than theory. In reality, we often observe

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[8] Kerckhoff (2000: 468) uses a similar term, *career branches.*

[9] Brint uses the term *early branching system* for the education systems of German-speaking countries.

[10] The number of identifiable branches is different between education systems. Some systems distinguish between high, average and low tracks, while others between "selective" and "non-selective" branches only (cf. Greger, 2004).

several types of student differentiation and sometimes find it difficult to classify clearly as internal or external differentiation.

General terms	External differentiation at the education system level	External differentiation at the school level	Internal differentiation
American term	Branching (Tracking)	Tracking	Ability grouping
British term		Streaming	Setting
Definition	Students are grouped in different types of schools	A homogenous group of students (classes) is formed for all courses (e.g., a language class is formed) within a school	Students within a class are grouped for certain courses (e.g., beginner and advanced language classes)

Source: Author.

Table 3. Basic types of student differentiation.

We will divide further discussion on differentiation in two parts. First, we will deal with the overall structure of the education system and the ways it affects the reproduction of education inequalities (the problem of branching). Subsequently, we will focus on the school level and what we know about the processes of differentiation taking place there (the problem of tracking and ability grouping).

4. Inequality reproduction at the level of education system

4.1 A typology of education systems according to education inequalities

If we attempt to analyze the role of education systems in reproducing education inequalities and assume that different systems feature different mechanisms of reproduction, then we must identify the key differences between different countries' education systems. Given the great diversity of education systems, this task is more complex than it might appear at first sight.

There is a great deal of typologies and comparative analyses of education systems. Nevertheless, Kerckhoff's (2000, 2001) typology assumes key importance and is most often used when it comes to education inequalities. It basically builds on and specifies the two dimensions identified in Allmendinger's (1989) seminal work and labeled "standardization" and "stratification".

Allmendinger understood **standardization** as the level of uniformity of education provision in a given education system, i.e. the extent to which it is regulated by centrally defined standards. Here she primarily meant geographic standardization, i.e. to what extent aspects like teacher education, curriculum, school-leaving certificates or financing differ between and within the regions and areas of a given country, and to what extent they are determined by individual providers (i.e., schools). Thus, this dimension primarily refers to the levels of centralization and autonomy within education systems. Based on a comparison between Norway, US and Germany, Allmendinger demonstrated key differences in the level of autonomy, and thus standardization between those countries.

Stratification was understood as the level of internal and external differentiation (tracking) within an education system and the proportion of a given age cohort that attained the highest level of education available within the system (the highest possible number of years of education). The higher the proportion, the less stratified the system. Thus, education system stratification refers to the system's selective character, i.e. the fact that students are sorted into different tracks and how this affects their education prospects. Unsurprisingly, Allmendinger found the German education system to be highly stratified, as opposed to the US system.

Allmendinger's approach is helpful because it provides us with a simple but effective typology of education system, based on a combination of the above two dimensions. Every country's education system can be classified as one of the four resulting types (standardized and stratified, unstandardized and unstratified, unstandardized and stratified, standardized and unstratified). The advantage of this simple typology becomes clear once we realize, along with Allmendinger, that the degrees of standardization and stratification differ between levels of education within many existing education systems. For example, secondary education in the US is non-stratified (with no tracking and no diversity of diplomas) but tertiary education in the same country is highly selective, and thus stratified[11].

As we suggested above, Allmendinger's work had a great impact and was further developed and applied (e.g., Kerckhoff, 2000; Müller & Shavit, 1998). In the following section, we will describe and outline Kerckhoff's approach which adds a third dimension to Allmendinger's original two: the degree of specificity of vocational education[12]. Finally, it is worth mentioning that while the authors who went in Allmendinger's footsteps developed her approach in many respects, they also frequently introduced great simplification when attempting to operationalize the approach[13]. Therefore, we can only recommend a critical reading of the original work.

4.2 Stratification of education systems

Stratification is understood as "the degree to which systems have clearly differentiated kinds of schools whose curricula are defined as 'higher' and 'lower'" (Kerckhoff, 2001: 4). As such, stratification usually takes place at the (lower or higher) secondary level of education.

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[11] At this point, Allmendinger's concept seems rather inconsistent. When studying stratification in secondary education, the author merely considered the formal existence of different tracks; in contrast, for the tertiary system, she added the criterion of quality and *informal* distinction between different colleges and universities. The question is, would the author label US secondary education as non-stratified if she approached it in the same way as tertiary education?

[12] One might object here that this dimension is already covered by the stratification level. Indeed, systems grouping students in the general and vocational education tracks are stratified. However, given its importance, we will deal with this aspect separately, along with Kerckhoff. In his latest article on the topic, Kerckhoff (2001) further mentioned a fourth dimension: "student choice". He understood it as the level of flexibility of decisions a given education system allows to students. This aspect is also strongly related to the system's stratification, and therefore, we will not deal with it separately.

[13] For example, Kerckhoff (2000) assessed standardization and stratification for education systems *as a whole,* rather than the individual levels of education like Allmendinger did. On the other hand, Müller & Shavit (1998) operationalized stratification simply as level of differentiation (tracking) in secondary education.

Germany is an example of a highly stratified education system. Compulsory school education begins at the age of six. After four years of mixed classes, pupils are divided into three different education tracks (Mortimer & Krüger, 2000). Only about 30% of the most successful enter the *Gymnasium* which provides nine years of education and prepares them for college. The Main School (*Hauptschule*) is the second education track for grades 5 through 9. While it provides general education, it is already oriented towards future vocational education for mostly manual labor. The third type, the Real School (*Realschule*) lies between the *Gymnasium* and the Main School. The Great Britain's system is also stratified and distinguishes between *Secondary Modern, Comprehensive* and *Grammar Schools.*

There is no such thing in countries like the US or France. All US high school graduates receive the same diploma and are able to go on to college. While there are different types of secondary schools in France, with either general or vocational orientation, all graduates obtain a *baccalauréat* and, in turn, access to college. (Interestingly, the French system used to be almost as stratified as the German one until the 1970s.) On the other hand, students with a *baccalauréat* from a general secondary school have better odds of entering college than those from technical or vocational schools.

Stratification primarily depends on the opportunities for further study any given type of study opens up. Since Kerckhoff meant merely a *formal* stratification of education systems (that is, what school-leaving certificates made possible), he found a low level of stratification in the US system. One might object that even in the US there is an important distinction between private, church and public schools, and the consequences of this distinction are much higher than in Europe. At the same time, private schools usually provide better quality than public schools. Thus, even in the US system, the *type* of school stratifies and differentiates students; simultaneously, the family's economic status is the main factor that determines whether one goes to a private school. As a result, it is generally true that "education inequalities are more likely to occur in more stratified education systems" but we should take into consideration both formal (legislated) stratification and informal stratification.

4.3 Standardization of education systems

While both Allmendiger and Kerckhoff considered standardization (i.e., ensuring certain proximity or comparability of education across a country's education system) to be a single dimension (i.e., more-or-less standardized systems can be distinguished), it may cover several different areas of an education system with different individual levels of standardization. In particular, it may cover the following aspects: (a) the ways and levels of financing, (b) the curriculum, (c) school-leaving certificates, (d) educational procedures, (e) teacher education and career growth, (f) monitoring and evaluation of educational achievement.

Generally speaking, centrally managed education systems exhibit higher standardization. For instance, standardization is typical for France where the national Ministry of Education is responsible for teacher education, student and teacher evaluation, and the specification of national curriculum (Kerckhoff, 2001). In contrast, the different administrative districts in Great Britain possess important powers and autonomy, while the financing and certification are rather standardized across the country. Kerckhoff found the least level of standardization in the US, where important competencies lie in the hands of different states and regions and the ways and levels of financing also differ between places.

Thus, the effects of standardization on education inequalities remain unclear. On one hand, vast literature covers the effects of stratification and the proportion between general and vocational education on educational achievement and inequalities. On the other hand, there is very little empirical evidence about the effects of standardization and we have to resort to a limited number of research studies or logical deduction. Generally we can assume that standardization ensures similar education and a minimum level of quality for all. Green (1997: 296) analyzed educational achievement in centralized and decentralized systems and concluded that "the high-achieving countries appear to have an 'inclusive learning culture' which is characterized by the high premium which society places on learning *for all groups* … [and whose education systems] institutionalize norms and expectations for everyone, and not just the élites" (emphasis in original). At the same time, he found necessary "a high degree of state 'regulation', where government acts in a concerted fashion at different levels to define and operationalize the system, including defining and enabling the roles of the different social partners within it" (Green, 1997: 296).

It is not difficult to deduce that greater autonomy expands freedom and room for innovation, on one hand, and increases the differentiation of educational achievement, on the other hand. For example, if individual administrative regions are given the responsibility for financing schools and the freedom to set their own money allocating mechanism, it they are highly likely to choose different strategies with different effects. Analogically, when schools get more discretion in designing the curriculum and teaching methods, one may expect school curricula to be better tailored to the abilities and interests of both students and teachers in each individual school. At the same time, differences between schools are likely to grow and while good students become even better, the average and under-average ones are likely to fall behind even more.

All of this has its pros and cons. No exact optimal level of standardization can be determined for the above dimensions. However, many countries have taken the road of increasing standardization, especially in the field of curriculum. As a typical example, the US introduced a standards-based reform at the turn of 1990s (Roeber, 1999). The reforms aimed at improving educational achievement by setting national standards for different subjects and raising the overall "education bar". Interestingly, the standardization effort was criticized from both sides: because advanced students would be slowed down by the necessary adaptation to general standards for all, and because disadvantaged and handicapped students failing to fulfill the general standards would suffer graver consequences (Roeber, 1999: 162).

Recently, most developed education systems have progressed from process standardization to outcome standardization (OECD, 2004b). Most developed countries' education systems substantially increased the autonomy of schools and administrative districts. Subsequently, some of them introduced additional control mechanisms. There is no agreement on the ways control mechanisms should be designed. Unless part of a larger plan, national testing initiatives and subsequent repression of "unsuccessful schools" do not seem to always produce the desired results in terms of quality or equal opportunities. Instead, cheating takes place and, as a result, schools become increasingly differentiated and classified as either good or bad. It is unclear whether test results improve due to exercise before the specific test or an actual increase in students' knowledge and skills in the given subject. Standardization through testing proves to have negative consequences for the achievement

of students at the left tail of the distribution because, in many systems, those students are increasingly obliged to repeat a grade, which discourages them and does not make their achievement better[14]. Therefore, there has been an ever stronger call for individualizing the education (caring for each individual student) and for increasing schools' and teachers' internal motivation (using standards as a feedback for schools and teachers, rather than an instrument of control and repression).

4.4 Education systems from the perspective of vocational education and training

Most education systems distinguish between "general" and "vocational or technical" education at the higher secondary level and up. The types and specifics of secondary schools differ country by country, yet there is one common feature: while general study programs prepare students for further study, vocational education primarily prepares them for entering the job market (Shavit & Müller, 2000). Countries differ substantially in the proportion between general and vocational education. English-speaking countries (US, Canada, Great Britain or Ireland) traditionally prefer general education, while Central European countries (Germany, Austria, or the Czech Republic) prefer vocational education. The latter is due to shared historical development during the industrialization era, which emphasized technical secondary education as a preparation for different occupations (Benavot, 1983)[15]. In general, however, most education systems used to reserve general education for a narrow elite, while the access to vocational education was open for larger groups of the general population. Even today, general secondary education continues to be mostly considered as more prestigious and providing better perspectives for further education and future success in the job market (Archer, 1979; Kerckhoff, 2000).

The ways vocational secondary education is organized are closely linked to the institutional design of a given country's market sector (size of businesses, organizational culture, type of management etc.) and social policy. Estevez-Abe et al. (2001) found empirical evidence of certain clusters of countries according to their education systems, social protection and economic systems. They stated that people tend to invest in general – thus portable – skills, rather than job-specific or field-specific skills. Without additional institutional measures, investment in specific skills is always risky. Thus the authors believed that important instruments of the welfare state (employment protection, unemployment welfare, collective wage bargaining) provide an incentive for workers to invest in specific, little portable skills. At the same time, such social protections increase their dependence on employers and vulnerability to market changes. In contrast, more uncertainty and less protection increase the willingness to invest in general skills that are the sources or individual mobility and flexibility, but also increase the economic competitiveness of businesses by making their labor force cheaper.

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[14] Cf. Hattie's (1993) findings about the strongly negative effect of failing the grade above.

[15] Terminological note: Vocational education takes many quite different forms, including fully school-based education, on one hand, and training at both school and business premises, on the other hand. For that reason, the terminology is not always entirely clear. In practice, the acronyms VET (vocational education and training) or VOTEC (vocational and technical education and training) are used to cover all existing forms. The word *vocational* most often denotes occupational preparation or training for manual labor or similar vocations. The word *technical* denotes occupational education or preparation for carrying out middle-rank functions of different types and contents (OECD, 1998).

Systems built around specific skills tend to facilitate more egalitarian societies, with fewer differences between people. The above authors contend that this relationship is not primarily caused by the social protection itself but rather by the type of vocational education system. For approximately one-third of students with the worst study competence, vocational education ensures the best and only chance to increase their value on the job market (Estevez-Abe et al., 2001: 156). If general education was only available to those people, their labor market competitiveness would be much worse and they would drop to the level of unskilled jobs. In other words, systems without vocational education provide below-average secondary school graduates with much lower return on their education investment, compared to systems that prepare them for specific occupations. A little standardized and little structured system – like the US one – makes secondary school graduates who do not go straight to college suffer a relatively long time period of searching for the best occupation ("floundering"), a time period many consider extremely unproductive and ineffective in terms of maturation and employability (Hamilton, 1990). For others, however, this is a quality of an open system that facilitates perceived opportunities and upward mobility (Turner, 1960)[16].

One of the main controversial aspects of vocational education is whether vocational secondary education should be viewed as an "effective social security safety net" that increases the employability of graduates and decreases the risk of unemployment, or rather as a way of diverting students from higher education (Shavit & Müller, 2000). According to the former opinion that primarily relies on the theory of human capital, vocational education raises the employability and income of trainees and students by increasing their abilities and skills. Authors of this stream (Bishop, 1989; Blossfeld, 1992) assume that vocational education provides students with the knowledge and skills that increase their labor productivity, thus raising employers' demand for their work and the students' chances of earning a decent income. According to the latter opinion, a sharp division between general and vocational education represents an unjustifiable sorting of students into two hierarchical groups that lead to entirely different life courses and reproduce education inequalities across generations. Empirical research reveals that both opinions are partially right. As a rule, vocational education does lower the odds of proceeding to tertiary-level education but, at the same time, it decreases the risk of unemployment and increases the chances of obtaining a qualified manual job (Arum & Shavit, 1995)[17].

Another frequently discussed issue is to what extent participation in vocational education determines future education possibilities. Especially important here is the percentage of vocational school graduates who proceed to the tertiary level. According to one theory (Hilmert & Jacob, 2003), vocational education is a "detour", i.e. a longer track to college. It is precisely the length of this track that may deter talented students from going to college. Undoubtedly, countries with high proportions of vocational secondary education (Germany, Austria, France) have little percentages of tertiary level students, while countries with predominantly general education make massive investments in tertiary education (Estevez-Abe et al., 2000: 172).

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[16] There is also the opinion that it facilitates flexibility in workers, making the systems less rigid than those with vocational education and increasing their innovation potential.

[17] Nevertheless, countries differ in the extent to which vocational education provides a "social security net". For example, the unemployment of apprenticeship graduates in Germany is much lower than in the Czech Republic.

5. Reproduction of inequalities at the school and class levels

5.1 History and current state of differentiation in the United States and other countries[18]

The idea of sorting students based on their stabilities appeared in early 19th century (Loveless, 1999a). In the US, an actual realization of grouping based on purported abilities was gradually introduced from the 1860s (J.A. Kulik & C.-L.C. Kulik, 1982). The differentiation practice experienced different waves of popularity (Vergon, 2008). From the beginning, ability grouping was expected to benefit all students because education would be tailored to their needs. Creating large schools with homogenous classes was found better and more effective than creating many small schools to provide education to different populations (Kelly & Covay, 2008: 405). Thus, schools offered a diverse selection of courses, from college preparation to less demanding classes. Education content differed from student to student but all students obtained the same high school diploma, and this arrangement was found satisfactory (ibid.)[19].

School-level student differentiation in the US peaked around the 1960s. Students were usually grouped for all courses. Students of academic tracks who aimed for college practically did not meet other students in class (ibid). Thus, students were in fact sorted into entirely different education programs at the higher secondary level, at the latest. Three education tracks were usually available: college preparatory, general, and vocational (Lucas, 2008: 406). The sorting of students into entirely different education tracks relied, *inter alia*, on the then predominant concept of human intelligence. People believed that only one type of general intelligence exists, and thus, students who are good in one field are likely to be good in other fields as well[20].

The vast differentiation within schools came under increasing criticism since approximately the mid-1960s. Gradually, schools abandoned the sorting of students into different education programs and instead, began to provide key subjects (English and mathematics) as well as other subjects at different proficiency levels. Between 1965 and 1975, schools stopped practicing "classical" tracking (i.e., in almost all courses), nevertheless, courses at different proficiency levels for different students remained (Lucas, 2008: 406). In our terminology, external differentiation was transformed into internal differentiation.

Differentiation continued to be criticized. A growing number of voices opposed the sorting of students into homogenous groups based on purported abilities and instead called for

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[18] For the purpose of simplification, we use the term "differentiation" in this section to refer to school- and class-level differentiation – tracking. Here we primarily study the causes and effects of external differentiation, rather than the forms of short-term internal differentiation (e.g., grouping students in different readers' clubs).

[19] The fact that student differentiation was primarily realized *within* schools in the US, as opposed to Central European countries, was also caused by legislative developments. The US Supreme Court ruling in *Brown v. Board of Education* became a particular breakthrough by declaring the segregation of students based on race, ethnicity or gender unconstitutional. Since the segregation of students into different types of schools became illegal, sorting *within* schools came to be practiced more frequently (Watt, 2006: 1027).

[20] This concept endured for a long time and was only substantially undermined by Howard Gardner's (1983) theory of multiple intelligences.

mixed classes. Due to this criticism, schools indeed have been eliminating and restricting differentiation. Manlove & Baker (1995) found that 85% of US schools have a policy of open school choice and try to facilitate transitions between different types of courses. Also, a detailed study of school practices in California and Massachusetts by Loveless (1999a) showed a decreasing level of differentiation.

Nevertheless, tracking is very difficult to reduce because its practices have deep roots, and thus, some data about eliminating differentiation are not as positive. For example, Kelly & Covay (2008: 406) state that in the US, there are few schools with no differentiated classes at all. Furthermore, while ability grouping begins at a very young age, often in kindergarten, anti-differentiation measures are not usually aimed at that level. In contrast to, for instance, Japan or most European countries, pupils in the United States are normally tested for "readiness" at the age of 5 and according to their test results they are placed in academically oriented kindergartens or less demanding kindergartens and classes (Oakes, 1997: 395).

This leads us to a hypothesis that tracking continues to be widespread in spite of its changed character. It may also have become less visible, with external differentiation shifting towards internal differentiation as well as lower education levels. Undoubtedly, it has not become a less important issue or a less important source of education inequalities than it used to be. Let us, therefore, review the arguments for and against it.

5.2 Arguments for and against tracking

While almost all sociology of education experts share the view that differentiation is untenable in terms of equal access to education, many teachers, administrators and politicians continue to support it. Table 4 below outlines the principal arguments for and against differentiation[21].

Slavin (1990) stated that the arguments of differentiation supporters mostly evolve around *effectiveness*, while opponents focus on *equity*. Supporters primarily argue that differentiation is a rational practice that can be observed in all complex organizations. By separating a highly heterogeneous body of students into homogeneous groups, the school can fulfill its goal (education) more effectively, just as large organizations set up different departments or other structures dealing with specific types of work (Gamoran et al., 1995: 688). Thus, it is assumed that a group of similar talents can be educated better and more effectively, compared to a highly heterogeneous group. The proponents of differentiation also mean that each group necessitates different teaching methods, and therefore, differentiation helps both high-track and low-track students.

In contrast, the opponents of differentiation build their argument primarily around equal access to education. They emphasize that such segregation violates democratic values and it is not equitable if different groups of students receive different quality of education. As Slavin (1990: 474) argues, differentiation proponents "carry the burden of proof" in any case. The equality of all persons is fundamental in a society which relies on the principles of democracy and social justice, and therefore, undifferentiated education should be considered the natural point of departure.

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[21] Here we attempt to summarize the different arguments we have encountered in the discussions of differentiation, rather than review their coherence or empirical validity.

Arguments for tracking	Arguments against tracking
- Students can develop in line with their abilities - Teaching methods can be adapted to group needs - Low achievement and grade failure are reduced - Smarter students remain interested and motivated because they are not slowed down by others - Slower students take a more active part in learning when not overshadowed by smarter ones - Teachers find teaching and learning much easier - Small groups of slower students can be taught individually - Students only enroll in certain programs temporarily - Slower students have a more positive self-esteem if not mixed with more talented students at school - Enrollment in certain programs is justified by reflecting educational achievement and inborn abilities	- Slower students necessitate the presence of talented ones in order to be stimulated and assisted by them - The stigma of less academic programs discourages their students - Teachers do not want to work with slower groups - Differentiation discriminates on the basis of ethnic identity or social background - Students of less prestigious programs are exposed to less stimulating, lower-quality, less demanding instruction, compared to students in high-track (academic) programs.

Table 4. Arguments for and against tracking (Oakes, 2005; Riordan, 2003; Slavin, 1990)

Thus, differentiation proponents should prove, above all, that grouping is *effective* and that it is advantageous to all groups of students. As Slavin (ibid.) infers, all other arguments in the above Table must be discounted if this is not proven. An empirical proof of differentiation effectiveness should demonstrate that students achieve better results *due to* differentiation, compared to results in undifferentiated school settings. Else, there is no reason for differentiation at all[22].

While differentiation proponents have not succeeded in demonstrating the effectiveness of the practice, one might also argue that the effectiveness criterion does not override the equity criterion. Gamoran et al. (1995) explain that there are two main problems with differentiation. First, students are not a "raw material" and sorting them, as opposed to sorting goods or services in large organizations, is not a neutral act. Effectiveness can be in conflict with the goal of social integration. Second, it is rather speculative to argue that differentiation makes it possible to apply different educational methods that are tailored to a given group rationally and effectively. This is because "there is little consensus about what

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[22] Even differentiation opponents (e.g., Oakes, 1997) admit one empirically grounded argument: the fact that teachers prefer working with homogenous groups.

constitutes the best teaching methods, so it is difficult for educators to know precisely how to vary their teaching for different groups" (Gamoran et al., 1995: 689).

5.3 Factors affecting student enrolment in differential programs

In a meritocratic education system, students should be assigned to differential programs based on their abilities and efforts, if at all. No role should be played by factors such as gender, race, ethnicity or social background. Research demonstrates that educational achievement is, in line with the main idea of differentiation, a fundamental factor of student enrolment in programs. However, research also clearly demonstrates that factors like gender, race and socioeconomic status play important roles in education tracking as well.

Studies on the role of gender in education tracking have usually found that girls are somewhat advantaged, compared to boys (Gamoran & Mare, 1989). This is because girls usually get better grades and their school behavior is perceived more positively. Nevertheless, the gender factor is quite small, compared to others. The roles of socioeconomic status and parents' education are especially important in education tracking, even for children with similar educational achievement (Hallinan, 1992) and when controlled for observed abilities (Jones et al., 1995; Lucas, 1999). Hallinan (1996) even demonstrated that the level of mobility between different education tracks is determined by parents' SES, race and gender. Alexander et al. (1978) demonstrated the effects of SES, race and gender as well, even when controlled for academic ability. However, they found that the effect of those factors was rather indirect, through schools' and parents' expectations from children. However, other studies demonstrated that parents of higher social strata take a more active part in and try to influence school decisions about assigning students to different tracks (Useem, 1992).

Each individual school has an influence as well. For instance, it has been demonstrated that the number and extent of education programs is not always in line with the needs of a given school's students (Hallinan, 1992). Thus, different schools may assign students with the same abilities to different programs, thus launching them on different education tracks.

5.4 Empirical evidence on differentiation effects

5.4.1 Short-term effects of differentiation on educational achievement

The above makes it clear that the idea and practice of differentiation depend critically on proving sorting students improves their educational achievement, compared to non-differentiated education. Thus, the United States and other countries where differentiation exists have seen a large number of research studies on that question. Nevertheless, their results are somewhat ambiguous and do not allow a clear conclusion on the effects of differentiation. In general, it can be stated that few studies have concluded that differentiation has better overall effects than undifferentiated education. Metaanalyses of large numbers of studies have shown that differentiation either has no *overall* effects (Slavin, 1990) or its effects are negative (Hoffer, 1992).

The key empirical question we are facing here is: what achievement would students from differentiated (homogeneous) groups have if they were educated in undifferentiated

(heterogeneous) groups? Thus, we want to measure the effects of homogeneous versus heterogeneous education. Before dealing with the effects of differentiation on each individual group, we will briefly mention the methodological obstacles of measuring differentiation effects. The inconsistency of results is likely caused by divergent methodologies. However, a methodological discussion is also highly relevant in analyzing education inequalities at the system level (between schools), and therefore, we will briefly deal with that discussion first.

In principle, there are three different approaches to measuring the effects of differentiation (Betts & Shkolnik, 2000a; Slavin, 1990;)[23]. In the first approach, research compares students of different education programs (academic, general and vocational) *within* a school and the growth of their educational achievement over time (Gamoran & Mare, 1989). This kind of studies tracks students over time and determines whether the academic achievement of students in different education tracks grows at different speeds. Since students in different tracks are expected to have different characteristics, their achievement is statistically controlled for socioeconomic background, preexisting knowledge and achievement, IQ and many other variables. Even when influences other than differentiation itself are "filtered out" statistically, an overwhelming majority of studies reach a clear conclusion that taking part in academically more demanding tracks accelerates educational achievement, while enrolment in less demanding and prestigious tracks impedes achievement.

The methodology of this type of research has been criticized for several reasons. First and foremost, in spite of the high number of different control variables entered into the regression model, we are unable to control for many relevant variables that play a role and are responsible for the fact that the groups under investigation (i.e., different education tracks) possess highly different characteristics that cannot be measured persuasively (e.g., the level of self-esteem or motivation). Slavin (1990: 489) points out that no *statistical* controls are sufficient or adequate when there are substantial differences between the groups' initial knowledge and skills; instead, this situation will always cause underestimation of predicted achievement of academically successful students, while that of the less academically successful students will be overestimated[24].

The second type of research studies (see review by Slavin, 1990) tries to remedy the above-mentioned methodological problem by analyzing the *average* educational achievement of schools practicing differentiated versus non-differentiated education. Those studies have usually reached the conclusion that differentiation has little or no effects on overall educational achievement. The methodological issues with this approach are clear: while zero *overall* differentiation effects are determined, we fail to understand the *distribution* of those effects. Yet it is very likely that differentiation has varying effects on students of different tracks; the zero overall effect obscures the fact that students in more academic tracks gain from differentiation and those in less demanding tracks are the victims of it (Hallinan, 1990).

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[23] Here we speak of quantitative measurement of differentiation effects. Apart from that, there is qualitative research, especially ethnographic studies (see Gamoran & Berends, 1987 for a review), which rather focuses on differentiation-related mechanisms and processes (see next section).

[24] Here, Slavin implicitly touches the fact that in comparing two or more qualitatively different groups, this difference cannot be easily eliminated statistically (quantitatively).

In other words, differentiation probably has its winners and losers while it is a zero-sum game.

Finally, the third and most recent approach analyzes each individual group in heterogeneous schools (i.e., students in academic versus vocational programs etc.) and compares it with the types of students at non-differentiated schools (e.g., Hoffer, 1992; Kerckhoff, 1986). Even this methodological procedure has its issues, especially those related to the way we match students at differentiated schools with students at non-differentiated ones. Thus, results are somewhat ambiguous here as well. However, the results of this type of studies only vary in the *level* of differentiation effects identified. For instance, Hoffer (1992) found that differentiation has a slightly positive effect on students in academic tracks and a strongly negative effect on students in non-academic tracks. According to Kerckhoff (1986), students in academic tracks gain more than one could expect while students enrolled in non-academic tracks lose due to differentiation. Betts & Shkolnik (2000a) identified differentiation effects as well yet they were much smaller than expected by previous studies.

The current state of knowledge on the academic effects of differentiation can be summarized in the following way. A great many empirical studies practically rule out the possibility that differentiated education generally improves overall results and helps both high-track and low-track students. If differentiation is given the benefit of doubt, then it has zero effects (as for the overall results as well as the results of particular groups). However, recent empirical evidence rather seems to demonstrate the fact that while differentiation has zero overall effects on average, it provides great academic improvement to high-track students. **Thus, differentiation seems to increase differences in educational achievement which in turn increases education inequalities** (Riordan, 2003: 189).

On the other hand, research has also demonstrated that the effects of differentiation depend on the specific ways it is practiced. For instance Gamoran (1992b) opined that students in academic programs are less advantaged at schools where grouping is flexible, rather than permanent. He also found out that more inclusive schools (those with higher proportions of students in academic programs) do better in overall educational attainment. Other researchers have concluded that the effects of differentiation vary by study courses. For example, Slavin's (1990: 480) review of existing research suggests that heterogeneous (non-differentiated) education may have *positive* effects for social science courses.

5.4.2 Other effects of differentiation

Since the proponents of differentiation mainly argue that this organizational design increases the effectiveness of the education process, researchers have focused on rather short-term educational effects, i.e. what students win and lose in terms of their academic ability and knowledge by enrolling in a certain group (see above). Apart from that, researchers have analyzed more long-term educational effects as well as those that are not directly related to education.

It has been demonstrated that students enrolled in academic programs have higher aspirations for further studies (e.g., Vanfossen et al., 1987), are more likely to enroll in tertiary education programs (e.g., Thomas et al., 1979) and have better odds of actually attaining tertiary education (e.g., Alexander et al., 1987). Students of academic programs are less likely to drop out of school (Gamoran & Mare, 1989). Of course, all those effects have

been controlled statistically for family socioeconomic background and numerous other factors.

The effects of differentiation on factors like self-esteem, positive attachment to school and delinquency have been studied as well. Quantitative research has failed to provide a clear answer, which was to a great extent due to the above-mentioned methodological issues. Nevertheless, ethnographic research (see review by Gamoran & Berends, 1987) has demonstrated that differentiation does substantially influence students' identity and self-esteem. For example, Schwartz (1981) showed that differentiation caused students to start calling themselves "smart", "dumb", "slow" or "bright" (see also Riordan 2003: 189).

Other effects of differentiation have been proven as well. For example, differentiation may undermine social cohesion. It influences political attitudes and participation (Paulsen, 1991). It also widens the gaps between different social groups because students tend to make friends with other students of the same programs (Eckert, 1989). This is based on shared experience and values as well as shared attitudes to school.

5.5 The mechanisms of differentiation effects

If we take the cognitive effects of differentiation for more-or-less proven, how can we explain them? What mechanisms underlie differentiation? There are three main theories in this respect: instructional, social and institutional (Lucas, 2008; Pallas et al., 1994).

According to the instructional theory, which seems to rely on the most solid empirical foundation, variation is caused by varying quantity and quality of educational content as well as varying pace of instruction in different educational tracks. Above all, it is apparent that students of academic tracks are taught based on a more demanding and extensive curriculum, compared to students of other tracks (Gamoran, 1989). Sometimes, the lower overall volume of instruction is quite explicit. For example, many schools spread the same algebra curriculum over one year in academic tracks and two years in non-academic tracks (Kelly, 2007). Thus, non-academic programs provide less education and slower pace of instruction. This fact is hardly surprising because "providing different students with varied education according to their needs" is the main idea of differentiation. Nevertheless, some recent research (e.g., Gamoran, 1993) suggests that even students of non-academic tracks might improve their educational achievement if they were approached like those of academic tracks. Since some tracks *a priori* reduce educational content and slow down pace of instruction, permanent differences between students arise and the students' education track flexibility is undermined.

It is not only educational content but also educational methods that matters. At first sight, the academic and non-academic programs seem to apply similar methods of instruction. For example, Nystrand & Gamoran (1997) found that the number of discussions basically does not vary across educational tracks. At the same time, however, they found that discussions in non-academic tracks often lacked focus. They also found that students in non-academic tracks, much more frequently than those in academic tracks, were given tasks like filling in blanks in a text, answering yes-or-no questions or correcting grammar and punctuation. Teaching methods in non-academic tracks were much more structured and placed high emphasis on formal rules and sanctions. This was supposed to help teachers better cope with and "control" the student population in less academic programs, yet it also bore the

risk of fragmenting instruction and especially making learning much less enjoyable for students. Strong structuring of instructional methods may mitigate teachers' fears and insecurities, yet it deprives instruction of its meaning, making it boring and tiresome and often diverting attention to unrelated issues (Page, 1991).

Teachers play a specific role as well. Beginners, less experienced and less motivated teachers are traditionally recruited for non-academic tracks (Kelly, 2008: 986). Thus, not only students but also teachers are differentiated in many schools (teacher tracking). Two less successful groups are paired here: "Teachers with less education, experience, and motivation are more likely to be assigned to low-track classrooms. Thus, teacher tracking pairs students who are the most difficult to teach with teachers who, in some ways, are least equipped to be successful" (ibid.). It is hardly surprising that teachers in non-academic tracks score less in satisfaction and self-actualization.

In general, teachers react negatively when assigned to a non-academic track. This is also because this group of students is more difficult to teach. For example, Caughlan & Kelly (2004) demonstrated that teachers who are very successful in academic tracks may be much less successful in non-academic tracks. They partially explain this finding by the fact that teachers in non-academic tracks tend to be recruited from different socioeconomic environments than their students, and thus have trouble identifying their needs, perspectives and interests. They are also prejudiced about their family background. This causes a "self-fulfilling prophecy" whereby children from disadvantaged families are considered *incapable* of success, teachers treat them as such and this, in turn, makes those children unsuccessful. Some teachers also take family background as an excuse and explanation for their students' weak educational achievement. Instead of designing instruction to compensate the disadvantages children bring from their homes, instruction is adapted to those children's *limitations* (Kelly, 2008: 986).

It cannot be argued that education in non-academic tracks has always a low quality and effectiveness. Gamoran (1993) identified three factors of success in non-academic tracks: when (a) instruction in non-academic tracks is not assigned to inexperienced teachers, (b) teachers do not use worksheets as their basic method of instruction and instead, work based on oral speech and discussion, (c) teachers have high expectations of all students.

The second type of explanations of tracking effects are based on the idea that different education programs provide different social contexts and social climates for learning, thus socializing students of different tracks in line with different norms and values and giving them different identities, attitudes and expectations. Above all, one must realize that by taking a non-academic track that prepares directly for entering the labor market, students become discouraged from getting good grades from the very beginning. For them, as opposed to students in academic tracks, it does not matter if they have A's or C's. Little effort is basically a rational strategy (Attewell, 2001; Kelly, 2008). In contrast, students in academic tracks are not necessarily better-behaved or more accommodating but their actions are much more ambitious and planned in subjects affecting their future careers[25].

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[25] Schwartz (1981) exemplified this phenomenon neatly by describing the behavior of students in different programs. He found that students in high-track programs showed the same kind of misbehavior as low-track students, yet they did so outside classtime when their future educational

The above-mentioned fact is accompanied by peer pressure and peer group norms. According to the so-called differentiation-polarization theory (Hargreaves, 1967; Lacey, 1966), interactions within peer groups in non-academic tracks aggravate antischool attitudes. When the school labels students as "academically insufficient", they begin to seek another source of positive identity. If they are fortunate, they can find it in sports, cars etc. Peer groups have their own dynamic here. Members monitor each other's actions, guarding against and punishing for those actions and attitudes that are in conflict with the group's dominant norms, for instance, expressions of interest in schoolwork.

Finally, the third type of explanations of differentiation effects is based on institutional theories. They define institutions as cognitive constructions and permanent models of human behavior people take for granted and undisputed (Pallas et al., 1994). They hold that when a student is assigned to a certain education track, it becomes part of his/her "education history" and this assigning seems to suggest information about his/her abilities (Sorensen, 1984). While the act of assigning to an education track may bear no effect on his/her abilities, skills or attitudes, it continues to be present throughout his/her life because the act is generally believed to be justified[26]. In other words, if a student takes a certain track then this symbolically and publicly labels and classifies the students' qualities and abilities, from a collective perspective, and this label in turn, influences the perceptions and expectations of other members of the society, including teachers and parents (Pallas et al., 1994). More specifically, in making decisions about assigning to a certain program, people consider what education program the candidate comes from, rather than his/her real academic achievement.

5.6 Education policy and efforts to eliminate differentiation

Arguably, differentiation does not serve its declared purpose (increasing overall educational achievement); in the optimistic case, and bears many negative consequences, in the skeptical case. From a purely rational perspective, there is thus no strong argument for keeping differentiation in place. Thus, why does it still exist? Oakes (1992) mentions three types of barriers: technical, normative and political. By technical barriers Oakes understands the fact that the methods of instruction teachers grew up with and work with today were tailored for differentiated education. In order to eliminate differentiation (detracking) one cannot merely abolish it while keeping today's curriculum and teaching methods (Kelly, 2008). According to existing experience, a one-sided focus on "average students" disadvantages students on both poles (Rosenbaum, 1999). Different teaching methods (e.g., cooperative learning) are necessary for heterogeneous classes, and some balance in the extent and depth of the curriculum should be struck.

The normative beliefs of parents, teachers and schools constitute another obstacle. In particular, two interrelated statements are used in defense of differentiation (Kelly, 2008). First, students vary in their inborn abilities, a fact schools cannot affect. Second, the labor

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careers could not be affected. During classtime, high-track students adhered to teachers' behavioral standards sensitively, as opposed to low-track students.

[26] In this respect Rosenbaum (1976) used a metaphor of "tournament mobility": if you succeed and win then you can go on and if you lose then you lose forever. Nevertheless, Lucas (1999) calls for caution in using such metaphors because there is a certain level of mobility between tracks.

market is differentiated and thus, various occupations are needed and few people are fit for every occupation. Consequently, schools should prepare students for the different labor market sectors and provide them with the exact skills they are going to need in life. To people holding these seemingly rational opinions, school differentiation in line with labor market differentiation appears as a logical solution and an effective practice (Oakes, 1992).

Political barriers constitute the third and final problem of differentiation. Differentiation causes the school to distinguish between "winners and losers". The winners are recruited from students in academic tracks whose parents usually have a higher socioeconomic status and, in turn, a stronger political stance. Those parents often have a personal stake in differentiation and lobby against detracking (Loveless, 1999b: 29), often arguing that they are not obliged to sacrifice their children's education for some ideological agenda or unverified education theory (Rochester, 1998). Parents may threaten to take their children out of the schools that are contemplating detracking. Such an exodus of better achieving students may lower the school's academic average and thus jeopardize its reputation. Ethnographic research on detracking also shows that parents with a higher SES tend to oppose detracking until some advantages for their children are preserved (Wells & Serna, 1996). Nevertheless, if such advantages continue to exist then the entire idea of detracking is undermined.

6. Conclusions

In awareness of the fact that short statements are somewhat simplifying, we will now attempt to formulate several conclusions arising out of state-of-art knowledge about the effects of education systems on the reproduction of education inequalities.

1. Despite persistent illusions about the ways education contributes to social justice, it is clear that education systems rather reproduce education inequalities (as well as other, education-related inequalities). However, different systems reproduce inequalities at varying rates and feature different inbuilt mechanisms of reproduction. Therefore, some changes are possible in this respect. At the same time, we must admit the fact that education reforms in many countries have often completely failed to reduce inequalities or even produced unintended effects. This, however, cannot give us an excuse for doing nothing. In contrast, it should stimulate our thinking about the kinds of measures that might be really effective. Arguably, some examples of successful reforms exist: Sweden, Finland and Spain that underwent transitions from differentiated to undifferentiated education have strongly under-average levels of variance in the educational achievement of 15-year-olds, compared to the rest of OECD countries (OECD, 2007).

2. Education systems are highly resistant to any attempted reforms towards reducing education inequalities. Actors with stakes in existing situation are usually able to find other mechanisms of reproduction if existing ones are constrained by reform[27]. This also means that whenever a public policy to reduce education inequalities is prepared, one

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[27] Lucas's (2001) theory of effectively maintained inequality should be mentioned here. According to the theory, elites will always find a way of offering better educational tracks to their children. If no *quantitative* advantages are available (i.e., higher educational attainment such as tertiary education in a society where most people attain lower levels) then they are bound to assert *qualitative* advantages, i.e., place their children in schools of higher quality and prestige that receive better ratings and offer better educational and professional career prospects.

should be well acquainted with the opinions and strategies of key actors because they can be expected to block and circumvent any reforms in this area. In some cases, their resistance may be caused by insufficient information but more often it arises out of the personal stakes in the status quo.

3. While many mechanisms of inequality reproduction are apparent and well-known (for example, the sorting of students between various types of schools), the severity and extent of inequality reproduction are usually obscured. On the other hand, empirical evidence is sometimes ambiguous and even researchers may differ in their opinions about the extent and quality of education inequalities. Yet, surprising academic achievement often occurs, showing that the problem's roots are deeper than it seems to most laypersons. Characteristically, an overwhelming majority of people pursuing a deep and long-term interest in the issue of education inequalities believe that the issue is very important and calls for solutions[28]. There is less agreement on the ways the issue should be addressed.

4. We have varying degrees of knowledge about the mechanisms of inequality reproduction. In some areas (such as differentiation effects at the school and class levels), an immense amount of information has been gathered, while we know very little and necessitate additional information in others (the effects of education system standardization on inequality level and relevant mechanisms). Nevertheless, we will never know everything with absolute certainty. While one should always proceed upon careful consideration and with maximum possible knowledge of data, one cannot wait for "definitive answers and conclusions", as often advised by reform opponents. The research on differentiation effects exemplifies the fact that while more research enables more robust conclusions, it also provokes even more research that contradicts it and supplies arguments to opponents of change.

5. There are many methodological issues, not only with respect to the determination of differentiation effects[29] but also with respect to the mechanisms of education inequalities in general. There are many different factors and many different levels of the problem, and therefore, research results strongly depend on the methods chosen. There are no simple and universal conclusions (e.g., standardization decreases education inequalities). Instead, conclusions strongly depend on the ways key variables are operationalized and measured and on the set of contextual variables we are able to introduce in our model. Thus, we cannot avoid methodology and theory issues when thinking about the possible measures to reduce education inequalities. Theory, methodology, empirical evidence and practical implications are all interrelated.

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[28] There are also exceptions, for example, Tom Loveless (1999b), former professor at Harvard University and now director of the Brown Center on Education Policy. But they are really exceptions.
[29] See review by Betts & Shkolnik (2000b).

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Small-Scale Entrepreneurship in Modern Italy – An Ethnographic Analysis of Social Embeddedness in the Access to Capital and Credit

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1. Introduction

Nowadays probably no social scientist would deny that the entrepreneur is a central figure in economics and plays a pivotal role in economic development. Yet, with some remarkable exceptions (such as Schumpeter) for a long time the study of entrepreneurship has been neglected in mainstream economics, as well as in sociology. Both in the history of sociology and economics the entrepreneur has been "a shadowy and elusive figure" (Cole, 1968, p.60), less studied than more impersonal structures, i.e. markets and firms. This absence is not difficult to explain. There has been little room for the entrepreneur in the abstract theory of the neoclassical model of the firm (Baumol, 1968, 1993); and, in contemporary sociology no serious attention has been devoted to considering the sociological relevance of this role beyond the influential insight of Weber. Economic anthropology has sporadically dealt with entrepreneurship, as post-war interest in development (Stewart, 1991), but has tended to focus on non Western or mainly rural societies (Barth,1963, 1967a,1967b; Belshaw, 1965; Geertz, 1963; Strathern, 1972; Greenfield et al.,1979). There have mainly been three ways in which anthropologists have shown interest in the study of entrepreneurship. Firstly, they have assessed the function of enterprise in the economies of small scale social groups or peasant societies. Consequently, they have studied entrepreneurs as individuals involved in the process of social and cultural change in their own social setting. What linked those two approaches was the implication that change would occur out of the expansion and growth of entrepreneurial activity. This made the entrepreneur's role significant from both the point of view of cultural change and that of economic development. Thirdly, anthropologists have begun to turn their interest to former agrarian societies which have been de-ruralized and modernized through processes of industrial decentralization and the development of local petty commodity production.

It is only recently that the topic in entrepreneurship has finally gained more constant interest across the social sciences. Its increasing popularity certainly benefited from the hegemonic expansion of neoliberal ideology worldwide (Harvey, 2005). The political–ideological dimensions of neoliberalism have more emphatically endorsed entrepreneurialism and a risk taking attitude to cope with the global restructuring of the capitalist economy, the dismantling of the welfare state and the downsizing of the workforce. The "re-discovery" of the

entrepreneurial role in society has eventually spurred a renewed interest in sociological theory (Aldrich, 1999; Swedberg, 2000; Kim & Aldrich, 2005) and initiated several empirical studies especially on the proliferation of family businesses and small enterprises in large areas of Southern Europe, the Far East, and the developing countries. Similarly, the last twenty years of anthropological investigation of small scale industrialization in specific regional contexts has produced an extraordinary variety of data supporting the idea that the post-Fordist transition as well as the ongoing expansion of capitalist economies, in the process of destroying boundaries between societies and altering autochthonous traditions, have contributed to produce a complicated mosaic of local capitalisms (Blim, 1992, 1996; Benton, 1989; Gudeman, 1986; Kelly, 1992; Yanagisako, 2002; Smart & Smart, 2005; Narotzky & Smith, 2006). Some regions present deep historical roots of industrialization, others a shallower or lack of recent industrial history, but, on the whole, it seems that capitalism does not operate the same way everywhere. Such richness of local variation, the outcome of the interaction between cultures and economies, is an original and important anthropological contribution to the understanding of capitalism and small scale industrialization. Lauren Benton, for example, in her *Invisible Factories* (1989), has looked at the specific industrial development in a Spanish region (Valencian area), describing social relations of production, patterns of authority and division of labour in a regime of decentralized production where 'small' does not mean 'beautiful', and where the reality of social condition of labour is very different from the optimistic view promoted by neo-liberals. Another important contribution to this critique has been Michael Blim's *Made in Italy* (1990), a work on the emergence of small-scale industrialization in an Italian region (The Marches). Blim clearly suggests that this model of capitalism, which has become "the darling of neo-liberal development theory" (1990, p.3), offers a rather mixed view, with an always incumbent spectre of economic decline.

What has received little scholarly attention in all of these studies is the financial aspect that revolves around entrepreneurship: the practices of credit and money borrowing, for example, necessary to sustain entrepreneurial activities. There is actually an earlier (and limited) anthropological literature on this topic, investigating rotating credit systems, informal and formal firms of credit, but it is mainly focused on non-Western or peasant societies (Geertz, 1962; Firth & Yamey, 1964; Beals, 1970). The neglect of financial issues has been remedied in recent years both in economic sociology and anthropology with increasing research on banks and financial markets (Uzzi, 1999; Brewster Stearns & Mizruchi, 2005; Fisher & Downey, 2006), but more specific studies on various forms of capital investment are needed to understand how those wishing to become entrepreneurs or to further develop their business may access capital. This article furthers the discussion of this fundamental issue in entrepreneurship by discussing some cases in anthropological terms by drawing on ethnographic material I have collected in my on-going research on entrepreneurs, small size enterprises and family firms in Northern Italy.

Northern and Central Italy are punctuated by a large number of small firms variably clustered in localized or territorially based systems of specialized production: the so-called industrial districts. Entrepreneurship is widespread among the population. In the area where I have carried out my fieldwork research - the Brianza in Lombardy[1] – for example,

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[1] My fieldsite includes a group of 30 enterprises located in 5 small neighbouring municipalities roughly 30-40 km North of Milan, the capital of Lombardy. To protect the identity of my informants and their enterprises I have used fictitious names.

there are two industrial districts (metalworking and furniture sectors) and, as a whole, the manufacturing industry includes some 10,000 factories - a density of 24 factories per square kilometer, with an average of 11 employees per firm. The presence of so many firms and consequently entrepreneurs in this area implies the existence of a peculiar socio-cultural milieu that favours capital accumulation and allows for the combination of resources to set up a business. In the attempt to illustrate this phenomenon I will employ the theoretical concept of embeddedness . By looking at various forms of credit and financial practices here I want to offer a concrete example of the firm's embeddedness in the social context in which it operates. The importance of the role of "non-economic factors" on the economy, such as interpersonal relations of trust and one's own reputation, is certainly evident in some economic approaches (Williamson, 1991), as well as in finance research, with studies showing that through the building of close ties with institutional creditors the availability of financing increases (Mitchell & Raghuram,1995, pp.3). The advantage of the anthropological approach over others stands in its ability to "use" these non-economic - yet economically relevant - factors, to situate entrepreneurial actions within an analytical framework that comprehends economic practices, such as the financial ones as well as other forms of exchange in this context, not in terms of individualized decision making behaviour, but in terms of existing, culturally rooted and meaningful local relationships.

Turning to a brief examination of embeddedness as a conceptual framework, I want to suggest a use that tries to preserve the original meaning proposed by Polanyi (1957) and to incorporate the new economic sociology approach theorized by Granovetter (1985). The concept of embeddedness according to Polanyi is a conceptual tool employed to understand the process of the human economy, "embedded and enmeshed in institutions, economic and noneconomic" (1957, p.250). That is to say that in a regional economy such as the Brianza, firms, families, and local banks are institutions embedded in forms of exchange that are both cultural and economic (profit making), and that this interaction of elements produces an idiosyncratic mix. Meanwhile for Granovetter embeddedness expresses the notion that social actors exist within relational, institutional, and cultural contexts and cannot be seen as atomized decision-makers maximizing their own utilities. He, therefore, extols from the concept the importance of network ties. That social networks are relevant may seem a platitude; yet, it is the nature of such relations that make Polanyi's embeddedness so interesting[2]. As I will show, the economy of the industrial district is entirely enmeshed within a specific local culture that highly regards the participation of the family in the enterprise, work reputation, friendship, a certain political leaning, membership in entrepreneurial associations, etc. In the end, embeddedness approaches regardless of their relevant nuances, "prioritize the different conditions within which social action takes place" (Ghezzi & Mingione, 2007, p.11). Drawing from this approach, I regard entrepreneurship as a social as well as an economic phenomenon, even more so in an industrial district. It must be inescapably viewed as enmeshed in different social, cultural and cognitive contexts. By the same token I argue that the search for, the access to, and the various forms of credit as capital investment to support local entrepreneurship cannot be separated from the culture from which they come into being.

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[2] For a debate on the usage of the term "embeddedness" see Gemici (2008) as well as Krippner *et al.* (2004)

2. Access to capital and credit: Central and local intervention

"The most interesting question [...] is to what extent industrial families are recruited directly from the working class and, to that extent, form no more than the upper layer of that class." (Schumpeter, 1955:129-130)[3].

Indeed Schumpeter's remark seems to apply perfectly to the character of entrepreneurship in the Brianza, a sort of working class entrepreneur as most of my informant-entrepreneurs "had risen directly from the working class". The downsizing of large factories in Brianza was partly responsible for the creation of most of these small firms and for paving the way for the further development of the industrial district. Being vertically integrated, these factory 'raised' skilled workers of all sorts: tool-makers, mould-makers, designers, welders, milling-machine operators, lathe operators and so on. When several of these highly specialized workers and foremen were made redundant during the cyclical restructuring periods, several of them were able to become self-employed and set up their own workshop, often in partnership with former co-workers and the substantial help of kin. The lay-offs that ensued, instead of generating massive unemployment, stimulated local energies for the formation of several small manufacturing activities. The specific technical skills acquired in the large factory moved outside and initiated a process of small scale industrialization that continues today.

Class barriers are not insurmountable, as my informants' stories seem to show, but there have to be a few necessary and crucial pre-conditions, social, material and ideological, for vertical movements across classes to happen. In this respect, my informants' life histories put much emphasis on the importance of land ownership and of skill formation, and on how these 'assets' were obtained through the mobilization of resources that were not equally accessible to everyone. In this section, I will present some of these stories to illustrate the actual passage from wage labour to small-scale entrepreneurship. Yet, these stories stretch ahead of this specific moment in my informants' work experience to examine how such a newly achieved position needs to be sustained through the mobilization of new and old social relationships. These relationships create the ties necessary to bring into being or actively participate in subcontracting networks and to increase the potential to access capital and credit. This aspect, too, should be understood in terms of resources mobilized by the use of formal and informal relationships, even as the institutional framework appears to formally guarantee equality of access.

Linda Weiss (1988) has argued that one of the most remarkable features of Italian petty capitalism is its strong partnership with the state. Central and regional governments have always been financially and politically involved in creating the conditions for small business to come about and develop: "Italy's small business economy expanded and prospered because it had something its European counterparts lacked: a highly sympathetic state.

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[3] The implicit assumption in Schumpeter's statement is Weber's theory of free labour, which is at the centre of his economic sociology: modern capitalism would not have been possible without "the rational capitalistic organization of (formally) free labour" (Weber, 2001,p. 21). Like Weber and unlike Sombart (1982, 1967), who strongly believed in an elitist idea of the entrepreneur, Schumpeter conceives the market in terms of competition between 'free' individuals. He sees a completely fluid society in which the opportunity for advancement or the possibility of downfall is open to all. It is in the entrepreneur, though, that Schumpeter identifies the most visible protagonist of this social dynamism.

While governments elsewhere celebrated its contradiction or encouraged its elimination, the Italians created a distinctive category of small capital and set about populating and replenishing it" (1987, p.9).

The Artisan Fund (*Artigiancassa*), a public national program of loans for artisan workshops[4], and a variety of more recent regional programs, such as *confide* and *vaucher*, tailored to the specific needs of small businesses are clear evidence of the long standing interest that the Italian state has had in this matter. In contrast with Weiss' view of an active central state, Trigilia (1986; 1989) has put emphasis on the local dimension of the political context which, strengthened by a high level of ideological consensus - either Catholic (in Northern Italy) or Communist (in Central Italy) - has implemented local policies favouring small-scale industrialization to compensate for the shortcomings of the central political economy. He writes: "[...] This process was largely unplanned, though it was influenced by political decisions or, more frequently, non-decisions. In the absence of effective long-term economic policies at the central level, the growth of small firms has, in fact, been based on certain economic, social, political resources which were widely available in some local areas" (1989:174). According to Trigilia, the activity of Church institutions in the north east of Italy and of the Communist Party in the centre have contributed to creating and reproducing 'subcultures' that mediate successfully between social classes with potentially conflictual interests. Moreover, the dominant role enjoyed by the parties[5] representing these 'cross-class subcultures' "may have contributed to increasing the stability and decision-making capacity of the local governments" (1989:189). The implementation of urban policies in support of small-scale industrialization is an example of this kind of local intervention. However, as Weiss would justly argue, these types of policies are not *per se* sufficient to stimulate development. A financial apparatus is also required to provide liquidity for investments in shop floors and machinery.

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[4] I use the words artisan and small entrepreneur, or "small firm", "small enterprise", "artisan firm", and "artisan workshop" interchangeably. However, a clarification of these terms is needed. In Italy 'artisan firm' is a legal classification (as stated by Law n. 443/1985) which encompasses a wide range of activities; basically most professions fall into such a category: a baker, a barber, a truck driver, an electrician, a mason, if self-employed, are artisans and have to register to the Chamber of Commerce, Industry, Artisan and Agriculture (CCIAA). In the case of manufacturing enterprises, Law n. 443/1985 - an update version of the Artisan Statute introduced in 1956 (n. 860/1956) - may apply to plants with a maximum of 10 employees, when the work involves mass assembly, namely standardized production, provided that this is not completely automated; a maximum of 18 employees in firms not involving mass assembly, and a maximum of 32 employees in workshops of traditional productions such as tailoring, artistic productions and so forth. The recruitment of apprentices may raise the number of employees up to 12, 22 and 40, respectively. These dimensional limits are not applied to co-operatives. Law n. 443/1985 also provides a legal definition of the word artisan, defined as "the owner or co-owner of the firm personally involved in the work". The companies that exceed the dimensional limits as stated by the law are to be treated fiscally and juridically as industrial firms. As manufacturing technology becomes more affordable and available to an increasing number of small enterprises, it is more difficult to trace a neat line between the labour process in artisan workshops and small (industrial) factories. The companies that exceed the dimensional limits as stated by the law are to be treated fiscally and juridically as industrial firms.

[5] These were the Christian Democratic Party and the Communist Party. Since the early 1990s they have disappeared from the political arena and have been replaced by different political parties.

These two viewpoints on small-scale industrialization are merely superficially divergent, because they tend to disclose two complementary dimensions of the same phenomenon. If anything, they capture remarkably well the methodological differences between a political scientist who privileges the complexity of the macro dimension of national policies, and a sociologist whose concern is to draw attention to the articulation between local governments and interest groups in small-firm areas.

It is easy to see how both aspects may fit into the development of small-scale industrialization in the Brianza and elsewhere in Northern Italy. To begin with, historically, these areas have been predominantly Catholic. As I will explain later (see section 4) the interaction between Catholic hegemony and the development of capitalism has favoured the creation of Catholic-based movements and institutions. As for local policies, one of the most important has been the creation of several industrial parks which have sprung up on confiscated agricultural land. Throughout the 1980s and early 1990s, the municipalities carried out the expropriation of several hectares of cultivated and uncultivated land with the prospect of creating industrial zones in order to move factories and workshops away from residential areas. In fact the land now converted into industrial estates was then assigned to co-operatives of small entrepreneurs and to private companies. In some municipalities the construction of industrial parks is still in progress. In the town where I carried out most of my early research, a group of entrepreneurs founded two co-operatives in the early 1980's and using government credits funded the construction of a few industrial compounds on the confiscated municipal land. Each participating entrepreneur obtained ownership rights after 10 years, as in the case of two informants of mine, Mr. Cedretti, and Mr. Colciago, each owner of a metal tool grinding and sharpening workshop . The success of this initiative encouraged other small entrepreneurs to do the same. At the start of the 1990s the synergy between the municipal government and the local artisan association helped four co-operatives create as many industrial compounds. At present the total number of workshops in the industrial park area is about 50, and plans are under way for future construction. Yet, without the public national program of loans that was originally provided by *Artigiancassa* - the Artisan Fund designed to provide low-interest credit for artisans who are otherwise unable to mobilize sufficient monetary resources for investments - the setting up of these industrial compounds as well as the investments in state-of-the-art machinery could have been much more difficult to achieve. By means of these loans, Cedretti and Colciago, for example, were able not only to move their workshop from a house basement to a modern shop floor, but also to purchase new machinery while still making payments on loans they had taken out for the construction of their compounds.

However, many other artisans, such as Mr. Faloni - a typical skilled metalworker who became self-employed (he is a turner, but he is able to operate a whole range of machinery) - have not been touched by these urban policies of local intervention for reasons that were probably related to his reputation, as I will explain later. Somehow, they were also excluded by the opportunities of funding provided by the Artisan Fund. My analysis, therefore, cannot limit itself to simply registering the applicability of Weiss and Trigilia's viewpoints with reference to this area of the Brianza. For obvious methodological reasons, their approaches are reluctant to engage in the analysis of the details of the everyday life of individuals and institutions. By contrast, ethnographic analysis does exactly that. It deals with an endless series of embedded social relations and particular variations that lie beneath

the blanket of cultural homogeneity advanced by Trigilia, or beyond the financial mechanisms of institutional resources analyzed by Weiss. In other words, when I draw attention to the details of my informants' everyday life and to their personal accounts, a more articulated, complex, and multifaceted reality emerges.

What I hope to achieve here are three things. First, to present evidence of the variability of credit resources that transcend the model of an institutional credit system (banking and public programs of funds); second, to demonstrate that there is an interesting practice of credit which emerges as ethnographic analysis considers the institutional access to credit; third, to provide ethnographic material in order to shed new light on the meaning of entrepreneurship outside the economic models of rational individual behaviour. The focus on credit in a micro-scale study of an industrial district may suggest interesting and broader implications for the ways in which we normally connote entrepreneurial behaviour in society. Moreover, it may contribute to bring back to the debate economy and culture as a form of "embedded" exchange. The notion of embeddedness will be used precisely for this reason, that is, as a conceptual framework to challenge theoretical preconceptions on the entrepreneurial process, to show the interrelation among family-based entrepreneurship, social and economic institutions, and cultural setting. A crucial point is to consider the economic relevance of cultural and social bonds as a key factor in maintaining mutual ties among entrepreneurs and constituting the prerogatives to build trusting relationships and commitments beyond formal contracts both in production and in credit.

3. Multiple resources of credit for investment

"Let's be frank: banks always help you if you have an umbrella and it isn't raining" (Mr. Lucio Lanieri, entrepreneur). In the irony of Mr. Lanieri's statement we find condensed a collective concern about the contradictory financial role of the local banking system. As the main financial intermediaries in the region, local banks put people's surplus of capital at risk in order to grant money to those with a shortage of capital. The 'side-effect' of this very simple mechanism is that borrowing money may become extremely difficult when banks regard this operation too risky, that is, when a loan has no guaranteed return. Since risk is always present in this kind of transaction, it follows that the request for collateral becomes necessary to protect the investment. Moreover, to reduce risk, the transaction is limited in place and time, that is, by limiting the loans to a specific span of time and to applicants residing locally.

A worker who quits his/her job and wishes to set up a workshop is inevitably caught into the contradiction of that mechanism. Without personal property as collateral, a request for investment capital is unlikely to be granted. The *Artigiancassa* and the *confidi* through all their financial products may assist the small entrepreneur, but the application for funds has its own rules and limitations. First, it might not be accepted; second, the value of the loan - while varying according to the financial product requested - may not entirely fulfil the business owner's individual necessities. This is particularly evident in the case of the replacement or expansion of the pool of machinery. For one thing, normally the loan is barely enough to purchase one single machine; for another, once the loan is granted, the business owner cannot submit a second loan application until s/he has repaid the first or until a specified time has elapsed from the date of his/her prior loan.

In a nutshell, these are the contradictions and the structural constraints of the credit systems. In the next section I will elaborate more on this subject by pointing out the elusiveness of informal practices embedded in the credit system at the local level. Here, rather, I would like to stress the fact that when it comes to considering the start-up phase of small enterprises, the importance of financial resources provided nationally and locally - by the Artisan Fund and by the local banks respectively - is overrated. These are, indeed, institutions of paramount importance to sustain the growth of firms that *already* operate in the market. Yet, as unanimously reported by my informant-entrepreneurs, this same institutional credit system is not equally eager to grant loans to workers who are going to quit their jobs and embark on a new and uncertain career as business owners. This occurs not only because, in general, workers lack collateral security – with the exception of their own house - but also because a great number of workshops often start out as semi-informal enterprises, and for this reason are not eligible for any kind of financial support stemming from either public funds or bank loans.

Yet, there are other viable resources. One of these is severance pay[6], which invariably becomes the very first source of capital investment for workers. Normally this is not *per se* sufficient for starting up a business, but, if combined with other monetary resources, it may be enough to purchase machinery and set a workshop in motion. Mr. Cedretti could do so by combining his severance pay with a family loan; Mr. Colciago added his severance pay to a bank loan in order to buy a new and expensive machine; Mr. Faloni bought some second hand machines using his severance pay, and purchased others on credit from a second generation commercial enterprise run by three siblings (the Rizzi's). This twelve-employee company, which sells (second-hand and new) machinery and equipment for industrial enterprises, has been an important source of credit since its creation in the late 1960 for several generations of small entrepreneurs. Several spoke about the Rizzi's in fond terms, for the help they provide. In addition, other than providing credit and technical advice about the purchase of machinery, Rizzi's enterprise is being used as a market information centre by its customers. By virtue of their daily contacts with sales agents, entrepreneurs, artisans, technicians, and workers, the Rizzi's have acquired a special familiarity in the local industrial district. In a way, they have turned into monitoring sensors of the local metalworking sector. They may come to know who is left stranded by a sudden machine failure, who is overloaded with work orders, who is facing financial problems and so forth. Both small workshop owners and client-firms rely on them to identify and assess the reliability of potential transaction partners with whom the Rizzi's may have direct or close contact. Others would call in or show up to get the telephone numbers of subcontractors for an urgent delivery or to get hold of client-firms that may contract out some work. The firm was founded by Mr. Gervaso Rizzi (1913-1997), a former worker of a large manufacturing factory who quit his job when the factory was relocated during the Second World War, in order to escape bombings. After working a few years as an electric engines sales agent, he and his brother Adelmo set up a commercial enterprise in their home town. They only worked as business partners for a couple of years. In 1967 Adelmo left to set up a similar commercial enterprise in a nearby town. At the beginning, Gervaso marketed both metalworking and woodworking machinery, but later, the increasing mechanical specialization of the area induced him to trade and sell only the former.

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[6] Severance pay is the indemnity paid by a company to a worker who is laid off or resigns. It is calculated on the basis of his/her wages and seniority.

According to his children, Gervaso was quite used to selling on credit. He did not have a choice but to do so, because few artisans could afford to pay for machinery in cash or through bank loans. It was an accepted social practice that new entrepreneurs would start paying for equipment out of their severance pay and a small family loan, and the rest of the sum through deferred payments. Fabio, though, Gervaso's elder son, nostalgically notices that "in those times things were different from now. It was all based on *fiducia* (trust), basically because people knew each other personally, and because there was a lot of work for everybody. Now things have changed". Yet, it is hard to assess to what extent this practice has declined at present; in fact, at another moment of our conversation, Fabio admitted that he still sells on credit to artisans he knows personally, "artisans that are hard workers". I had heard the same adagio before, and it was later repeated to me with few variations by several other entrepreneurs.

Weeks later after this interview, I came to know personally three young former workers (two siblings and their brother-in-law), who run a metalworking workshop. They described to me the purchase of five second-hand machines from the Rizzi's in a way that reminded me of the 'old-fashioned' credit arrangement Fabio had talked about. In order to set up their workshop, they began to pool their minimal severance pay and family loans, and bought machinery by making an initial payment in cash. Then Fabio agreed to give them a one-year deferred payment, before they would pay back the rest of the sum by monthly instalments. All this was stipulated through a verbal agreement, because, as one of the three young partners said to me, rehearsing the aforementioned adagio: "He knows who our family is; he knows that we are willing to work hard".

As one walks into this tiny and chock-full workshop, it is hard not to stumble on a metal component or brush against a machine such as the one which is squeezed in the centre of the shop. This numerically controlled machine was purchased directly from the maker, through its leasing agency. Machines are increasingly acquired in the following way: the leasing agency purchases the machine which is then leased to the artisan; once the artisan has finished making payments on the machine it becomes his/her property. Economically the leasing agency controlled by the machine-tool producer is advantageous for its competitive rates of interest, sometimes lower than those offered by the Artisan Fund. However, the payback period offered is shorter and therefore the artisan is compelled to work intensively in order to meet the repayment schedule stipulated in the contract.

The last form of financial help that I am going to illustrate refers to the diverse forms of aid that artisans may receive from client-firms to start a business or, more precisely, to acquire machinery. This practice is favoured by the artisan firm's statutory nature, *Società in nome collettivo* or *società individuale*, which can be translated in English as 'collective capital' and 'individual capital', respectively. In fact, unlike industrial factories, which are generally limited-liability companies or public share companies with limited financial obligations, artisan firms bear unlimited liability for their losses. In other words, should the company become insolvent, the business partners are personally liable. This applies not only in relation to credit insolvency, but also in relation to the stiff penalties acquired for the damage and late delivery of products and components.

Unquestionably such help is not disinterested: it varies according to the degree of control that the client-firm is determined to exercise on the workshop. The case of Mr. Colciago may

help to clarify the point. When he was still a worker, he read a want ad in a local newspaper writing that a local firm was looking for a third party grinder. He called up and set up an appointment with the owners. Basically his life changed dramatically after that meeting. He learned that this mid-size factory - run by two brothers - made moulds and punchers for the manufacturing of pharmaceutical tablets. At the time they were trying to phase out the grinding process, which they eventually subcontracted to Mr. Colciago and other small workshops. They would guarantee a constant supply of work all year around, except in August - traditionally the vacation period in the industrial sector. Persuaded by their proposal, he quit his job. In partnership with a worker he used to work with, Mr. Colciago bought the grinding machine that the two brothers had recommended and placed it in his basement. This machine was purchased directly from the manufacturer, an acquaintance of these two brothers and thanks to this connection he got a substantial discount on the market price. The machine was purchased with their severance pays and with a loan they obtained by putting up Mr. Colciago and his wife's house as collateral at a local bank. Thus the help he received from his first client-firm was not properly of a financial type; it took the form of technical advice, but eventually it had positive financial repercussions on him and his workshop. At the same time, though, the client-firm was using its strategic position to dictate Colciago's pace of work, and to keep him away from other client-firms. It took him quite some time to loosen the rope that tied him firmly to the firm.

Mr. Colciago also engaged in a not so unusual form of barter with another client-firm, by means of which he came into possession of a crucial (i.e. high use value) machine tool in exchange for labour. More precisely, the machine was received as an advance payment for a work order – a kind of transaction adopted by other firms as well. Money did not obviously enter as a medium of exchange, but it did as a measure of value. The two parties bargained until they could reach an agreement on the principle of equivalence between the monetary value of the machine and the quantity of Mr. Colciago's labour that would be exchanged for the machine's agreed upon value. As he had hoped, such a *short-term* transaction in terms of credit, eventually resulted in a *long-term* working relationship.

While Mr. Colciago's case displays a certain elusiveness of credit relationships, and their variable effect on subcontracting relations, the setting up of the workshop of Tonelli, another informant of mine, represents one of the most extreme examples of complete control over the workshop as a result of direct financial help from the client-firm, the Lanieri Brother's Ltd, a well established local factory producing furniture accessories and household fixtures. Mr. Tonelli had decided to quit his job after an altercation with the factory owner's son. He sought another job and for this reason contacted Mr. Lucio Lanieri, whom he knew personally. Instead of hiring him, Mr. Lanieri proposed setting up a mould making workshop together. Which they did in about a month. Tonelli's role was logistical and technical. He helped find the physical space to set up the workshop and he rapidly procured experienced labour force by poaching skilled workers from his former factory. In the meantime, the Lanieri brothers immediately bought the essential machinery to set workshop production in motion. Their good reputation as entrepreneurs and their well known wealth played an important role in getting the machinery up and running in the workshop in such a short time. In addition, they advanced capital to Tonelli in order for him to buy a stake - 30 percent -in the company. The remaining 70 percent was held by the Lanieri brothers making them the majority stakeholders and *de facto* the proprietors of the workshop.

In concluding this section I would like to mention the case of Mr. Antonio Bracco, as it presents another form of credit relation disguised under the form of production equipment lending. Antonio is a multi-skilled worker who learned his trade by working in three different factories before starting his own business. He began to work at the age of thirteen as an unsalaried apprentice in a small wood-working workshop. He disliked his job. He would have preferred work in the metal working workshop. Luckily, after a few months he managed to get hired at a metal working firm thanks to his father's friendship with the manager of this factory's mould-making department. After a few years, eager to acquire more skills, he wanted to switch job and work on a different machine. So he was hired as a milling machine operator in a different mould-making factory, recently set up by four former workers who had been workmates of Mr. Tonelli. Soon after, he found a better paying and more interesting job in a Milan-based factory (Valvecom) which had just moved the R&D department to a small town in Brianza. The firm - specialized in mechanical pneumatic valves - employed mainly engineers and technical designers, but at the time it was seeking a few skilled workers, among which one milling machine operator, to hire on the shop floor where the pneumatic valve prototypes were built and tested, before being eventually manufactured in Milan. Antonio was hired by virtue of an affinal relationship with the manager of the R&D department, a woman whose paternal uncle was married to Antonio's paternal aunt. It was through this kin tie that the manager came to know Antonio. In the mid-1970's, Valvecom began a process of work reorganisation which consisted in reducing costs and capacity by subcontracting the production of its non-standardized components to specialized workers. As this production was the outcome of costly research, the firm was seeking workers from whom discretion and loyalty was required. Thus, the manager inquired whether Antonio and another fellow worker would consider the idea of working for Valvecom as independent subcontractors. They were supposed to machine components, such as cylinders of a particular size and other non standardized pieces, according to specific plans produced in the design office of Valvecom. According to Antonio, he and his co-worker were chosen by the manager precisely for being *persone di fiducia*, that is, trustworthy people, as well as "good workers". When they accepted Valvecom's offer and consequently resigned, the factory provided them with the necessary support to set up the workshop, for neither Antonio nor his friend could possibly mobilize sufficient capital to purchase the essential equipment. Yet, in this transaction between Valvecom and its two former workers no direct monetary exchange occurred in relation to the provision of machinery. In fact, workshop equipment – formerly used by the same workers as employees - was formally lent by the factory to Antonio and his partner in exchange for a special price for the machining operations. Valvecom also rented out to Antonio and his partner 350 sqm of free space in its compound to accommodate the workshop. Rent was paid in cash, but at a lower than average market price.

The two former workers were years later joined by their spouses, who took care of the sales department and the accounts. For about a year and a half they worked exclusively for Valvecom, but then, as the workshop began to receive work orders from other factories, they hired three apprentices and bought a few second-hand machines on credit from the Rizzi's. In the late early 1990's, though, their main client-firm lost its leading market position as a valve maker and eventually went bankrupt. As a result, collaboration with this factory was put to an end. Mr. Bracco's partner left and found employment in a factory as a worker; as for Antonio and his wife, they decided to stay in the business. They redeemed the former

partner's shares as well as the used machinery and moved their workshop to a nearby town, in a formerly brick-making plant where two large hangars had been divided up and rented out to small workshops.

4. The embeddedness of the institutional credit system

In the previous section I have drawn attention to the alternative and multifarious forms of financial help which small entrepreneurs can mobilize or can have access to, when the institutional credit system turns down their loan applications - or when it is feared that they will do so. In this section, by contrast, I turn to the institutional system itself, to discuss a much more elusive matter: the hegemonic aspects embedded in the social relationships built up between two influential local institutions in the area: the local bank and the artisan association. With respect to these elements, ethnographic details are quite sketchy due to the discretion and secrecy that notoriously surrounds banking affairs. Nevertheless, they provide some material worthy of discussion. First of all, though, it is necessary to turn to local history to briefly discuss the circumstances surrounding the origins of the local bank, the *Cassa Rurale*.

At the turn of the XX century, a new generation of parish priests in Brianza stood out for their social activism as a pragmatic way to confront and contrast socialism that was trying to creep into the local communities among peasants and workers. In a short period of time they set up an effective network of associations, such as mutual aid societies, local newspapers, cooperative bakeries, dairy cooperatives and local banks, mostly modelled on the cooperative organizations of the Christian socialists and the *Gewerkschaften* created in England and Germany respectively, a few decades earlier.

On the whole, the *Casse Rurali* became the most successful financial undertaking of clerical activism in rural areas, for they paved the way for the eventual development of small scale industrialization. In Italy in 1897 there were already some 779 Catholic financial institutions of this kind in contrast to 125 institutions that were liberal leaning. Most of them (about 90 percent) mushroomed in the towns of the North (Degl'Innocenti, 1978), despite the presence of older and well-established local banks in the same municipalities. If the development of the former was never obstructed, it was because they were not thought to be in competition with the latter. In the area where I carried out most of my fieldwork research, for example, there were two branches of the Cassa di Risparmio delle Provincie Lombarde (CARIPLO), established in 1823 by the Central Commission of Charity (Commissione Centrale di Beneficenza) in order to cope with the tragic consequences caused by the famine and epidemics that had hit vast areas of Lombardy during 1815-17. As a banking institution, though, it soon created financial links with the local élite, becoming a means of capital accumulation for the rich landowners and industrial capitalists, and a safe saving account office for the middle classes (Conigliani, 1905). Only with the increasing industrialization in the last decade of the Nineteenth century were a small number of peasants, factory workers and artisans able to create small saving accounts in this bank; but in most cases, they were unable to get loans (Conigliani, 1905). Thus, the creation of the *Cassa Rurale* - a general partnership with unlimited liability - meant for the associates and their families the provision of a little liquidity in case of necessity, without turning to landlords or usurers, who then would ask for repayments at exorbitant interest rates.

The first subscribers to the local cooperative bank were 28 male family-heads, all residing in the same town where it still stands today: 15 peasants, 6 wage-workers, 6 artisans (1 mason, 1 carpenter, and 4 weavers), and 1 costermonger. The parish priest and another peasant man acted as legal witnesses to the subscription procedures. In the original text of the deeds (dated 29 April 1903) regarding the constitution of the bank, the hand-written document shows the extent to which Catholicism provided the ideological basis for the drawing up of the contract (indeed carried out under the guidance of the local parish priest), and consequently, it gives us a hint of the role this institution was going to play in the community. The opening article states that "the association has the purpose of improving the religious, moral and economic aspects of the associates. Any political end is excluded". The fourth article sets the cultural and spatial boundaries of the association by stating that only individuals who were honest, moral, and expressly "not against the Catholic Church, and that reside in the town or in the surroundings", could join the *Cassa rurale*. Net profits would go to build up the reserve funds of the cooperative, but should the association make profits exceeding its needs, money would be given away as charity or for public purposes (art. 9). Other than stressing Catholicism, the text of the document addressed the importance of the territory and its community, within which the institution would operate and accomplish its social aims. Thus, the cooperative bank - created to provide some measures of economic protection for land-tenants, workers and artisans, particularly resulting from the widespread problem of indebtedness - did by all means seek to conflate moral and institutional goals. Not only did it promote the economic emancipation of the lower classes within a context of social solidarity to minimize class conflicts; but it also became the main source of credit for other emerging cooperatives, in need of money for their activities.

There is another point to consider and that may give us a hint of the level of embeddedness of local credit institutions. Being ideologically well defined, such cooperative institutions were not easily accessible to everybody. Indeed, there were some families, for example, who voluntarily excluded themselves from the cooperative system because of their socialist ideas, while others did not get access to membership for reasons I was unable to find in documents. The exclusion must certainly have caused discontent. An indication of this is given by the embittered account of Mr. Virginio Ratti (entrepreneur and founder of the local artisan association), who disliked the personalistic style adopted by the local cooperative bank that he regarded as an institution run by "a clique of Catholic bigots" only interested in helping the businesses of their own friends. His account refers to the years after the war; however, given that at the time the cooperative was still very small and close to its original type of organization, I gather that his view may well reflect the opinion other people had during the early decades of its creation. Interestingly, similar complaints can be still heard today toward the same bank, despite its large expansion. It is hard to prove the reliability of these remarks, nonetheless I find them interesting. The bank's historically and deeply local roots, its commitment to operate in this territory and the personal connections between the board and the local entrepreneurs may inevitably cause tensions with specific groups and individuals. Such tensions might denote the level of intimacy that got established between the bank and some parts of its community, and might reveal the conflicting interests at stake. Yet these characteristics have kept the bank away from risky transactions on derivatives and other hazardous financial instruments in the global market. Investments are aimed to increase and sustain local business and financial speculation is eschewed.

The much more recent history of the local artisan association intertwines with that of the local bank. As I said above, the association was founded by Mr. Virgilio Ratti (the first president) and Enzo Panini (the vice president), whose brother had been president of the *Cassa Rurale* right after the war. Despite this kin connection, there was no apparent relationship between the two institutions in this period. The association has always defined itself as a non-political initiative, even though the Catholic slant - or, in Mr. Ratti's words, the "non-Communist mentality" - of the administrative board has always been a matter of fact. Its affiliation to Confartigianato, the national league of artisans that groups together all the Catholic-based local associations, casts no doubt on this point. Mr. Ratti recalls that the input needed to form the association came from the Artisan Union of Monza, which was urging the formation of Catholic-based associations to contrast those that were being formed by the Communists. "In the aftermath of the war Communism was very strong. After I was contacted, I managed to put together a bunch of artisans.... fifteen showed up at the first gathering, enough to create the association formally. Then we went to every nearby town to recruit as many artisans as we could. They needed everything and there was nothing. Metal workers needed iron, but they couldn't find it; cabinet makers needed timber, and there was no timber; everybody needed coal, and there was no coal. But we were able to get them all, by means of the coupons. We would also help members with the paper work, such as bookkeeping, tax forms, receipts, payroll,... these kind of things. "

The board members of the artisan association began to strengthen their ties with the bank when Mr. Ratti resigned in the 1960s and the Panini family consolidated its influence. As for the co-operative bank, by the end of the 1960s, it had grown considerably, mainly through investments in housing (which also helped expand the number of accounts and customers). It was in this period that the collaboration with the artisan association became more concrete. Overtime, an increasing number of artisans acquired membership in the co-operative bank. It is interesting to notice that according to the previous bank statutes - in force for 40 years - membership was open to peasants, workers, and artisans residing in the area. Subsequently, though, the term "workers" was dropped from the newly approved bank statutes. As for the peasants, they were turning into either full-time workers or artisans; hence, the only group left that would be eligible for membership was the artisan class. Unchanged was the prerequisite of residing in the towns hosting the bank headquarter and the bank's operating branches. Bank membership had evident benefits for artisans for it would facilitate access to banking and financial services, such as savings accounts, transacting deposits, and credit lines, at a lower than average cost. In 1970s, the artisan association moved into the new building of the bank headquarters, as office space was lent to the association at no cost. The move to this building gave mutual advantages to both institutions: while the bank could increase the number of artisan customers thanks to its closeness with the association, the latter could take advantage of the close propinquity to bank offices in matters of consulting and credit facilities. Recently, as the bank needed this office space back, it helped the artisan association find another location and paid for its furnishings. As the profits of the co-operative bank increased, its involvement in non-economic initiatives expanded accordingly. The most notable have been the partial provision of funds for the construction of the local technical high school[7], the construction of

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[7] Which is visited periodically by the president of the artisan association, to promote the "values of artisanry" and, more pragmatically, to organize meetings between artisans and students, or rather, between potential employers and employees.

a seniors home, and the regular sponsorship of a whole series of local events all year around, from bicycle races and classical concerts, to street festivals and firework displays.

The close relationship between these two institutions is thought to facilitate artisans' access to credit, mainly for one reason. Unlike other banks operating in the area, the Board of *Cassa Rurale* (now renamed *Banca di Credito Cooperativo*), the organism in charge of granting loans, meets weekly on Mondays. Thus an artisan can already find out in only a few days whether or not his/her application has been accepted. However, the decision-making process that lies behind the granting of credit is not always impartial, but rather guided by personal relationships and ideological convictions. Mr. Enzo Panini, the nephew of the first vice-president and the son of a former president of the *Cassa Rurale*, is both a member of the Board of the artisan association and a regular auditor in the Board of *Cassa Rurale*. He explains that collateral security is not always a *conditio sine qua non* to receive a loan. For example, the work order contracts from a client-firm that the applicant presents in his/her application are viewed as assets, provided that this firm is known for its good reputation. The reputation of the artisan does count as much. As I learned from many informants, though, this word bears nuances that mask critical issues. The reputation of a client-firm refers to its determination to pay its suppliers regularly and to establish a steady collaboration with them. Rather, the reputation of an artisan refers to his/her (family) predisposition to work 'well' and 'hard', and by virtue of this moral quality, s/he may obtain sponsorship within the Board and outside it. But the principle of 'working hard' is not a neutral statement; it is politically loaded, it holds an ideological assumption that is reproduced weekly in the decision making process of the Board.

Admittedly, such a reading without any specific example leaves my assumption unexplained empirically. However, if I look at the organizational structure of the artisan association, I see the same élite ruling and a clearly recognizable ideological component at work, evident, for example, in the president's preoccupation with addressing in every public speech (and in several conversations with me) the importance of the values of the family, work, and Catholicism that are contained in the artisan profession. It is possible that Mr. Faloni's personal problems with the artisan association might have arisen out of his 'bad' reputation as a 'Communist', by virtue of his past role as a union representative. Among entrepreneurs, such a derogatory expression surfaces occasionally in everyday speech, to assume the metonymic meanings of trade unionist, trouble maker, or even indolent worker[8].

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[8] In Italian the expression is "fare il comunista", that is, "to behave like a Communist". A fellow former worker of Mr.Faloni referred to his colleague using this term in a unambiguous derogatory fashion. Once in a public gathering, I observed for the first time this metonymy being staged during a discussion with other artisans. I was publicly introduced by the president of the artisan association to an audience of artisans during an evening meeting organized by this association to exchange Christmas greetings between its members and the mayor of the town. I mingled with a group of men who started asking me questions regarding my research. One of these men, an upholsterer, had been in the 1970s both a worker in a large factory near Milan and a union representative. While conversing with me about those days as a worker, he was interrupted by a couple of listeners who, mocking him and joking about his experience, said to me in Milanese dialect: "What work? He has never worked! He was one of those *sindacalisti (*trade unionists) carrying three newspapers under their arm to read while the 'real' workers would sweat on the shop floor. But the good times are over." Addressing him he added, " Now you know what it means to work!"

5. Conclusion

With these cases I do not claim to have exemplified entirely what is actually a far richer and complex reality. Yet, what can we learn through the ethnographic analysis? By taking a close and ethnographic look at the intricacies on the ground in a limited geographic area I have illustrated a kind of entrepreneurship that in general does not tally with popular representations of entrepreneurs' life histories: rich 'self-made men', talented innovators and market leaders. Only a minor fraction of firm owners have the capability to be so stereotypical. The reality of industrial districts is less glossy than what appears at first glance. The subcontractors make up the majority of the entrepreneurs. They seek client-firms because these provide constant work orders, nonetheless, they fear them because they might become exploitative, and exert control over their work process, generating conflicting interests. Subcontracting networks are three-dimensional systems: they constitute a stratified, hierarchical group of companies and production units in which competition and interdependence mask strong tensions and contradictions, that can only be reduced through the oft said adagio: "working hard". The process of building this kind of reputation (which encompasses the notion of competence, and capability of providing quality products) begins even before the small entrepreneur starts up his/her own business and engages himself/herself in a relationship with a client firm. It begins when he/she is still a worker and acquires the skill that will be used as "symbolic" capital in exchange for economic capital.

In presenting these case studies I have tried to single out and describe further aspects implicated in the passage from wage labour to petty entrepreneurship. Throughout the chapter, the general focus has been on the differences in social, economic, and institutional resources available to former workers now entrepreneurs for dealing with their new social condition. I have shown the importance of interpersonal relationships in setting up their own business, and in creating, reproducing, and sometimes, limiting subcontracting relationships. Where do workers get the initial capital to get started? How do they come to possess their own means of production? With these questions in mind I have described the multifarious forms of financial help and credit that are available in the social system. Public national programs of loans and the credit from local banks constitute the two opposite levels (the central and the local, respectively) of what I have termed the 'institutional credit system'. However important they are, their capacity to grant credit is obviously limited by the inherent risks involved in this operation. To make up for their limitations, other forms of credit and financial assistance emerge out of the agency of artisans and entrepreneurs who are capable of acting upon the constraints of the system. Similar to what I have shown above, these resources are visibly mobilized within a context of unequal power, and may contribute to increase the level of exploitation and of external control on the workshop. Finally, I have turned my attention to the local bank, and I have argued that although it appears to formally guarantee equality of access to credit, in reality, it cannot escape elusive forms of favouritism because of its embeddedness in the complexities of the on-the-ground social and economic relations. There must be a tension in the decision making process within the board of the bank to reconcile calculation and commitment toward local applicants, some of which seem more "deserving" than others. My limited access as an ethnographer to the workings of the local bank system did not allow me to document the manifestations of such tensions, nor the discrepancies within each decisional process. Yet, most informants have confirmed the benefits of building close ties with institutional creditors, because the availability of financing increases.

As I have described there is a wide range of types of financing that, incidentally, recent literature on business studies has termed "financial bootstrapping" or "bootstrapping methods" (Winborg and Landström, 2000). Alongside the well known government assisted financing, bank credit, and leasing, there are other less studied and more informal practices of credit, that cannot be merely reduced to money lending and that seem to work properly only in contests of embeddedness, within forms of exchange that are culturally engendered and facilitated by the social networks built by workers, entrepreneurs and local brokers (see Table 1). For example, barter as a form of exchange between two parties was an effective way to provide machines in exchange for labour because of a shortage of liquidity on behalf of one party; in addition it allowed the work relation to continue in the long run. Informally deferred payments were also adopted to meet the initial difficulties of new entrepreneurs, as well as the setting of lower than average prices for machines and rental space. Others shunned indebtedness of any kind for fear of external control over their activities, and therefore relied on their own (or family) capital and labour, keeping a low profile of risk taking. In their view capital market and other sources of financing were seen suspiciously. In accordance to this principle entrepreneurs with low risk profiles rely more on skilled and unskilled labour than capital (i.e. expensive machines).

Network embeddedness	Institutional embeddedness	Personal assets
(Informal arrangements)	*(The institutional and formal access to credit)*	*(Symbolic)*
• Barter	• local banks	• good reputation
	• national and regional loan programs	
• buying second hand machines		• excellent skills
		• entrepreneur's family involvement
• loan from relatives/friends	• leasing with private companies	• religious/political belief
• leasing with informally delayed payments		*(Social)*
• rent paid below market value		• friendship, acquaintances
		(Material-collateral)
		• house
		• home workshop
		• severance pay
		• family savings

Table 1. The embeddedness of credit

Thus the anthropological approach towards the role that culture and social networks play in the credit transactions I have observed sheds light on fundamental issues not only on the character of entrepreneurship, but also on the various forms that economic development may take at the local level. Moreover the ethnographic analysis of the embeddedness of the economy calls into question neoclassical economic models which appear to be ideological and unable to represent the local context. And so we are brought back to Polanyi's original

idea, that economic life is 'embedded and enmeshed in institutions, economic and noneconomic' (1957, p.250). Polanyi's notion of embeddedness allows us to conceptualize a comprehensive view of the market economy, to observe the connections between economic and social/cultural phenomena, and to regard the latter as by no means residual. By the same token, the use of embeddedness as a conceptual frame enables us to gaze at entrepreneurship by eschewing the limits of economic models that explain entrepreneurial behavior detached from the cultural context. We could also turn our attention to entrepreneurship as a point of departure, in the sense that it is through the study of entrepreneurship as a social and cultural phenomenon that we can easily see the extent of the embeddedness of the market economy. This is what has been accomplished here, by analyzing how entrepreneurial opportunities are enhanced (or at times hindered) by financing "as instituted process" - to paraphrase one of Polanyi's fundamental articles (1957). Entrepreneurship is essentially a social and a cultural phenomenon as much as an economic one. Just look at the importance of the symbolic personal assets, such as reputation, esteem, family, working skills, political and religious beliefs. They represent the cultural sphere and play an economically relevant role as symbolic collateral to lower the barrier to credit access and to initiate social relations that eventually turns into valuable economic capital.

What stands to be seen is how and if the forms of embeddedness examined in this paper will alter and/or persist in light of the global economic crisis and to observe if there will be new forms of credit and if they will be embedded or rather dis-embedded practices.

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Labour Relations and Social Movements in the 21st Century

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1. Introduction

Perhaps labour relations and social movements are today – more than ever before – two fields of decisive importance in contemporary sociology. In spite of being issues that can be treated autonomously, in a context of intense and ever-worsening austerity measures in many societies it makes sense, in fact, to think of them as interconnected. Besides, it is difficult to talk of a global crisis in capitalism, of an unemployment crisis, of a crisis in models of collective bargaining, and so on, without talking of the response strategies of society's citizens. So, for this purpose, we need to consider the "old" trade union organisations as well as the "new" ones, and to pay attention to the social networks which are emerging worldwide in the struggle for the right to employment and a dignified future. New groups, languages, proposals and rebels are emerging and, in many countries of the West, the overall society seems to be moving and asking for new agendas and political repertoires. The panorama of a deep economic crisis which in the last few decades has hit Europe and its Welfare state in particular has had an unprecedented impact on employment and social policies. The neoliberal model and the effects of deregulated and global finance not only question the "European social model" but push sectors of the labour force – with the youngest and well-qualified being prominent – into unemployment or precarious jobs.

This text aims to point out the main trends that have taken place in the labour field whilst simultaneously trying to understand what type of responses or ways ahead can be considered, namely of a socio-occupational nature, using the social movements as a starting point. The first part of the chapter centres on the transforming trends and processes associated with the labour market, the types of work and models of organisation of production. In the second part we focus on the most recent waves of protests and social movements, making reference to the experience and new forms of collective action. Our aim is to show the sociological and potential socio-political significance of these actions, particularly as a result of the interconnections that such movements express, both in the sphere of the workplace and industrial system or whether with broader social structures, with special emphasis on the middle classes and the threats of 'proletarianization' that presently hang over them.

Our argument is therefore the following: labour relations of our time are crossed by precariousness and by a new and growing "precariat" which also gave rise to new social movements and new forms of activism and protest. Thus labour relations and social

movements (the title of our article) have been pushed toward new ways and new discourses. In fact, the new socio-labour movements are movements of society, of a younger generation (largely of qualified young people connected to the university system) legitimately protesting against the lack of career opportunities, against the lack of jobs, against the irrationalities of nowadays economic austerity policies. The rapprochement between cultural criticism and social criticism ("critique artistique" vis-à-vis "la critique social", quoting Boltanski and Chiapello, 2001) is therefore a logical consequence of contemporary voices and forms of protest.

2. The field of research in labour relations

Terminology such as "industrial relations", "labour relations", "work relations", "professional relations", "collective work relations", among others, has often been used by social scientists in an undifferentiated way. This can be explained by reasons that are connected with the plurality of the themes in analysis[1]. As it happens, historically the Anglo-Saxon term *industrial relations* has been favoured as a way of following the industrial movement that took hold in western countries, in which the production was largely ensured by an industrial apparatus and in which a significant part of the active population was involved in activities related to industry (Kerr *et al*., 1960; Dunlop, 1993).

Nonetheless, whilst we agree with the meanings associated with the expression "industrial relations" – establishment of the rules of work (Dunlop), mechanisms of regulating work (*job regulation*), industrial democracy (Derber), the establishment of working conditions (Craig), negotiation relations (Laffer), exchange relations (Somers) – in our understanding the expression "labour relations" is more appropriate today than that of "industrial relations". Not only because the evolution of an "industrial society" to a "service society" makes it less plausible to use the term "industry", but because it permits two types of relations to be emphasised: on the one hand, we are dealing with relations *of* production contractually established between labour and capital, and that constitute, as a whole, a wage relation; on the other hand, we are faced with relations *in* production, which regulate the actual work carried out by workers during the working day and which include relations among the workers, as well as their relations with supervisors or managers according to the norms or regulations of the company (Burawoy, 1985; Santos, 2000; Ferreira e Costa, 1998/99: 144; Estanque, 2000; Costa, 2005).

Furthermore, we should reinforce that labour relations imply a relational dimension which involves individual and collective actors in work activity according to different levels of analysis: local, sectorial, regional, national, transnational or global. On the other hand, if it is true that labour relations have an important "value in use" in establishing consensuses (agreements) between the parties involved (unions and employers), we should also refer to the emphasis on conflict in the origins or the forms of power that are associated with it (Kahn-Freund, 1972; Barbash, 1984; Caire, 1991; Kahn-Freund, 1972; Rueschemeyer, 1986; Santos, 1994; 1995a; 2000; Estanque and Costa, 2011).

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[1] Changes in labour market; trade unionism and social concertation; qualifications, competencies, and training of workers; new forms of work organisation; labour participation and social dialogue in companies; methodologies of analysis of the labour market; gender social relations; workplace conflicts; workplace accidents; social inequalities, atypical forms of employment; employment/unemployment, etc. (Ferreira e Costa, 1998/99: 142).

3. Labour metamorphoses: Fordism and its decline

As an activity conceived of by man, based on the production of material goods, the provision of services or on the exercise of functions with a view to obtaining results that have social utility and economic value (Freire, 1998: 27), work naturally involves different types of meanings associated with different types of relations: with nature, with production (of goods and merchandise for consumption), with services (provision of services between people), with the idea of transaction (exchange of material goods), with the notion of creation (work is invention and discovery), with spaces/institutions (organisations), etc. On the other hand, labour can also be distinguished from work. For Guy Standing, whilst labour "is about maximizing efficiency and competitiveness" and some of its characteristics are stress, burnout and the loss of control over time, "work captures the activities of necessity, surviving and reproducing, *and* personal development". From this perspective, "in performing work a person has agency, a sense of self-determination" (Standing, 2009: 7).

The transformations of the world of work throughout the 20th Century, particularly in Europe, evidence a process of profound social change that calls into question the centrality of labour, and has brought about a new political lexicon: globalization, decentralization, flexibilization (Antunes, 1997; Costa, 2008). In the wake of the Second World War, the dominant model of labour relations, especially in the north of Europe, was based on trade unions and strong and centralised employers' associations that coordinated their performance capacity with that of the governments. The triumph of this model is inseparable from the role of the state because it meant changing from a competitive and purely commercial labour relation to a legally regulated model, giving rise to the idea that: "the guarantee of employment and the notion of employment – the indefinite contract – and social protection led to the so-called social citizenship in post-war Western Europe" (Oliveira and Carvalho, 2010: 27; Costa, 2008: 23-38). In this "golden age", trade union movement acquired notable recognition and became an integral part of the national processes for the promotion of well-being, and, in truth, saw its status move from that of "movement" to one of social "partner". In addition, norms of labour citizenship were defined in the place of work, and governments developed macroeconomic policies that were favourable to full employment (Ross and Martin, 1999a:7). Fordism was confirmed, therefore, as a dominant wage relation model, based on three levels: firstly, as a general principle of work organisation (or *industrial paradigm*), it was an extension of Taylorism through mechanisation and mass consumption; secondly, as a macroeconomic structure (or *regime of accumulation*), it implied that the productivity profits resulting from its organisational principles benefited from the growth of investment financed by the profits, and the growth of the purchasing power of the wage-earning workers; thirdly, as a *form of regulation*, Fordism implied long-term contracting of the wage relation, with strict limitations in relation to dismissals, as well as a programme of growth in salaries indexed to inflation and productivity (Lipietz, 1992; 1996). To these three aspects, Bob Jessop adds a fourth that sees Fordism as a pattern of institutional integration and social cohesion, and considers "the consumption of standardized mass commodities in nuclear family households and the provision of standardized collective goods and services by the bureaucratic state " (Jessop, 1994: 254).

With the oil crisis in the 1970s there began a gradual decline in working conditions and an increase in unemployment that steadily worsened the state fiscal crises. At the same time the

role of the state, public policies and trade unions were called into question. In the United Kingdom, for example, the government of Margaret Thatcher adopted policies centred on flexibility and deregulation that came together with restrictive legislation on trade union influence. Between 1980 and 1993, the introduction of eight laws aimed at regulating trade union activity (Waddington, 1995: 31 ss.), had the immediate effect of validating the market and the individual and the isolation of the worker in any social context (Beynon, 1999: 274-275). Simultaneously, the decline of Fordism paved the way for new frameworks and began what would become the most profound reorganisation of labour market since the post-war era: decentralised production, greater specialisation, technological innovation, flexibilization, semi-autonomous teams (Toyotism), new qualifications, multiplication of contractual forms, sub-contracting, models of *lean production*, new techniques of production management (*just-in-time*), *total quality management*, reengineering, externalization and *outsourcing*, teamwork, etc. **(**Hyman, 1994 and 2004; Amin, 1994; Womack, Jones and Roos, 1990; Costa, 2008).

Such trends created further impacts produced by the transformation of global capitalism, among these, the action of multinationals, which change national economies and complicate trade union action; the increase of structural unemployment, a catalyst for processes of social exclusion; the relocation of productive processes and the predominance of financial markets over the productive markets; an increasing fragmentation of labour markets, which maintain sections of downtrodden workforce below the poverty line; the development of a mass culture dominated by a consumerist ideology and by using credit for consumption. (Santos, 1995b; 2006). It was evident throughout the first decade of the 21st Century that the new forms of labour relations meant an increase in precariousness, whether in Portugal or in Europe: receipts for the self-employed (or better, false receipts)[2], short term contracts, temporary work, part-time work, illegal work in the informal economy[3], etc., are just a few types among a wider range of new forms of labour relations (Antunes, 2006; Aubenas, 2010) in the 21st Century. It is not surprising, therefore, that throughout the last decade, opposing theses have been identified in relation to the position/centrality of labour in society.[4]

These trends are a long way from confirming the *end of work* or, in other words, the fragmentation of the wage society into "non-class of non-workers" (André Gorz), although one can recognise the lesser importance of labour to the definition and restructuring of individual identity and its difficulty in locating social bonds (Claus Offe; Jeremy Rifkin; Ulrich Beck; Dominique Méda). Job becomes a benefit that is increasingly scarce, but this has not reduced the significance of work and has only served to highlight its role as a factor that bestows dignity and human rights. Even considering the virtuality of the information society (Manuel Castells), the aforementioned fragmentation and volatility of the processes and forms of work and the "post-industrial" character of Western societies, it is worth noting, in line with institutions such as ILO, that "labour is not a commodity" and that there

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[2] For an analysis of this phenomenon - which in Portugal amounts to 900,000 people - cf. AAVV (2009).

[3] It is estimated that in Portugal the informal economy represents about a ¼ of the Portuguese GNP. As Dornelas *et al.* (2011: 16) indicate, the amount of work which is not declared illustrates, above all, motivations that are more economic than social and affect even further the different categories the further these are found to be from typical and protected employment. Furthermore, it is part (16%) of non-paid work carried out in the formal sector of the formal economy.

[4] For a more developed analysis of these theses, cf. Toni (2003).

is not an alternative to the civilization of work, even though its forms are turning out to be increasingly unstable and multifaceted. It is undeniable that salaried work has become the stage of negative individualism, of precariousness and has been losing consistency, stability and even dignity as it is mentioned by the Decent Work Agenda and other ILO programs (Rodgers *et al.,* 2009). But as many engaged academics have pointed out, work remains at the centre of social conflicts and present day political struggles. It is necessary, therefore, to rediscover and reinforce its role as the glue of society, that is to say, as a decisive space in the defence of social cohesion and the exercise of citizenship, revitalising the mechanisms of dialogue and consensus by way of a new social contract that consolidates democracy (Robert Castel, 1998; Santos, 1998)[5].

4. Precariousness and the challenges of collective action

The trends of productive restructuring, the reorganisation of labour relations and metabolism which have been taking place in our societies, as well as their cycles and fluctuations between crises and social dumping, on the one hand, and euphoric consumerism and growth on the other, can be understood as situations that are innate to the very structure of modern capitalism. The logic of accumulation and the regulation mechanisms of the economic system have, in spite of everything, demonstrated a huge inventive capacity in resorting to diverse ways of mediation that as a general rule are able to ensure their reproduction, despite the suffering that this may involve for the dispossessed classes. As Ricardo Antunes has noted, "there has been a decrease in the traditional working class. But, simultaneously, a significant *subproletarization* of work has been carried out, resulting from diverse forms of part-time, precarious, informal, subcontracted work, etc. There has taken place, therefore, a significant *heterogenization*, *complexification* and *fragmentation* of work" (Antunes, 1999:209).

Thus, not only did the potential of work not disappear but its central importance was reinforced. This is the perspective we subscribe. Besides production and development, labour relations remains a decisive space for identity construction, a field for the affirmation of qualifications, a source from which rights and citizenship spring. When workers weep at the doors of factories which have closed down it is not only because they have lost their source of income. It is because their very human dignity has been deeply wounded. In other words, labour still is a vital dimension of sociability that connects the individual to nature and society. For this reason we should assert that the withdrawal of conditions for security and stability in labour relations can only result in wearing out the "social fabric" (that is, the structuring process of the hole society) with all the risks that this involves, whether for economic activity or the lives of people.

We already know the devastating results of "wild capitalism" in the 19th Century whose process of commercial exploitation has meant the transmutation of the market economy to a market society with labour being stripped of its human character and dignity. And in 20th

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[5] In the terms of this contract: i) the work should be democratically shared (the strengthening of *labour standards* is crucial in this respect); ii) its polymorphism should be recognised (a minimum level of inclusion is necessary for atypical forms of work); iii) and trade union movement should be reinvented (whether intervening at different scales and not only at the local/national level, or promoting any global alternative)

Century Europe, with the promising experience of "thirty glorious years" faded away, neoliberalism again subjugated economic activity to the power of the markets (Polanyi, 1980). All this has taken place under an ideological discourse that has led us to believe that work has become something intangible, ethereal and completely dehumanised, that can be summed up as a set of indices and statistical indicators. If it is true that in the middle of the last century the advent of the Welfare state was able to limit the excesses of wild capitalism, sixty years later we are again witnessing the collapse of this redistributive model and with it the worsening of the social condition of the working class (including sectors of the salaried middle class).

At the present time, the lowest position in the social pyramid appears to be occupied by those working in *precarious positions*, and this is the segment that, as a matter of fact, is "dragging to the bottom" the strategic role of the middle classes as the functional *buffer zones* or *service classes* of Western democracies (Erikson & Goldthorpe, 1993; Estanque, 2005). As Standing (2009: 109-114) noted, this involves a growing legion of people that move between insecure and badly paid jobs (in some countries the immigrant population is an example) who have no idea what job security is, who do not use the title professional to say what they do and who make up the vast world of the "informal economy" in which the word "rights" is put to one side: "flexi-workers" or "generation Y" (born after 1980) are but two of the labels to designate a new precarious class which uses a new language – emails, sms, Facebook, etc. – that sometimes makes of them a "cibertariat" (Huws, 2003). If citizenship were defined in terms of occupational rights, then this *precarious class* would lack citizenship. The precarious worker "does not have a material basis, or the occupational space, to develop leisure and participate politically". In this sense, the *precarious class* "does not have freedom because it lacks security" (Standing, 2009: 314).

Below the precarious workers, at the "level of junk" (to use an expression that, sadly, has been popularised by the *rating* agencies to discredit the economies that do not adhere to the "law of the markets"), there are only the unemployed and the *detached*. On the one hand, the unemployed suffer from lack of opportunities yielded by the market. On the other hand, the *detached* are also a growing category, without access to state benefits, and live in a state of chronic poverty in underground railway stations, under bridges or in city parks and who, as Standing notes (2009: 115), apart from having the term *lumpenproletariat* (Marx) applied to them, are not wanted as neighbours.

In a notable work about the changes in the world of labour, Serge Paugam (2000) proposes a typification of precariousness, making reference to: a) a *secure integration*, which corresponds to a double security, firstly, the material and symbolic recognition derived from work and, secondly, the social protection associated with a stable job and the supporting mechanisms which confer stability (typical of Fordism). However, at the turn of the century the scenario of labour was to open up into new forms of contractualization and the exercise of working activity, resulting in ways of integration that were increasingly precarious: b) *uncertain integration*, which corresponds to a state of satisfaction with work but with instability of employment (this is the case of companies in difficulties, more or less condemned to reducing full time positions or to closure); c) *labour integration*, which corresponds to dissatisfaction with work, but stability of employment (it is the case of companies that go through restructuring of the productive system but remain solid); d) *disqualifying integration*, which corresponds to dissatisfaction with labour and instability of employment (professional precariousness being the most notable form, multinational companies, where constant danger of displacement exists, or of companies that offer part-time work, for example).

These situations, that ten years ago were considered "deviations" or included in so-called "atypical work", have rapidly evolved into *a new pattern* which, despite considerable differences in the situations that exist between them, share the characteristic of precariousness as a common denominator, and are associated with contexts of fear and complete worker dependence. This precarious proletariat or this "class" (between commas), as discussed by Giovanni Alves, is composed of individual "men and women toyed with in the social world of capital, dispossessed, subordinated and immersed in the contingencies of life and the vagaries of the market", the subject of fetishism and the unfamiliar that pushes the individual into "subordination, chance and contingency, insecurity and existential lack of control, incommunicability, corrosion of character, aimlessness and suffering" (Alves, 2009: 81-89). It is a social condition of great fragility that has come to be structured in the shadow of the fragmentation of work in global capitalism and that has led workers, in a first phase, to a state of social disillusionment that has culminated in the drastic reduction in the levels of civic, associative and political participation, and who remain paralysed by fear, by the constraints that are exerted at work but which have an impact on all areas of social life, from the factory to the community, from the company to the family (Estanque, 2000; Aubenas, 2010).

5. Labour market indicators

Looking at some of the indicators of the labour market – such as salaries, fixed-term contracts or the phenomenon of unemployment – is also revealing of the difficulties that are experienced in the professional field. As a starting point, it is important to point out that labour relations systems (working conditions, employment legislation, etc.) are not uniform, either internationally or even at the European level. Nevertheless, worrying tendencies can be identified.

For example, about income levels, the cuts in salaries are striking, particularly among the public sector workers of the more fragile economies (Greece, Ireland, Portugal are some of the most cited examples in the context of the EU). In 2011, in the case of Portugal, public sector workers had their salaries cut by up to 10% and saw their Christmas subsidy reduced by 50%. Furthermore, in the same country for 2012 and 2013, public sector subsidies for Christmas and summer – which have been the result of workers victories for over 30 years – will be cut completely. So the severe austerity measures that affect public sector workers (including both active and retired workers, with ramifications on the lives of approximately 3 million people) are a clear demonstration of the deficit of social justice in the wage relation and its extension to the private sector is a strong possibility (Reis, 2009: 11; Reis & Rodrigues, 2011; Costa, 2012).

In the context of the economic crisis the minimum wage will therefore be of further importance. It is basic thinking to remember that this instrument of policy, apart from being an important source of social justice, may also constitute indispensable financial support that will allow many families to survive. For the workers, the risk of poverty in Portugal is 12% (correspondent to 2/3 of the risk of total poverty[6]), whereas in Europe it is 8% (half of the risk of total poverty), which shows that in Portugal the salaries are too low to sufficiently deal with situations of poverty risk (Dornelas *et al.,* 2011: 18; Caleiras, 2011).

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[6] Which is now around 18% after social transferences by the state. Before those transferences the poverty risk is, according to Eurostat, about 42% (PORDATA, 2011).

Just like the salaries, the short-term contracts (for periods of 6 months, generally speaking) also point to precariousness lying ahead. Again, taking into account the Portuguese labour context, between 1999 and 2007 there was an increase in the probability of short-term contracts being signed and maintained for a longer period of time. Given the dynamics of starting an active life, this phenomenon particularly affected young workers, but has also come to affect workers of all ages. Furthermore, in the service sector flexibilization has been especially evident through the use of fixed-term contracts, permitting greater rotation of employment[7]. Thus, "this excessive rotation reduces the incentive to invest in education and training on the part of companies and workers, and intensify the polarisation of the labour market, affecting negatively the accumulation of human capital of the economy" (Reis, 2009: 12).

Taken as a whole, short-term contracts comprise more than 20% of wage earners, but the younger generations in particular, with high levels of education, this situation is much more concerning. The percentage of precarious employment (if we add short-term contracts, the self-employed, temporary workers and part-time work) is now close to 30% of total employment. According to official sources, in 2010 there were 37,6% of workers between the ages of 15- 34 working on fixed-term contracts, whereas if we consider the age group between 15 - 24 years old this percentage is close to 50% (INE, 2010; Carmo, 2010). In the last decade, jobs offering permanent contracts have decreased at the same pace as fixed-term contracts have increased. This type of contract has steadily increased in all age groups, with the younger generation between 15 - 24 years of age (today popularly known as the *Geração à Rasca* – "Desperate Generation")[8] bearing the brunt of this, which is likewise happening in many other European countries (Estanque, 2012).

But today the phenomenon of unemployment is more visible than ever. According to the International Labour Organisation (ILO), unemployment on a global level in 2010 (in spite of a partial recovery after the sub-prime crisis in 2008) remained at high levels, reaching 205 million, with more than 27.5 million unemployed in 2010 than in 2007 (ILO, 2011: 12). According to Eurostat (2011c), just in the EU27, in August 2011, 22,785 million men and women were unemployed (with de 15,739 million unemployed in "Eurozone" countries).

In Portugal, unemployment figures went from 525 thousands (10,1%), in December 2009, to 547 thousands (11%), in December 2010. At this time (December 2010), unemployment rate in the Eurozone was 10% and in the UE/27 it was 9,6% (Eurostat, 2011a). On year later, in December 2011, the percentage of unemployed in Portugal was 13,6%, whilst the average in the Eurozone was 10,4% and in the UE/27 it was 9,9% (Eurostat, 2012a). But according to the National Statistics Institute (INE), in the last quarter of 2011 the unemployment rate reached even at 14%, the highest on record, affecting 771,000 people. However, , the evolution of unemployment goes very quickly, standing at 14.8% in January 2012 (Eurostat, 2012b).

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[7] Mário Centeno, in interview with the newspaper *Público*, 7/02/2011. See also Centeno and Novo (2008b: 146).

[8] Since the 12th March 2011, this class of precarious workers has identified itself with the 'Desperate Generation' due to the huge demonstration (that brought together 300,000 people in Lisbon and other cities) that was organised by a group of young people through Facebook, and which, according to several commentators, marked a turning point in the forms of collective action and established itself as a new phenomenon on the national political scene.

Unemployment figures force us to emphasize, whether in terms of length or age groups that it is young people (which are the better qualified) who are particularly affected. In truth, the tendency for an increase in unemployment appears clear, above all the long-term unemployed[9] which cannot be disassociated from, as hitherto mentioned, the high percentage of precarious jobs in Portugal. Furthermore, at the heart of companies low levels of adaptability to work and to working time are evident, which has led to more dismissals, facilitated precarious contracts and made the balance between professional and family life more difficult (Dornelas, 2009: 128-129).

Data from the ILO indicate that unemployment among Portuguese young people (15 to 24 years old) increased from 16,6 % before the crisis to 22,3 % in 2010, following countries such as Slovakia (33,6 %), Estonia (33 %) or Greece (32,9 %). Even worse, in the first quarter of 2011, the youth unemployment rate in Portugal jumped to 27,8% (INE, 2011: 2). According INE, of the 609,400 unemployed people in the third quarter of 2010, 285,400 were young people below the age of 34. Here (youth unemployment) we can also include graduate unemployment: if in 2000 the number of unemployed graduates was 83,000, in 2010 this had risen to 190,000. These numbers show, therefore, that unemployment among young graduates has worsened in recent years, rising to 55,000 (in 2010), although it is known that graduates receive higher salaries and spend less time being unemployed or working in precarious employment than the rest. Regardless, whether it is unemployment or temporary contracts the young are especially hard hit (INE, 2011).

6. Subjective attitudes

In a climate of economic crisis like this, the indices of satisfaction, loyalty and labour cohesion tend, as is expected, to decrease. In the Portuguese case, this has actually happened. As is stated in the 2011 report of the National Observatory for Human Resources (ONRH), from 2009 to 2010 the level of satisfaction of Portuguese workers dropped 1,2%, their loyalty to the company they worked for fell 1,3%, and the involvement of employees with organisations fell 0,8%. Of the 12 indices evaluated by ONRH, all decreased in relation to 2009. The problem of security has been pointed to as the principal concern of Portuguese workers. In a recent international study, Skidmore and Bound (2008) analyse indices such as: (i) the ability of the worker to influence working conditions (working environment); (ii) worker autonomy; (iii) creativity in the workplace, and they found that the Iberian countries (Portugal, Spain) and others in the south of Europe contrasted significantly with countries in the north of Europe. Considering the responses to these indicators, the indices for well-being and interpersonal confidence were found to be very low (above all in the case of Portugal) in addition to showing a close correlation with democracy in the workplace and with mechanisms of dialogue and participation (also very low).

Other studies have attempted to measure the happiness of citizens based on social psychology models (Easterlin, 2001 and 2005; Veernhoven & Hagerty, 2006; Veernhoven, 2011). A recent study (conducted by Rui Brites da Silva) showed that, in terms of the index of subjective well-being, the Portuguese occupy a position in the second half of the table. In Veernhoven's *ranking* for the period 2000-2009, Portugal is in 79th place (with 5.7 points on a

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[9] In the 3rd quarter of 2010, there were nearly 340,000 long-term unemployed in Portugal (INE, 2010).

scale from 0 to 10) among 149 countries, with the same number of points as Belarus, Djibouti, Egypt, Mongolia, Nigeria and Romania. The first places are occupied by Costa Rica (1st, with 8.5 points on the same scale), Demark (2nd), Iceland (3rd), Canada (4th), and Finland (5th). Furthermore, this study, which was not only supported by these indicators but also by the report of the "Stiglitz Comission"[10] presents results of the subjective well-being index, thereby attempting to combine both the subjective and objective dimensions of happiness. Despite its limitations, the criteria used show a significant consistency, with the subjective evaluation of those questioned being confirmed in the data of the *Europen Social Survey* (ESS). In addition, it was possible, based on these findings, to conclude that the subjective well-being of the Portuguese decreased when moving from north to the south of the country, that the indices of happiness are higher in men than they are in women, and that the lowest indices of well-being are to be found in the older age groups, especially in females (Silva, 2011: 200-205).

To these data can be added others, conducted by various international bodies, to illustrate the heightened climate of mistrust on the part of citizens towards institutions, the functioning of the political system, and who express a general feeling of scepticism about the democratic system in such fundamental areas such as governance, the economic situation, and the system of justice. This scepticism is also expressed in their opinions about the ability of the present leadership and the "political elite" in general, demonstrating once again the growing gap between citizens and political life and the risk this represents for the representative democracy. The results of the (ESS) aimed at evaluating the degree of satisfaction of citizens (using a scale from 0 = extremely satisfied to 10 = extremely dissatisfied) throughout the first decade of this century. The Portuguese showed themselves to be moderately satisfied with their life conditions, but with percentages clearly below the average of EU countries, results that were more notable when compared to those of northern Europe (Vala *et al.,* 2010). As for the economic situation of the country, the levels of dissatisfaction are clearly more apparent, with a tendency to increase as the successive results of the four questionnaires applied over the ten-year period were collected.

As for the degree of satisfaction in relation to the way the government is performing, results fluctuate somewhat in accordance with political cycles (with higher indices of dissatisfaction in 2002 and 2008), but which, generally speaking, point to negative evaluations well above the EU average, with the total of negative percentages (between 0 and 4) either coming close to or exceeding 50%, and rising to 64,2% in 2004 and 66,6% in 2008. This mistrust of the

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[10] In fact this commission was constituted, apart from Joseph Stiglitz, by Amartya Sen and J.P. Fitoussi and other academics and specialists, a group promoted by the French President Nicolas Sarkozy, with the team in its first report having suggested new initiatives and criteria to evaluate economic performance, such as: "- using other indicators apart from GNP in national expenditure; - verifying the performance of basic sectors like health and education; - considering domestic activities and taking into account the life patterns of people; - adding information about wealth distribution and income; including activities outside the market. An innovation proposed by the report is the net and not gross evaluation of economic activities, in a way that allows the extraction of natural resources, the environmental impacts caused by the production or use of *stocks* to be taken into account". In: site "Sustainable planet", accessed on 7/09/2011:

http://planetasustentavel.abril.com.br/noticia/desenvolvimento/comissao-stiglitz-sen-fitoussi-pib-489751.shtml

government is only exceeded when treating the degree of confidence in politicians. In this case, totalling up the negative figures (between 0 and 4 on the scale), for 2004 we obtain 76.6% and 81.2% for 2008, in addition to the fact that the negative results are significantly higher in Portugal than the average for the other countries. It can also be noted, with regard to the little confidence in the "political class", that the indicator "no confidence whatsoever" in 2002 obtained 17.2% of responses (as opposed to an average of 11.8% in other countries), rising to 25.3%, 25.7% and 29.4% respectively in 2004, 2006 and 2008, therefore remaining about 10% above the average. It can be noted that this low confidence (in government and politicians) also extends to social confidence (interpersonal and in the goodwill of others) and institutional issues (national parliament). As referred to in a comparative study in the European context, the Scandinavian countries (Denmark, Finland, Norway, Sweden) and Switzerland, express the highest levels of confidence on these two levels, whilst Portugal, Spain and Eastern European countries (notably Poland, Hungary and Slovenia) express the opposite, demonstrating very low levels of confidence (Correia Silva, 2011: 51-57).

7. Precariousness and new social movements (NSMs)

The indicators above clearly show the seriousness of the social situation in European countries. The loss of trust in the system represents a threat to social cohesion and to stability which, in spite of everything, has characterised Western democracies since the end of the Second World War. All the changes that have taken place in the area of the economy in the last few decades have been developed in order to hamper or reverse the old European social model, which in the past was deemed irreversible and an example for other continents to follow. However, the most recent trends appear to surprise even the most sceptical, given the magnitude of the problems now emerging. One of the reasons that the point we have reached is so worrying is because, once again, the issue of labour and the access to employment are again at the centre of controversy and social conflict. In the last fifty years, not only have Western economies and systems of employment become tertiary but the standardised and stable forms of professional practice have also been dismantled or are in the process of being so, as we have previously seen. It can be said that with the stagnation of industrial production and the consolidation of Fordism (in the private and public sectors) the old labour conflict has become "depoliticised" and has gradually become a "manageable" factor in the demanding productive sphere. In a certain sense, we have witnessed a process of institutionalisation in which dialogue and negotiation have substituted the struggle of the working class and trade unions, weakening therefore the dynamic of the trade union as a *movement*. Although it would be an exaggeration to suggest that the battles of trade unionism disappeared in order to give their leaders a greater role and more flexibility to negotiate, the fact is that trade unionism, to a large extent, became bureaucratic, "softer" and more "compliant" as its foundations of support converted from traditional manual workers to the new middle "service class" (Goldthorpe). It is in this sense that we can assert that trade union action became "depoliticised" so as to give a role to "social concertation" and to the corporative spirit. Yet this tendency was found to be on the verge of saturation point (Estanque and Costa, 2011).

If one can confirm that the socio-occupational situation is becoming increasingly worse (on both the objective and subjective levels), it can be said that discontentment will increase to

give rise to conflict. So, the argument we would like to stress is that the intensification and expansion of precariousness, the fragmentation of productive processes, and the disregarding of rights and dignity associated with labour relations, are creating a new form of struggle which is based around work and the struggles for the recovery of its dignity will affirm a new state of politicisation. This appears to be happening through new socio-occupational movements that are presently raging across societies on a global level.

Social movements are sometimes classified as "old" and "new", that is, between the dynamics of a socioeconomic base (the labour movement) or the dynamics of a sociocultural base (student movements, environmentalists, pacifists, feminists, etc). This distinction can be adapted to the present discussion given it is about the connections between the field of labour and the activists uprising from the broader sphere of society (Touraine, 1981; Cohen and Arato, 1992; Alvarez *et al.*, 2000; Santos, 2004). Current social protests indicate that the preceding period has been overcome. That is to say, the weakness, the helplessness and the fear that paralysed any possible response on the part of the workforce reached the end. The excluded, unemployed and segments of skilled youth, and those that turn away from trade union organisations seems to resist and want to struggle again. So, these recent social trends seems to reflect a new interconnection between two sides: the sociocultural side, related to the students and well educated segments; and the labour side, with the new "precariat" filed by those coming from the work field at the costs of the growing flexibility, unemployment and precariousness. Both sectors seem to become more united as they have been demonstrating together along 2011 in several countries.

In this sense it is necessary to realign the discussion about the NSMs and draw it toward issues about changes in labour relations. In fact, although sociology of work and industrial relations have established an autonomous theoretical framework, the present approach prefers to draw on some of the classic discussions on the "social question" - which throughout the 19th Century so greatly inspired the main thinkers in the social sciences - by taking up the idea of the centrality of labour and seeking to interpret the current process of reorganisation of labour relations as a driving force of a "new social question" (Estanque, 2007). In other words, this means a process that not only questions the productive system and the rights of workers as such, but above all that threatens the social cohesion, the viability of the economic system, and the future of Europe and representative democracy itself (Castel, 1998; Estanque and Costa, 2011).

Our perspective is inspired by the legacy of the 60s and the 70s but to which is added the features of innovation that have appeared with the most recent movements in the cyberspace era. Clearly, the historical past cannot be wiped clean and it would be naive to believe that this would be possible. Therefore, it is necessary to learn from theoretical reflection what such experiences give rise to, first of all because many of the social scientists that dedicate themselves to the study of these phenomena were themselves involved as activists in these movements. Today, just like yesterday, it is theoretical reflection that pursues the dynamics of societies and the sociopolitical breakdowns that in general are imposed by the NSMs. So we continue to seek in the social responses the inspiring sources of critical thinking and the emancipatory alternatives of our times (Santos, 2004, 2005 e 2011). Apart from the aforementioned division between' old' and 'new' movements, that is to say, between the movements of a socioeconomic base, materialist and classist (of which the old labour movement is the paradigmatic example) and the movements that are

fundamentally of a sociocultural base, post-materialist and interclassist (of which the environmentalists, feminists, pacifists, students, etc. are examples), we can associate each one of these two categories to two logics pointed up by Boltanski and Chiapello (2001): 'social' criticism essentially led by the labour and trade union movement, and 'artistic' (or aesthetic) criticism led by the NSMs. Apart from this, it is important not to forget the connections that both types maintain with distinct segments of class that feed their composition and dynamism.

8. Social movements and the radicalism of the middle class

While trade unions and labour fields were in the past closely tied to the working class, social movements of the sixties, despite being heterogeneous, can be readily associated with the middle class. We are aware that this connection with the middle class is not as obvious as it was the working class toward trade union movement in the past. In fact, apart from "class determinism" being a misleading premise, the heterogeneity and the internal fragmentation of both the "middle classes" and "working class" strips away the sense of any cause-effect relation in this respect. What happens is that certain class groups – or if we prefer, some specific social segments – located themselves in the most general framework of the social structure, are to be found in such particular conditions, that they can trigger shared subjectivities and collective attitudes characterised by common concerns, therefore favouring collective action. Besides, cultural environments and socialising contexts are decisive to forge identities or at least shared forms of identification in conditions which give rise to social movements: identity, opposition to a recognised adversary and a common idea (principle of *totality*) in relation to an alternative constitute three of the principles pointed to by Alain Touraine (1981 and 2006) as decisive criteria in defining a social movement (Tilly, 1978 and 1996).

The NSMs that started forty years ago were, undoubtedly, notable examples of an active role of the middle class strata (probably richer in cultural capital than economic capital), where in fact the better educated young people played a decisive role. The fact that students activism took root in a place which, at that time, was almost exclusively dominated by the children of the dominant elite, should not detract from the importance of its tremendously transforming and progressive impact. It can be said that the patterns of taste brought about by these movements – in aesthetics, in dress, in music, in literary and intellectual interests, in the expression of sexuality, etc. – not only changed everyday life and the life styles of the following generations but also gave new forms to the public and political sphere. The importance of the so called *artistic criticism* fell within the *culturalist* approach that these movements set in motion, putting forward new readings on the capitalist system and pressurising representative democracy to redefine its procedures and forms of exercising power. It is true that the institutional responses that followed in the West – or precisely because of them – illustrated a huge regenerative capacity of capitalism, which allow for the creation of new values, discourses, repertoires, and innovative forms of collective action (Eder, 2001; Boltanski and Chiapello, 2001; Chauvel, 2006; Estanque, 2012).

Social change in industrial societies throughout the 20th Century was generally perceived according to inherited rival perspectives, sometimes positivism, sometimes Marxism or far-left attitudes. However, the fact is that in actual social life both collective battles and social movements struggles as well as opportunities and social mobility processes brought about

by an open class system contributed to the restructuring of the system and to the growth of the middle class. The *culturalist approach* of the middle class, associated with the rise in new social movements, allowed for the first time for this class to be viewed in a positive and not a pejorative manner. The so called *middle class radicalism,* referred to as an expression of the student movements of the sixties (Parkin, 1968; Barker, 2008; Estanque and Bebiano, 2007) opened up a new perspective on this class, and did away with the old arguments of "individualism" and becoming part of the Bourgeoisie which obscured sociological and political meaning of these segments. And today, at the beginning of the second decade of the 21st Century, European reality has once again exposed certain preconceived ideas about this class: the traditional idea that the middle class is, above all, characterised by its *cultural good will* that tends to imitate the habits and the tastes of the elite, but is merely a pale imitation; the idea of "modest" tastes, fake imitations in opposition to authenticity, exemplifying the desire to even out inconsistencies in *status*, and an obsessive adherence to the *status quo,* all appear to show, at the present time, an image which is, to say the least, exaggerated and needs to be revised (Bourdieu, 1979).

It is important to remember in relation to this that Portuguese society was clearly not, and never had been, in tune with the problems of the more advanced countries in Europe. Therefore, when the students at the Sorbonne demanded more democracy, rights and sexual freedom within an established democratic regime, the Portuguese people were struggling for basic political freedom, for the end of the colonial war and Salazar's repressive regime. At that time, there was no place for either old or new movements in Portugal. Furthermore, it needs to be noted that in the sixties the salaried middle class in Portugal was practically non-existent. Even the student movements and academic battles of this decade were organised by university students – many of them politicised and sensitive to the tendencies of activism and the cultural and musical influences of the era – who were, essentially, the offspring of the privileged elite.

In developed Europe, the middle class "entrenched" in power for the last forty years, and the first generation to benefit from the *Welfare State*, created a "rebellious" generation. It was this, in fact, that turned the "youth" into a new "social actor" whose cultural dissent led to an important political turning point in the West, and with it, to a new aesthetic and sociocultural awareness, which broke with "petit bourgeoisie" values and the conventional mentality of the "well-behaved" middle class. The NSMs sowed the seeds of a new irreverence which was disseminated from the universities (Barker, 2008). However, if in 1968 the struggle of the student movement in Paris (the spokespersons of *artistic criticism*) languished when the alliance between trade unions and workers political parties (the so called *social criticism*) collapsed, in today's world the organisers of the protests no longer limit themselves to defending *post-materialist* values - rather they struggle with the difficulties of entering the labour market, or with the growing precariousness that denies them a decent future and dignified employment. Furthermore, it is no longer the students on one side and the workers on the other, but in fact a whole group of social segments affected by insecurity, precariousness, a lack of access to an opportunity for a stable future, hence the confluence of students and workers recently graduated from universities, diverse groups of discarded employees, workers who retired early, as well as the victims of austerity and the restructuring of the social state. It is in this context that we find conditions which are especially propitious for creating a potentially strong alliance between the labour field and the student among younger population (Boltanski and Chiapello, 2001; Estanque, 2008).

Meanwhile, in the case of Portugal, student's population suffered very deep changes. It is no more just the elite's children but – especially after Bologna process – massive sons of middle and lower strata that have entered the universities, while post-graduate programmes attract more and more professionals and workers trying to upgrade their skills and put forward new steps in their careers. As a result, we assist to a deep process of recomposition of this population in which youth life styles become mixture with middle age workers having in common the some feelings of discontent and disappointment toward labour market. Therefore, in the current context of social discontent it is important to understand the lines of structuration of the new rebels, not on the basis of the same avant-garde assumptions that enthused past generations but from its interconnections with the more general process of change in contemporary societies. If the social movements of the past proved to be so inspiring as to instil new ideas and greater intensity in Western democracies, the NSMs of the 21st Century place on the agenda new forms of activism that a short while ago were virtually unknown, but this novelty converges with some forms of continuity. In the following topic we will look at some of these forms.

9. Precariousness, revolutions and new forms of rebellion

Social convulsions and their demands can be – totally or partially, directly or indirectly, in the short or the medium term – absorbed by the existing institutions (which is common and normal in solid democracies) or openly repressed and contested by the established order (which, naturally, is more common in dictatorial regimes). This means that social movements can both force important political and institutional reforms and bring about ruptures and violent revolutions. Generally, we can speak about revolutions when the increasing levels of discontent and popular pressure go hand in hand with the discrediting of the elites or oligarchies in power, whilst simultaneously a new class (or organised group) with ambition and the conditions to achieve political power is rising. Charles Tilly points to three conditions in order to make sense to speak of revolutions: (1) when clear discrepancies are played out between what the states demands of their better organised citizens and that which they can demand them to do; (2) when states present their citizens with demands that threaten collective identities or violate rights connected to these identities; and (3) when the power of governments visibly diminishes in relation to the growing strength of their opponents (Tilly, 1996: 284). On the other hand, as previously shown, social movements can have political or sociocultural power of great significance without this resulting in a revolution. There are numerous examples of peaceful transitions of authoritarian systems to democratic regimes but this rarely happens without the people taking to the streets. Collective action and grassroots movements in struggles were decisive in the democratic wave in the transition of southern Europe countries (Huntington, 1991; Nunes, 2003; Freire, 2005), although, as we saw in relation to the NSMs of the sixties, in consolidated democracies the explicit aims can be defeated, even though social change subsequently takes place, on the cultural level and in values in a process that is refracted along history (Carmo, 2000; Goffman & Joy, 2007; Barker, 2008).

What is intended here is to present a common thread that allows us to question the connecting features between different and distant phenomena to one another, whether in space or in time. We have already referred to past European experiences of the 20th Century

that we think still retain a significant place as collective memory in terms of heritage for today's generations. It is now necessary for us to discuss possible connections between a range of experiences that have taken place extremely recently and on various continents. Since March 2011, the world has witnessed a new wave of rebellions and movements that have affected countries and cultures, including those where only but a short time ago any idea of political change was unimaginable. The so-called "Arab Spring" revealed to an astonished West a wave of movements founded at the heart of extremely repressive Islamic regimes, many of which have given rise to political revolutions whose outcomes are still unknown but where the desire for liberty and democracy are crucial. Although social climate and the forms of protest – in Tunisia, Algeria, Egypt, Jordan, Syria, Yemen and Libya – have, in theory, few similarities with the situation in Europe and the Western world, there are at least three aspects that these movements have in common with those that have very recently been sweeping across public squares and cities in the West: (1) the fact that they have, above all, been organised by educated young people; (2) the central concern of the protesters with the difficulties in finding employment and social justice; and (3) the use of Internet as their main tool for both organization and public condemnations, as well as using satellite communications.

It is fundamental to be attentive to the human and affective dimension of the many personal and social experiences – of conflict and harmony with the other – that are also ingredients of ill-will and discomfort, which express the inability of society to offer acceptance and safety and also the incessant search for sharing, for discovery and for recognition, like the atmospheres of thousands of young people in hundreds of squares like, to take an example, Tahrir Square in Cairo (Coelho, 2011). Certain segments, ethnic minorities, marginal and disrespected cultures, young people that resist aseptic integration into a society sometimes lacking in humanity constitute a diverse range of grievances that push them onto the bustling streets and for short periods of time into the rebellious emancipation that drives change in society. The young and old go through these "collective experiences of conflict", about which Carlos Gadea says that "they seem to arise from the ingredient of violence, a consequence of the participants who get together in limited social circles of practical implication in the world and feel that they cannot see themselves as being governed due to a lack of 'socialisation' in the 'structure of opportunities' that were created" (Gadea, 2011: 94).

When on 19th December 2010 the young Tunisian Mohamed Bouazizi set himself alight in front of a municipal office in his home town, Sidi Bouzid, in protest against the humiliation meted out by the authorities, who had confiscated his vegetables and produce which he had decided to sell, without having a permit, in his wheelbarrow, nobody could have imagined the contagious power that would be unleashed by this spark. It triggered a revolt that quickly spread to various countries and, in less than a year after this incident, had brought down a number of governments and in some cases (Tunisia, Egypt, Libya) gave rise to violent political revolutions. With levels of social inequality and significant unemployment (despite varying poverty rates), these countries are characterised by extremely young populations, the majority of them with half the population under 25 years of age and having a good level of education.

Contrary to a number of stereotypes that have taken root since 11th September 2001 relating to the "clash of civilisations" and which expose the ridicule aimed at "the Arab street" – where, according to many Western commentators, it is only possible to imagine

fundamentalist and anti-Western slogans being shouted – the young people of these countries have orchestrated the surprising downfall of dictators. "In the space of a few weeks, the myth of the passivity of the Arab people and their unsuitability for democracy had been blown sky-high (Gresh, 2011: 9). The Arab Spring deserved huge exposure in Western countries, the populations of which appeared to have been caught by surprise, and all the more so given the wave of indignation was, primarily, to bring down the tyranny and corrupt governments which had been in power for decades. In a word, they were fighting for democracy, which might signify a willingness to assimilate Western political models despite the fact that representative democracies themselves were ailing. In other words, all this seems paradoxical given that the spread of democratic values, the struggle for social justice and the Islamic countries desire for freedom took place at precisely the moment when Europe was falling headlong into a terrible economic and financial crisis, putting at risk the solidity of the democratic regimes and threatening to put an end to the *Welfare state* that had exercised so much fascination on different peoples from around the world.

The speed at which information spread and the visibility of the images of the events in real time exponentially increased the copycat effect. But the fuse only catches light when it contains sufficient gunpowder. The social causes that underlie the Arab revolutions are obviously not the same as those underlying the discontent in Western Europe. In the first case political democracy does not exist. In the second case, political democracy let itself become corrupted and was incapable of converging with economic democracy. The defence of social cohesion, which formerly was secured by the social state, is on the verge of a breakdown. We will do well not to forget that Europe is a puzzle of extremely unequal pieces which cannot be put together. In the late-developing European democracies of the southern countries (Portugal, Spain and Greece) the historical experiences of state authoritarianism left deep scars, and the brutality of the police forces and the centralisation of political power continued to prosper after the fall of the respective dictatorships.

With all of its peculiarities, the West built liberal democracies, but the excess of consumerism that neoliberal globalisation and financial capitalism spread throughout the world has had disruptive effects, such as famine, unemployment and a whole host of threats to safety and well-being. From these derived new forms of protest and activism, above all organised by the youngest and better educated, and they increasingly used new information and communication technologies (ICTs). Ever since the experience of the EZLN (the Zapatist Army in Chiapas) and the mythical commander Marcos, new and irreverent appeals to fight against hegemonic globalisation have been constantly put forward (Santos, 2005 e 2006). The protests challenging the World Trade Organisation (WTO) summit in Seattle in 1999, demonstrating against neoliberalism, enviromental destruction, and the growing hunger and misery in the world, saw hundreds of NGOs and grassroots movements concentrated in that city to show that citizenship can indeed have a voice and that participative democracy was not dead (Costa, 2006; 2010). It was the beginning of a new cycle of protests that started the so called "alter-globalisation" protest, bringing together a huge group of organisations that used computer networks and the Internet as their preferred means of contact. Cyberactivism became part of the routine of students and activists of all different types and the many initiatives of the World Social Forum promoted on various continents after the meeting in Porto Alegre (in 2003) announced a new agenda and gave a voice to trends of thought and grassroots movements in defense of participative democracy and crying out for "another world is possible!" (Santos, 2006).

Social movements can leave the stage for long periods but the previous experiences can very often act as germs that grow again from time to time, that is, memory tends to cater for an inspiring and enriching heritage in each cycle of movements. The events of December 2008 in Athens and other Greek cities (triggered after the killing of a teenager by police) served to illustrate the tensions existing in this country since the period of dictatorship and throughout the neoliberal restructuring at the beginning of the 1990s. "… in the eruption of December 2008 and during the previous ruptures, this depositioning of the social in relation to its political abstraction (representation and state) was not articulated into a coherent social alternative. It was articulated as a violent, non-directional (or rather multi-directional) 'realignment' of the political with the social terrains of the dismantled previous structures, forced into being by 'the street'" (Giovanopoulos and Dalakoglou, 2011: 111). In 2009 and 2010, the student movement which was against the Bologna model of education, took some radical action in certain Spanish cities such as Valencia and Barcelona, and challenged the commodified conception of the new model of organisation for university programmes, the risk of draining funds from public universities and, in essence, the organisation of this model according to a global logic dictated by global capital interest (Santos, 2004 and 2011).

In Portuguese society, the student movement only had real political significance in the country in the now distant years of the 1960s, and had taken on particular characteristics at the beginning of this decade in Lisbon and, at the end of the same decade (after May 1968), at the University of Coimbra. "In the 1960s, in particular, the University of Coimbra became the focus for a series of intense student protests taking place under a political regime with fascist characteristics, which repressed not only students but also democratic public opinion that were demanding democracy and calling for the end of the colonial war. On the one hand, universities in Portugal were extremely elitist, but, on the other hand, they were politically active and thereby helping to extend democratic consciousness all across society" (Estanque, 2010). With the implementation of democracy in Portugal social movements were notable for the dynamism of the workers and the plurality of popular forms that came about during the Carnation Revolution (1974-75) and which led young people and students to spread the diverse ideologies of the left and the far-left, but the working class vanguard was always on the horizon. There followed a period of little youth protest, which evolved into the activism of the 1970s (Cardina, 2008) and from there to the greater individualism and indifference of the 1980s which lasted until the recent past (Estanque and Bebiano, 2007). Only in the middle 1990s the university students showed again their uprising, this time related to the increasing fees in public universities, yet the first essay to assault public education in Europe (Drago, 2005).

Social movements strongly reemerged recently in the West, particularly in Europe. As previously mentioned, the Arab Spring has helped to trigger the most recent protests and sociopolitical activism. But the essential reasons are, as we indicated at the beginning, related to the labour market and the profound transformation that this has undergone in the last two decades. It can be said that the trend towards precariousness and individualisation, swept along by the neoliberal programme and the undermining of social rights, has led the younger generations to behave, firstly, in a consumerist fashion, then in an apathetic and depoliticised manner and, finally, with the increase in precariousness and unemployment, leading to fear and withdrawal. After the political and ideological convictions have been exhausted, it seemed that only individual solutions were left. The huge demonstration of the

already mentioned *Geração à Rasca* – "Desperate Generation" that took place in Lisbon and other Portuguese cities on the 12th March 2011 (named as M12M), and organised by a small group of young people through the social network, Facebook, had an unprecedented impact and took the majority of observers by surprise. Approximately 300,000 people marched through Portuguese cities, the majority in the capital. "Precariousness they want, rebels they will get!" was one of the slogans shouted the most. Despite the youthful dynamism of the protests, the demonstrators were notably diverse, from older citizens frustrated with the emancipatory promises of the revolution of April 1974, to middle-aged people made unemployed with the closures and relocations of companies, to those disposed of by the public sector, etc. The discontentment with the political parties and representative democracy were clearly visible: "A united people don't need a party!" was another slogan shouted in the Avenida da Liberdade.

In addition to employment, the need for security, the despair of families in trying to pay their debts and the risk of not only the usual sections of the less qualified but also important sections of the middle class falling overwhelmingly into poverty, we can now add – Portugal, Ireland and Greece being prominent cases – the frightening increase in austerity measures, abrupt cuts in salaries, and sharp increases in taxes and unemployment rates. The severity of the crisis and the discretionary manner in which European governments have loaded the sacrifices onto the workers and the public sector, scandalously sparing the banks, the economic elite and speculators of all types, can only lead to the increase in protests. Those camped in the *Puerta del Sol* in Madrid, and in various Spanish cities that followed in the month of May– M15M – adopted some of the features of the Portuguese movement, demanding better jobs, greater justice in the distribution of wealth and more democracy. From "Democracy Now!" to the "The indignant generation", through to "Occupy Wall Street", the objectives and phrases displayed before the watching media not only reflect the enormous diversity of the participants but also the actual vagueness of their objectives. In any event, the utopia, the idealism, the dream, the radicalism and the enormous variety of "demands" and ambitions, some more legitimate than others, always go hand in hand with youth movements. In this respect, the second decade of the 21st Century does not appear to differ a great deal from the 1960s. In the "Camps" of Puerta del Sol you can see various proposals of the indignants: «*real politics now*!»; «*they do not, they do not, they do not represent us*»; «*Spain is different, not indifferent*»; «*side a side b: we want to change the record*»; «*They are the captain, we are the sea*»; «*I love democracy, but you are absent*»; «*There is still the rest of the month left when my salary ends*»; «*violence is earning 600 Euros!*» (Velasco, 2011).

"The aims may be incoherent, but the common threads are clear. The protests that have mushroomed in over 900 cities in 80-plus countries over the past few days have voiced few practical demands, and in some cases they actually avoid making any. Participants favour the general over the specific. They think need matters more than greed. They like decisions by consensus, distrust elites and feel that capitalism's pains and gains are unfairly shared. Beyond that, the horizon clouds." *(The Economist,* October, 22nd 2011, p. 70). This passage sums up well the range of objectives and motivations that mobilised the millions, who on the 15th October 2011, participated in a unique global action that spread to all continents. At this point we can pinpoint the more innovative character of the present movements. Operating through social networks and reaching "dissident" social circles that are far beyond the "core groups" that in each context act as organising pivots, these are groups

which are quite fluid and volatile, that move and circulate, like links in a transmission chain of energy, enablers of socio-political dynamism. This is a language in which the meaning from contestation to radicalism of the discourse exalts "conflict" and antagonisms – "the other 1% against 'us', the 99%!!" – and constitutes the principal binding agent, but the aesthetics, the shades and sounds, the exotic clothes, the creative slogans, the more or less exuberant colours reveal the festive, playful and cathartic side of demonstrations where a youthful dynamic is evident, even if it does attract other age groups. As one of the young members of the indignants said in Madrid , "I am 57 years old. Today, at last, it feels like I'm 17! Onward: this is for everybody!".

10. Conclusion

The present paper has shown, firstly, how the systemic process of the reorganisation of the labour market has followed a strategy of the dominant economic power and at the same time the inability of the European political elites to secure the sustainability of this model of social state whose victories are now being reversed. From the strategy of flexibilization to the huge growth in precariousness it was but a small step. Workers' rights, safety at work, recognition and professional status that bestowed dignity for decades, the sense of progress and of future that justified access to better living conditions and encouraged the indebtedness of millions of middle class families (and even manual workers), in a short period of time seem to have "vanished in thin air" without having time to slow the process or even to become aware of the real risks involved.

European citizens were quick to understand and successive international studies showed that the subjective attitudes indicated a growing concern, mistrust and discontentment with life, with the working conditions and with the functioning of institutions in general, with the emphasis being placed on the political and legal systems. The collective apprehension with the reduction in public investments and the withdrawal of or reductions in finances in public service, particularly in health and education, are some of the aspects that have given rise to greater degrees of dissatisfaction in many countries in Europe. Whether on the subjective level, or whether in relation to working conditions and access to employment, educated young people, as we have seen in this chapter, are those most affected by the changes taking place in the economies. As for Portugal, which has been under greater scrutiny here, the increase in precariousness and unemployment has been more pronounced for the young, with approximately half of these to be found in precarious situations and for whom unemployment is around 35%, which means much more than double the national average.

Signs of indifference on the part of citizens in relation to political activity and to democratic institutions have already been making themselves felt to an alarming extent since the turn of the century. But the experience of the last few years, with the constant worsening of the economic and financial crisis, particularly the deficit and the pressure of the markets, has hit the living conditions of millions of Portuguese especially hard, abruptly robbing them of their expectations and their future. This also reflected the return of the "material" values. That is to say, once again, the "post-material" values that surpassed the old "economicist" struggles in the sixties are now staying behind vis-à-vis "materialistic" goals, except that the new uprisings do not forget issues like environment, gender, human rights. The point is that now new inequalities and forms of violence come together with the increasing of new oppressions, despotic powers and exploitation inside jobs.

Of course economic crisis, the violent austerity measures, with the growing unemployment and the expansion of poverty (including in the middle class segments) contributed decisively to the new discontents. People are becoming increasingly impatient and mistrustful of national and European politicians, and over the last year, they have started to protest. On the one hand, we are witnessing large mobilisations of trade unions, organised, above all, by groups in the public sector and in the area of education, and a general strike (the second in two years), organized by the two main trade union confederations, CGTP and UGT (ordinarily rivals), by the end of November 2011. On the other hand, the initiatives of those involved in the "precarious" movements are proliferating, organised by indignant young people in the absence of opportunities to get a dignified job, and after having invested in academic careers at the universities. From having an individualist, consumerist and indifferent attitude, from the search for individual solutions that led them to reject politics, from the evolution of the old activism (of the 1970s) to recent indifference, young Portuguese people, similar to the Spanish, English, French, Greek, Americans and even those who organised the Arab Spring, are showing signs of wanting to have a voice and to return to assert a collective will. To shout out their protests and return to politics.

Some of the protagonists in the present day movements protesting against precariousness and austerity that have hit some of the peripheral countries of Europe - the the "Inflexible precarious", the "FERVE-Fed up with green receipts", the "Intermittents of the show", and "May Day" –, are examples of maverick voices, of a larger dynamic irreverence, which have linked up with other groups and movements like the "Campers", the "Indignants" and more recently "Occupy Wall Street", "Occupy London" actions that are multiplying around the world, like the one that took place on 15th October in an admirable demonstration of vitality, of efficiency of the social networks and of cyberspace and the irreverent imagination of the present generation. Work, as the central sphere of social cohesion and integration, is the main target of this social regression unfolding in this context of crisis and austerity. But it should continue as the binding agent that can bring together distinct and traditionally divided logics of mobilisation. It is the struggle for the right to work and (through labour) for social and human rights (at work) that could bring together, on the one side, the trade unions and the precarious and, on the other side, the indignant movements that are proliferating in the country, in Europe and all around the world. Facing more urgent and primary needs, struggling against the "austeritarian" abolishing of a large set of labour rights, the aesthetic discourse loose mobilization capacity compared to those needs, but the new cultural identities of the precarious youth seems to be redefined on the grounds of both cultural and economic dimensions.

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Exploring the Sociology of Agriculture: Family Farmers in Norway – Future or Past Food Producers?

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1. Introduction

Agriculture and farming has changed dramatically during the past 30 years, from farmers being a social group enjoying political, economic and societal support to the current situation where farmers struggle to find legitimacy for a continued production. Norwegian family farming has mainly been organised as a relation between farm (unit of production) and the household (the family) (Blekesaune, 1996a). Research on family farming has focused upon structural changes, following economic and political trends in modern society (Buttel et al., 1990). Recurring questions have been: How can family farming as an institution survive when industry in general is capitalised? (Friedmann, 1978a; 1978b; Mann & Dickinson, 1978): When will family farming be subsumed to the interests of big agribusiness enterprises? (Friedland, 1984; Newby, 1978). Consideration of such matters has been grounded in structural theories of political economy and political sociology (Buttel et al., 1990). Farmers' own will and motivation have been of marginal interest in these studies (Johnsen, 2003). This does not mean that micro-sociological studies have been absent, but they have been mainly concentrated to inter-human relations such as changing gender patterns in agriculture (e.g. Almås, 1983; Brandth, 2002). One underlying questions of this chapter deals with classical concerns, such as: Why does family farming still exist? Agriculture has clearly been rationalised since the 1950s, but households based production still dominate in Norwegian agriculture.

This chapter focuses upon the future prospects of Norwegian farms, paying special attention to the typical family farms and farmers in Norway. Norwegian farmers share the experience of most farmers in the world that farm economic output is decreasing. As a result, the number of farm units is also decreasing; remaining farms are increasing in size, both in productive area and livestock numbers.

Family farming is still the most common way of organizing agricultural production in Norway, but the content of actual participation in agricultural production has changed. From occupying extended families in production, the majority of farms are hardly able to support one person on farm income (Almås & Haugen 1991; Bjørkhaug & Blekesaune 2008; Blekesaune, 1996a). From the 1980s, part-time farming has become the dominant type of strategy among Norwegian farmers, a strategy where the farmer or spouse, or both,

combine farming with off-farm work. Part-time farming is a stable strategy on farms that need off-farm income, due to inadequate income from full time farming (Blekesaune, 1996a:49). While pluriactivity, or part-time farming, can be seen as a strategy or movement away from farming, pluriactivity might also be a factor that keeps people on the land, reduces the decline in numbers of farms and strengthens the basis of local services (Kinsella et al., 2000).

In this chapter, household strategy is used as the unit of analysis to help understand the general process of agricultural change. The argument of a survival or adaptation strategy in farming is built on a model including reproduction of capital like investments in the farm, share of family income derived from the farm and household members adaptation to the labour market outside the farm. Those households that may sustain in the future are those that are able to increase production on their farms (Blekesaune, 1996a:50). In this chapter farmers' adaptations are explored and with that the future prospects of family farming; What is the reality of family farming in Norway?; Who are the family farmers?; How do the farmers view the future? Will they continue to develop their farms?; The chapter bases its analysis on empirical survey data of Norwegian farmers collected in 2002, 2004, 2006, 2008 and 2010.

2. Theorising sociology of agriculture

The development of new critical thinking in society generally and also within the social sciences from the late 1960s gradually influenced US rural and agricultural sociology (Buttel et al., 1990) which is regarded by Buttel (2001) as a paradigm shift into the new sociology of agriculture. New, mainly exogenous studies, started to appropriate (new) theoretical tools in their studies. The already established researchers in the field began to apply tools from social development and peasant studies (Goodman & Redclift, 1981; 1988; de Janvry, 1981) to the "fortuitous rediscovery" (Buttel's, 2001:166) of a large classical literature in the political economy and anthropology of agriculture. New, non-rural sociologists entered the arena contributing to this important turn. In 1978, these scholars published four pioneering papers (Friedmann, 1978a; 1978b; Mann and Dickinson, 1978; Newby, 1978). Buttel reports that these works opened a "whole new vistas in the sociological analysis of agriculture through the application of Marxist theory" (Buttel et al., 1990:77). The new political economical thinkers appeared as a neo-Marxist movement, repeating the classical questions: Why does family farming exist: When will it disappear due to the capitalistic forces dominating the rest of society? The 1978 papers built upon political economy approaches, basing their analysis on a rediscovery of the classical theoretical contributions from Marx and Weber but also upon less known theoretical work by Lenin, Kautsky and Chayanov (Buttel et al., 1990; Blekesaune, 1996b). The following section summarises the essence of these classics.

In his work *Kapital* (1867) Karl Marx predicted that capitalism would develop within agriculture following the same pattern as industry. Technological development and organisation of work would favour large enterprises (Blekesaune, 1996b). The system would be based on feudalism, with capitalist tenant farmers and proletarian workers of the land. In the new sociology of agriculture, different interpretations of Marx's theory were launched. Friedmann (1978a; 1978b) and Mann and Dickson (1978) used Marx's argument to ask why the particularities of agriculture as a production sector meant that agriculture experienced

slower and more uneven capitalist development than other branches of industry. Newby (1978) and later de Janvry (1980) and Friedland, Barton and Thomas (1981) argued that capitalist development in Western agriculture will continue (Buttel et al., 1990:79-80). That Marx's predictions were not fulfilled could be, according to Newby (1983), Marx's inappropriate case study, England, where the present agricultural feudal structure collapsed for the benefit of family farming. Blekesaune (1996b) adds to this that farmers also no longer needed to produce a surplus or ground rent and as such could compete with capitalist enterprises.

Max Weber, in his book *The Protestant Ethic and the Spirit of Capitalism* (1904), developed a wider concept of capitalism connected to the rationalisation of society. In Weber's work, capitalisation occurs when production is divided from the household economy to bring about greater efficiency of production. This is an interesting scenario for theorising the family farm, where the household and production are intrinsically linked, presenting a special case in terms of modern conceptualisations of capitalist production under increasingly neoliberal forms of governance. In *Die Verhältnisse der Landarbeiter im ostelbischen Deutschland* (1892), Weber compared the agricultural conditions on two sides of the river Elbe (see Blekesaune, 1996b). From this work, he concluded that the commercialisation of agriculture would eventually lead to the increasing use of wage earning workers, and over time, conditions would worsen for land workers due to bad contracts and so forth. However, he added that the value of being an independent farmer would overcome some of the economic concerns, and this could keep people in farming. Critics of Weber's explanations refer to a proletarian false consciousness as a reason for such expressions (e.g. Mann, 1990). Previous research do however support a Weberian suspicion that there is much more than economic rationality that keeps people in farming, particularly as economically, farming is not always profitable (Bjørkhaug, 2006). Many farmers value the independent lifestyle of farming and often cite this as a motivation for staying in farming, despite low economic return for goods produced on the farm.

Drawing upon the Marxist tradition, some prominent figures developed theories on the political economy of agriculture. In the late 19th century Russia, Lenin shared Marx's concern about the elimination of family farming in e.g. *The Development of Capitalism in Russia* (Lenin, 1899). Based on analysis of American agricultural census data between 1900 and 1910 Lenin (1915), found an occurring dualism in agriculture. That is, that the capitalist prospered on behalf of the proletarians. In Russia, Lenin identified three strata among the peasantry: The Kulaks, who were the richer group, the middle peasants and on the bottom of the hierarchy, the poor peasants. Lenin argued that this structure was polarising into a dualistic structure: The Kulaks into a rural bourgeoisie hiring wage labourers and the poor peasants becoming the rural proletariat.

Another important classic who contributed to the new sociology of agriculture was Karl Kautsky who also was influenced by Marx. In his major work on agriculture, *Die Agrarfrage* (1899), Kautsky did not find support for the hypothesis that family farming would be out phased. Kautsky therefore questioned the existence of a tendency towards a large-scale wage labour production in the Western Europe. Instead, he found that family farming was increasing its influence in German agriculture, and he changed his question to *why*. Kautsky argued that the development of a more industrialised form of agriculture, coupled with the availability of cheap grain for import, made European peasants change their production into

cattle, dairy and crops, which were well suited to small-scale farming. Capitalists did invest in the processing industry, leaving the middle peasants with clear fields in agricultural production (ERA, 2007). The success of this was partly built on the argument that land was a non-reproducible means of production; partly that most agricultural inputs and products were still non-commodities at that time and finally; that farmers could exploit their own labour for the survival of the status of being an independent farmer (Blekesaune 1996b). Kautsky was a dedicated Marxist, but through this work, contributed with an alternative account of capitalist transformation.

Finally, Chayanov argued with his *Theory of Peasant Economy* (1986) (a series of texts published between 1909 and 1929), that farm production and size depended upon the farming families need for consumption. When farming was carried out for the family only, Chayanov claimed that factors like wages and economic surpluses were irrelevant. Reproduction of the family and farm was a sufficient goal. The needs of the family would be reflected by the size of production. The value of reproduction was so high that family farmers would pay a higher price for farmland than capitalist investors. Through his work, Chayanov represented a principle challenge to Lenin's work. Chayanov's work showed that Lenin's statistical analysis did not reveal an irreversible class polarisation and argued that the Russian peasantry could play an important role in a future socialist society. Peasants should therefore rather be helped to prosper and modernise as individual farmers through the establishment of cooperatives, and should not be seen as enemies of the Russian proletariat (ERA, 2007).

Much is to be learnt from these classics. Through the rediscovery of these theories, intense debates on the future of family farming was again on the agenda from the late 1970s until the 1990's, in America (as summarised by Buttel et al., 1990), in the UK (Newby, 1983) as well as other advanced capitalist countries like in Norway (Almås, 1984) and Sweden (Djurfeldt, 1981).

The explanation following the revitalisation of classical theories has, by Johnsen (2004:420), been roughly united in two schools of thought, conceptualised as a *subsumption-* and a *survival*-school of family farming. Subscribers to the 'subsumption school' argued that "the inevitable and irreversible penetration of capitalist relations, wherein agricultural production would become increasingly integrated in wider circuits of industrial and finance capital, would lead to the extinction of family farming" (Johnsen, 2004:420). This conceptualisation represents the neo-Leninist strand of the new sociology of agriculture (see e.g. Newby, 1980; Friedland et al., 1981; de Janvry, 1981). The aim of these studies was to illustrate the formation of the economic relationship between agricultural capitalists and rural workers. According to Buttel (2001), the neo-Leninist branch was never the dominant position within the new agricultural sociology.

The development of a dualistic farming structure has also been described as the emergence of a bimodal structure characterised by increasing dominance (in size and number) of extremely large farm units on the one hand and extremely small farm units on the other (Buttel, 1983). Another component of this development is the marginalisation and rapid disappearance of medium sized farms, the "disappearing middle". However, as Buttel (1983:104) notes, "...this is an empirical trend rather than a completed process" of a decrease of the "middle" of full-time, medium sized, independent family farms. Buttel also adds that

huge differences exist between productions. From Buttel's (1983) references to the US farming systems, Munton and Marsden (1991) tested out the dualist thesis on British Agriculture. They suggest in their conclusions that the thesis is too structuralistic, paying inadequate attention to the range of responses found among farming households. A series of detailed interviews in different areas revealed diversity in social, economic and local strategies rather than a dualism. Blekesaune (1996a:14) joins the sceptics by claiming that the hypothesis of a "disappearing middle" has doubtful empirical support. The relevance of bimodal predictions is also called into question when Blekesaune (op cit.) argues that the pluriactive farm structure allows families to avoid proletarisation through a series of strategies, either through allocating their work and capital on the farm, or outside. Predictions of a disappearing middle are frequently returning as a diagnosis of Norwegian agriculture, but have not been shown to have developed.

Scholars from the 'survival school' had an alternative view with an emphasis on "how the non-commodification of farm labour and intergenerational transfer of land, together with the reciprocal exchange of resources between family farms, enabled [farmers] to out-compete corporate farms and persist over time" (Johnsen, 2004:421). Friedmann (1978a; 1978b; 1980) and Mann and Dickinson (1978) and Mann (1990) developed theories of how family farming could resist capitalistic production, forming the dominant position of agricultural sociology at the time. This position has been conceptualised as a hybrid of neo-Marxist peasant studies and Chayanovianism (see Buttel, 2001:168). Two differing arguments formed this branch of research: One that argued that peasantries and family farms performed important functions for capital such as producing cheap food; being a refuge for surplus labour; and ensuring the legitimacy of corporate capitalism. The other stressed the comparative advantages of family farming on behalf of capitalism, such as not needing profit for production (Buttel op. cit). Blekesaune (1996b) adds that the availability of agricultural technology to most farmers reveals another presumption of the farming family's ability to compete with capitalistic farming.

In an analysis of Norwegian family farming under capitalism, Almås (1984) applied a modernised Marxist model developed by Djurfeldt (1981) to discuss when and why family farming resists capitalism. By adjusting Djurfeldt's model, farm gross income is divided in a series of components that are outlined for understanding both the decline and survival of the family farm system in Norway. The elements of the analysis are composed of; 1) A consumption fund that can be supplemented by wage income; 2) The possibility of the reproduction of one's own capital, meaning maintenance of farm buildings, animals, fields and equipment; 3) Enlarged reproduction of own capital to keep up with growing farm size and number of animals and new technology; 4) Instalment of loans used to buy the means of production (such as machinery) and raw materials if 3 and 4 fail; and finally 5) Interest on loans (Almås, 1984:122). According to Almås (op cit.) farms that cannot reproduce on an enlarged scale and keep up with the development will drop out. Survival for these will only be short term, as long as they can accept a small income or supplement the household with off-farm wages or consume their own capital. Almås predicts that these, sooner or later, will either exit farming or engage in minimal levels of production.

It is argued that some key events have slowed the pace of an economic downturn for Norwegian farmers, thus postponing, or averting, the predicted demise of the family farm. In the 1960's, Norwegian agricultural policy aimed for a stable family farm through planned

national policies (Almås, 1984; 1994). Taking the market into consideration, Norwegian agriculture was to be protected. Political welfare issues took over the agenda in the 1970's and the rationalisation of the farming sector was no longer a goal. To secure the social status of the farmers, in a market were prices were falling and many farmers were forced to leave, the political goal was to equal the farm incomes to that of industry workers. This goal never materialised, but gave farmers substantial welfare gains (Almås, 1994). It also opened a short period of optimism and growth in Norwegian agricultural production (Almås, 1984; 2004; Blekesaune & Almås, 2002). This might although have been more beneficial for the larger farms as they were able to grow and increase their influence (Almås, 1984). In 1984, Almås concluded that over time, part-time farming replaces full-time farming in Norway . Several studies later showed how part-time farming has developed as a sustainable format of structural adjustment over time (e.g. Bjørkhaug & Blekesaune, 2008; Blekesaune, 1996a). It has been not been shown that part-time farming replaces family farming due to definitional differences, but rather that family farming currently is dependent on off-farm income, as is the continuation of family farming in Norway.

2.1 The continuing domination of the family farm

Predictions of family farm extinction in advanced capitalist countries have so far not been fulfilled, largely as we have not yet seen a discontinuation of the family farm structure. However, even if it is argued that family farming as an *institution* has survived, the number of farming households has declined. In Norway, a major part of the agricultural population has been forced to look for other ways of making a living since the 1950's. Table 1 shows the reduction of farm units in Norway between 1969 and 2010. 107 289 farms have closed down production in the period.

Year	1969	1979	1989	1999	2009
Farm units	154977	125302	99382	70740	47688

Source: Statistcs Norway (2011).

Table 1. Number of farm units with a minimum of 0.5 hectares agricultural area in use between 1969 and 2009.

As local conditions for agricultural production may have changed for the worse, family farmers have been confronted with the decision of whether to try to *stay* in farming or whether to *leave*. There might be different reasons for leaving farming; economic, social or environmental reasons, or a combination of these (Gray & Lawrence, 2001). The cost-prize squeeze of agriculture has arguably forced a lot of farmers to exit the industry. Economists have predicted that the current neo-liberal global market conditions will squeeze out 'bad' producers, particular where the nation state does not intervene with protectionist policies. This rural restructuring is often seen as a cleansing process, whereby farmers are making autonomous decisions in reaction to market forces (Gray & Lawrence, 2001:53). However, an actor-oriented perspective would question the usefulness of such a simplistic causal relationship between profitability and the propensity to remain in farming, as other factors also impact upon landholders decisions to remain in farming. For example; values, traditions, self-esteem and identity also inform social actors' decision-making (Share, Campbell and Lawrence, 1991).

Due to economic support through policy arrangements, Norwegian farmers have not been as vulnerable to market changes. Economic viability has been more closely linked to ability to change commensurate with changing policies, particularly those influencing on direct payments from the state to the farm and on prizes on farm commodities and activities (Bjørkhaug, 2007). In Norway, changing conditions have also meant that commodities and services have moved out of the households, thus creating new employment and market opportunities. Higher educational levels, coupled with the centralisation of people into cities, have enticed a number of people away from agriculture since the 1960s (Almås, 1983; 2004). As many less efficient farmers exit the industry or the farm lacks successors, vacant land offers the remaining farmers new opportunities to buy or lease more land to increase their own production. Through economies of scale, this created better opportunities for those remaining in business. However, those properties that were not enrolled into new patterns of production by neighbouring farms are said to have been subject to environmental decline (Olsson & Rønningen, 1999).

Many choose to live on the farm even though production has ended. It is however those who have remained in farming, keeping up the production, that is the focus of this chapter. In the literature, a number of different concepts have been applied to explain why farmers remain in farming despite reduced profitability in farming over time. One popular conceptualisation has been the "survival strategy". Surviving has both negative and positive connotations. According to Redclift (1986:220): "To survive in rural society under advanced capitalism (…) usually means accommodating structural changes rather than resisting them. If people resist too long, they risk not surviving". A diverse range of options can be applied to try to keep up farm production; adjust the production to the market, work harder, 'tighten belts', become pluriactive and engage in off-farm work (Lawrence, 1987). Pluriactivity describes the situation where farmers combine farm work with other work, or diversify the farm work, to increase household income (see e.g. Eikeland, 1999).

Increasing the level of off-farm income has become integral to the welfare of farm households in Norway and most other European countries (Eikeland, 1999; Jervell & Løyland, 1998). Some farmers have established tourism or other leisure industries in relation to their property (Loureiro & Jervell, 2005). Refining farm produce, for example, making cheese instead of selling raw milk is another way to add value to traditional farm products. Opportunities to adapt or adjust are not, however, always equally distributed and are also linked to the availability of different sources of capital (both social and economic) within the farm household (Meert et al., 2005).

Traditional farming, in combination with forestry, fishing and/or hunting, has been a common strategy of adaptation among many farmers in Norway (Flø, 1998). These activities have been the mainstay of the traditional family farm structure (Jervell, 1999:113). This has been particularly important for Norway, with its climatic variations and short growing seasons. Traditional farming activities are most intense in spring and summer. Autumn and winter activities includes fishing, hunting and work in forestry (based on property rights connected the farm) or as hired labour by forestry companies. In this sense, farming in Norway has always had an adaptive element. Today, these multiple resources still offer opportunities to diversify the farm income and enable the family farm structure to adapt to new economic imperatives. As such, policies are developed to support such adaptations. These include e.g. payments for preserving cultural landscapes, managing

the farm forest or support for starting new enterprises in relation to the farm resources etc. This is connected to both the possibilities of deriving added value from farm resources, but also acknowledging the multifunctional outputs of farm activities for the greater public good.

Various renditions of farming can be understood as adaptations only when farms are too small to supply fulltime employment or adequate income (Jervell, 1999). However, today an essential amount of income comes from wage labour outside of farming on most farms. This is, however, a result of a long, ongoing process. Wage income from off-farm work has exceeded farm income on the average Norwegian farm since the 1980's (Jervell and Løyland, 1998). During the same period, the average working hours on Norwegian farms increased (Bjørkhaug & Blekesaune, 2008). This decreasing value of farm work occurred due to changes in agricultural subsidies and commodity prices, but also as a result of more women working longer hours off the farm. Women's increased participation in the off-farm labour market is described as one of the most important structural changes in Norwegian farm households (Blekesaune, 1996a). New relations have also created new opportunities for exploiting rural resources and niches, such as local handicraft, baking or refining other farm produce (Eikeland, 1999). But, family farming has changed from an activity that occupied the family towards one that provides job opportunities for only a few.

3. Data and methods

In this chapter farmers' adaptation to changing agricultural policies and market situation are explored and with that the future prospects of family farming. Analysis of empirical data are carried out on 2002 to 2010 survey data (Trend-data), and data from Statistics Norway to reveal whether the structure of Norwegian farming resembles dualistic pattern (towards large and small farms) or other structural developments. Are small farms subsumed into larger capitalistic unites or is family farming still resisting such potential threats to the system and as such surviving and reproducing family farm?

Trend-data is derived from survey research with samples of Norwegian farmers. These surveys are conducted bi-annually by the Centre for rural research in Norway, with the first survey conducted in 2002 and the latest in 2010. The purpose of the survey is to provide a general base of knowledge on the socio-cultural factors of Norwegian agriculture and the changes in these over time. It also provides new research with relevant empirical data and reveals new questions in rural research.

Year	2002	2004	2006	2008	2010
Sample	1678	1712	1677	1607	1584
Response rate	53	55	54	51	50

Table 2. Trend-data: sample and response rate.

The target group or population is Norwegian farmers. These are persons that are main operators of farms with a minimum of agricultural production that makes them eligible for production subsidies (and then a name in the agricultural registers). All samples were

analysed and found representative for Norwegian farmers at the time of measurement (Logstein, 2010; Rye & Storstad, 2002; Rye & Storstad, 2004; Vik, 2008; Vik & Rye, 2006).

Table 3 reveals some of the characteristics of the farmer and family adaptations in the time period studied in this chapter.

Table 3 show that the gender pattern has been relatively stable throughout the decade. It starts at 12 percent women farmers (head of farm) in 2002 and end at 14 percent in 2010. It is of interest to note that women heirs gained equal rights to inherit farms in 1974. Before that it was the first born boy who had the first right to inherit. A more balanced gender distribution is wanted, but at the time being it seems to have stabilised.

	2002	2004	2006	2008	2010
Men	88	87	86	88	86
Women	12	13	14	12	14
Under 50 years	51	33	45	47	43
Over 50 years	49	67	55	53	57
Farmer identity	59	59	60	57	55
Partner involvement	83	80	80	78	84
Family successor	missing	58	61	60	62

Source: Trend-data

Table 3. Some characteristics of farmers and farm adaptations. Percentages.

Age distributions are difficult to interpret from table 3. It seems like 2004 had an overrepresentation of higher aged farmers. It is still a pattern that indicates that the farming population is getting older, and with that an indication of little recruitment of young farmers.

Fewer farmers affiliate with farmer as their occupational identity throughout the decade measured. This can be explained by the fact that more and more farmers work off farm. At the same time, partner (wife/husband/spouses) is participating in farming activities (above 80 percent except in 2008). Views on potential successors of the farm within family are more optimistic in 2010 (62 percent expecting family members to succeed) than in 2004 (58 percent). "Do not know" takes up a majority of the remaining percentages. This question was not included in the 2002 survey.

In the first part of the forthcoming analysis data are used to map changes in the structure of Norwegian farming across the first decade of the 21st century. Both objective criteria's like changes in farm size and income are discussed against farmers subjective opinions of the economic situation and how this affects their will to invest in- and develop their farm. The second part of the analysis is carried out on the latest survey from 2010. Bi- and multivariate technics are used to understand where the future of Norwegian farming might be heading. A linear regression model is used to identify which types of farms and farmers that will invest in their farm in the near future. In this model both characteristics of the farm like size

and production is included, in addition to characteristics of the farmer him- or herself and their views of the future (optimism/pessimism) and prospects of succession. Operationalisation of the variables used is commented on consecutively as they appear in the forthcoming analysis.

4. Structural change in Norwegian agriculture

It was mentioned above that a large number of farm units have gone out of production since 1989, and also before that. In 2011 less than one third of 1969 farms are left as independent production units. Figure 1 shows that the number of farms in the largest size group is growing, while the number of small and medium size farms is decreasing. The curves do however stabilise at the end of the scale. Figure 1 does not indicate a disappearing middle (Buttel, 1983).
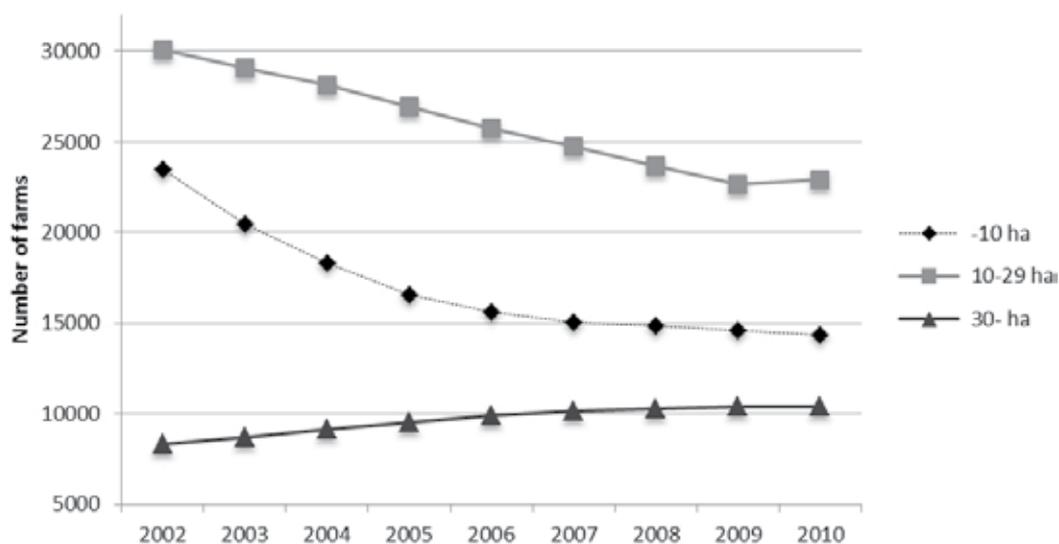
Source: Statistics Norway 2011.

Fig. 1. Property structure development among active farms. Farm size.

Figure 2 below show a slightly different pattern than the pattern found in figure 1. Large size farms are still increasing, and represent same number of farmers as in the smallest size group. This figure does however measure total area cultivated by the farm. Farm land and farm units have been protected by a particular land/inheritance act (The allodial law). Figure 1 and 2 then indicate that the structure of property has levelled out (due to lack of sales) while medium size farms have been able to grow their farmed area on leased land (from units going out of production).

According to Statistics Norway (2011), average income from farming has grown substantially in the 2000s. It is dairy and animal husbandly (cattle, pork and poultry (not sheep)) that derive most income from farming. Trend-data indicates that this is true for the highest income groups that are growing. Trend-data do however also show that the group of farmers with little or no income is also growing.
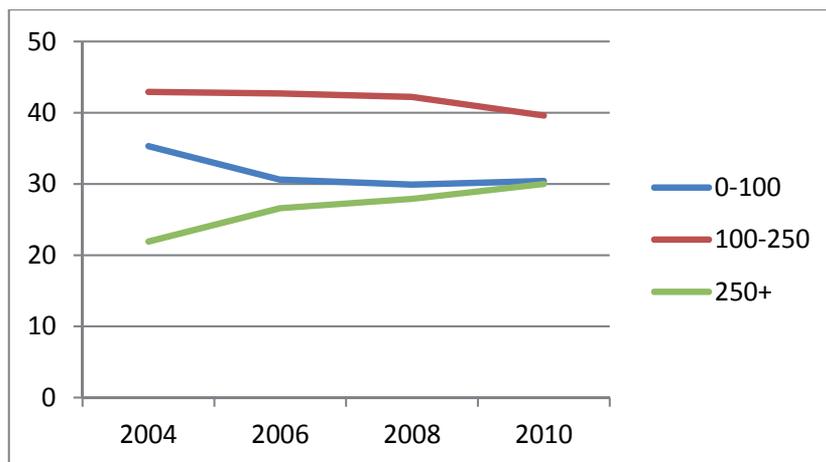
Source: Trend-data.

Fig. 2. Farming structure change. Farm size.
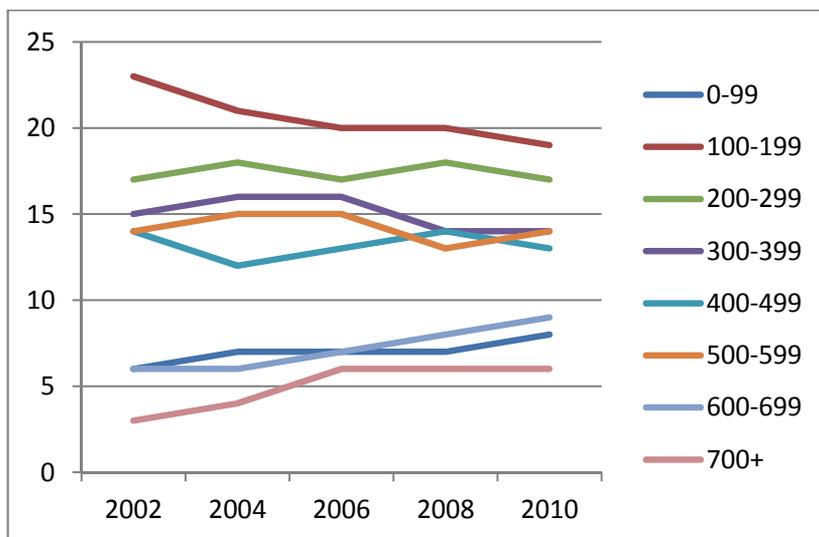
Source: Trend-data.

Fig. 3. Income from farming.

Many farmers also feel that the economic situation has become better during the last decade. Figure 4 show that both the number of those experiencing positive economic change and those experiencing no change is increasing on behalf of those who experience negative change (from 68 to 42 percent).

Figure 5 shows expected change the next five years. A remarkable drop in those expecting negative change was measured in 2008, and similarly a rise in the number of those expecting a positive change. This picked up rising food prices globally and shows an immediate effect of that. Prices on the world market did fall – but later rose again. Expected direct returns to

farmers did however not appear and we see that the curve has changed in 2010. Still, positives and negatives have changed during the decade, disadvantaging pessimism.
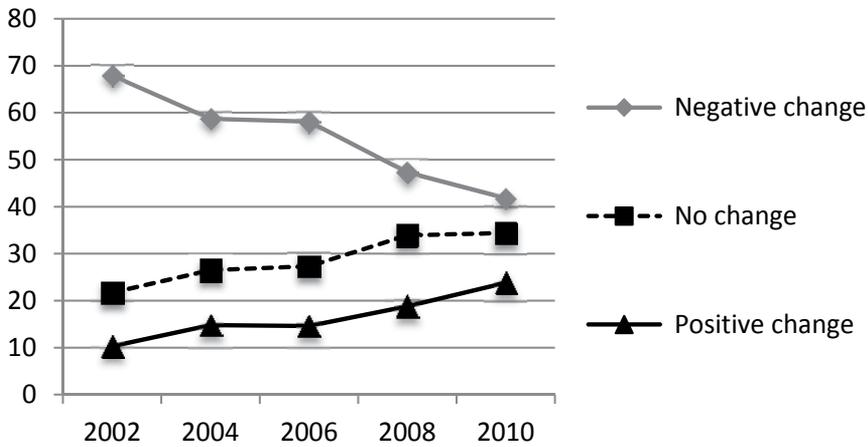
Source: Trend-data.

Fig. 4. Economic result from farming returns over the last five years. 2002-2010.
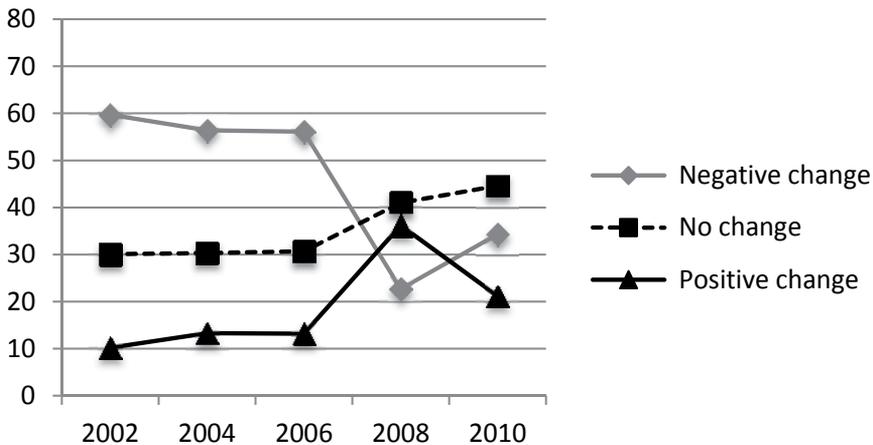
Source: Trend-data.

Fig. 5. Expectations of economic results from farming over the next five years. 2002 - 2010.

Statistics Norway (2011) show that farmers total income has grown even more than farm income. One must then keep in mind that this income is not from farming activities but also from off-farm sources of income.

Figure 6 shows that the group of farmers with little or no income from farming (compared to other income) is increasing. In 2010 1 out of 2 Norwegian farmers collected more than 75 percent of their household income from off-farm sources. In a situation where farmers have

increased their income opportunities (according to Statistics Norway) this is levelled out by rise in other incomes and/or in amount of income generating activities off-farm. It is the group of farming households that rely on 75-100 percent of their income from farming that lose. A growing amount of farmers in the 0-25 percent groups is alarming for the future of Norwegian farming. Figure 7 below show changes in farmers will to invest in their farm buildings, machinery and equipment and in new productive land across the last decade.
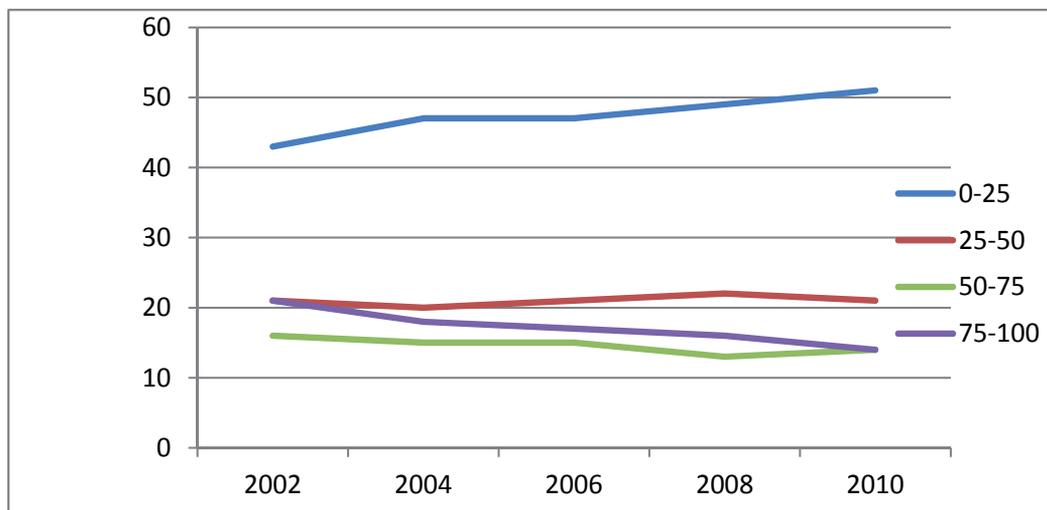
Source. Trend-data.

Fig. 6. Share of household income from farming activities.
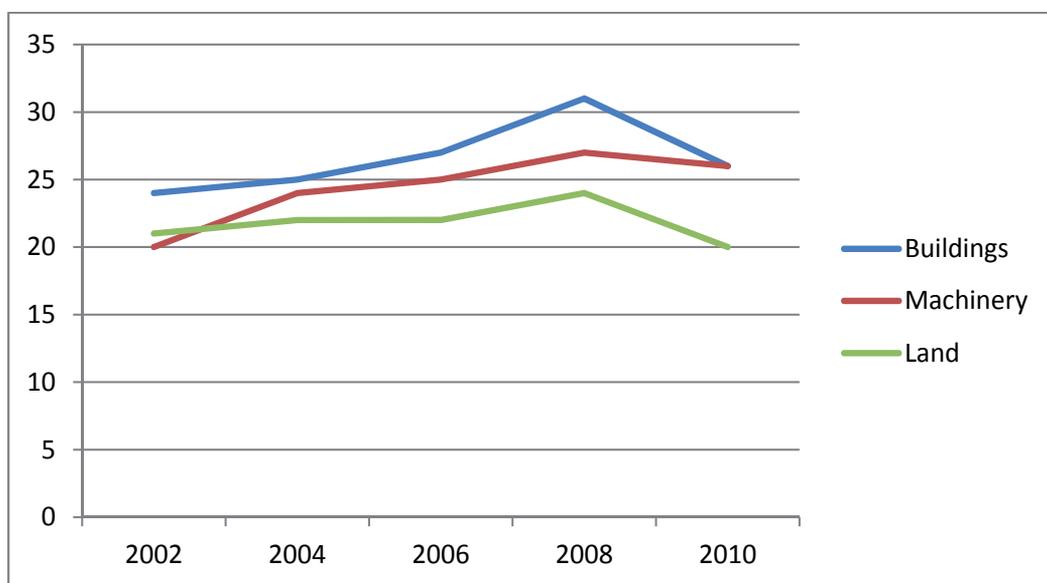
Source: Trend-data.

Fig. 7. Will to invest in farming (buildings, machinery and land).

Figure 7 shows that will to invest most possibly also were affected by the increased optimism after the global food and price fluctuations in 2007 and 2008. Will to invest in buildings and machinery (equipment/technology) is still higher in 2010 than 2002. Fewer consider increasing the size of productive land.

A farm cannot be maintained without any investments (Almås, 1984). History has also shown that structural change in agriculture is based on a model where fewer farms means that remaining farms need to increase in size and production to uphold domestic production when number of mouths to feed is stable or increasing.

Continued supply of Norwegian food depends on those farmers that will develop their farm. The following analysis aims to reveal in which groups or on wich types of farms continuation of family farming and Norwegian food production will take place.

4.1 Interest in farm development

The following analysis is carried out in a linear regression model of will to invest in Norwegian farming. An additive index was built on the three areas of investments shown above, investing in farm buildings, farm machinery and/or increasing farm land. This variable is dependent variable in the model. Table 4 shows that the majority of Norwegian farmers do not plan to invest in their farm in near future.

	No plans to invest	Invest in one area	Invest in two areas	Invest in three areas
Frequencies	56.5	21.4	15.5	6.6

Table 4. Will to invest. Percent

A combination of farm and farmer characteristics and variables measuring optimism but also potential family succession is included in the forthcoming model.

The size variable has been transformed from an ordinal level variable to interval level variable using real average size instead of scores from 1 to 6.

Farm production was given by farmers as main production. This excludes the possibility of distinguishing farmers with mixed production from mono production. It is does however give a good indication of potential differences between major production groups in Norway – if they exist for the questions analysed. In 2010 the largest group of producers were animal husbandry (39 percent). 29 percent were involved with dairy, 20 percent with grain production. 5 percent were involved with horticulture and 2 percent had forestry as their main production. The final 4 percent had other productions. An analysis of means showed that dairy producers were most willing to invest in their farm. The production variable is recoded into a dummy-set variable for the regression analysis, and dairy represent the control group in the analysis.

Two different measures of income were tested in the regression model. First an ordinal level variable of income was recoded into real average of the income groups. The second model used a recoded version of amount of income from farming into the groups none income, little income, medium income, majority income and all income from farming. In the analysis little income is used as control variable. This value or income group showed in bivariate

analysis the lowest average score on will to invest. The difference between the two models is commented below.

Optimism related to whether farmers believe future farm income will be improved is included in the model due to its potential effect on will to invest. The variable is coded from 1 (optimistic) 0 and -1 (pessimistic).

Another variable possibly influencing on the will to invest is the prospect of a future family successor. In the model this variable is coded into a dummy variable were value 1 indicates a family successor and 0 is no family successor or farmer does not know. 63 percent believe a family member will succeed the farm. In bivariate analysis those who have successors are significantly more interested in investing in their farm than those who have no successor.

Farmer characteristics are included in the model. Farmer's gender is coded as 1 man and 0 woman. There is no significant difference between men and women in bivariate analysis of this question.

Age is a linear. The variable is found to behave linear in the analysis.

Finally education is included in the analysis. Like several of the variables above, an ordinal level variable was recoded into real average years of education in all school categories. The variable varies from 9 years to 20 years of eduction.

The results of the regression models are shown in table 5 and 6 below.

Model Summary: R Square .301 Sig. .000	B	t	Sig.
Constant	1.524	8.837	.000
Area in use	.001	6.557	.000
Husbandry	-.104	-1.821	.069
Grain	-.115	-1.672	.095
Horticulture	-.042	-.389	.697
Forestry	-.144	-.985	.325
Other	-.075	-.568	.570
Income from farming	6.452E-7	3.084	.002
Economic optimism	.382	12.292	.000
Men	.032	.497	.619
Age	-.024	-11.046	.000
Education	.012	1.572	.116
Family successor	.170	3.632	.000

Constant: Dairy

Table 5. Linear regression model. Dependent variable: Will to invest in farm I.

The regression model shows several interesting correlations. First of all will to invest in farming increase with increasing size of agricultural productive land. Larger farms are more willing to invest than smaller farms. This is not connected to any particular production; rather it is valid across large size holdings in all production groups. Willingness to invest in farming is further related to income and prospects of the future income situation in agriculture. Willingness to invest is higher in groups that have high income from farming in real value and increase with optimistic views on the economic development of farm income. When it comes to characteristics of the farmers themselves the model do not reveal significant differences between men and women nor of educational level. Age is negatively correlated with will to invest. Young farmers are more willing to invest and this desire decline with increasing age. This might indicate that investments takes place in the beginning of a farming career. On the other hand, knowledge or prospects of a family successor also influence heavily on will to invest in the farm. Bivariate correlation analysis do show that there is a positive correlation between age and knowledge of a family successor, but it is not particularly strong. This means that will to invest due to successors does not necessarily take place in the final stage of one's own farming career. Table 6 shows how the model changes with a different measure of income.

Model Sumamry: R Square .301 Sig. .000	B	t	Sig.
Constant	1.463	8.392	.000
Area in use	.001	7.396	.000
Husbandry	-.084	-1.397	.163
Grain	-.098	-1.362	.174
Horticulture	-.012	-.114	.909
Forestry	-.118	-.801	.423
Other	-.054	-.406	.685
No income	.158	1.907	.057
Medium income	.157	2.454	.014
Majority income	.186	2.788	.005
All income	.211	1.956	.051
Economic optimism	.373	11.999	.000
Men	.029	.453	.651
Age	-.024	-11.174	.000
Education	.014	1.870	.062
Family successor	.194	4.205	.000

Constant: Dairy and Little income from farming.

Table 6. Linear regression model. Dependent variable: Will to invest in farm II.

The regression model in table 6 show very similar results to the model shown in table 5 above. No variables have strengthened or weakened their position in the model

substantially. The reason for showing two separate models is the measure of income that is carried out differently in table 6. Here share of income from farming is recoded into a dummy set variable where little income from farming is the control variable in the equation. In bivariate analysis this group was found to be substantially less interested in investing in the farm than the other income groups. This is still valid when controlled for the other variables in the model. Will to invest depends on farm income for the farming household and increase with increase dependence on this income. A deviation from this pattern is the group having no income from farming at all.

A combination of the two income variables in the same model does not add new knowledge to the analysis of will to invest in Norwegian farms. There is a strong positive correlation between farm income and share of income from farming. This indicate that relying on a *substantial* amount of off-farm income (and off-farm work) decrease the opportunity to increase farm income and with that further interest in investing in the farm. There seems to be a moment of critical change when off-farm income to the household exceeds 75 percent. Further adaptation in direction to increased dependence on off-farm income in Norwegian farming might be an unsustainable development of future Norwegian agriculture.

5. Summarising trends in Norwegian family farming

Norwegian agriculture has faced major structural changes in the statistical history since 1969. Close to 70 percent of the farm units have closed down. Remaining farms are getting bigger, on either bought, but most often rented neighbouring farm land. There has been an increase in big farms (relatively in a Norwegian context), and a decrease in small farms, but the middle size segment is still the dominating farm group.

Norwegian farms are operated by mostly male heads that on average are getting older. Farmers are gradually losing their farming identity and more and more farmers find their occupational identity in off-farm work. Still, farming in Norway is based on family involvement and wife/husband/partner participates in farm work on most farms. A small majority of farmers expect family succession to take place in the future. The Norwegian agricultural system is still based on family farming system.

In the first decade of the twenty-first century Norwegian farmers have experienced increased revenue from agricultural production. The subjective experience of the situation is fewer farmers reporting on negative economic development throughout the decade. This could also reflect that many farmers in the red left the statistics when closing down the farm production.

The income pattern in Norwegian farming households also shows a critical pattern of off-farm income dominating the economic situation on many farms. 38 percent of Norwegian farmers collect a majority (more than 50 percent) of their household income from farming. This pattern is even enhanced by the finding that one out of two farmers report that farm income constitute less than 25 percent of their household income. This is a critical negative development in Norwegian agriculture.

Future agriculture in Norway is depending on farmers' interest in developing and investing in farming. The willingness to invest has increased slightly in 2002, but there is still a minority of farmers that plan to invest in their farms in the near future.

Analysis of whom the future farmers in Norway might be, show that it is (relatively) younger farmers on the larger farms that are most interested in investing in their farms (the will to invest decreases with age). The willingness to invest in farming must be viewed in the contexts of the economic situation at the farm. High income from farming increases the willingness to invest. On the other hand, does high dependence on off-farm income take away the interest in farm investments.

Having family successors in sight strongly correlates with willingness to invest in the farm. This shows that "The Family Farm" has a very strong value in the Norwegian farming system. If not, one could expect that a market value of farm properties could encourage farmer's interest in developing their farms. Such market economic considerations do not seem to be widespread among Norwegian farmers. This is of course also limited by farm property regulations.

5.1 The sociology of family farming

In this chapter farmers' adaptations in agriculture have been explored and with that the future prospects of Norwegian family farming. Through analysis of empirical data it has been documented that Norwegian farming has experienced major structural change and continues to face major challenges related to upholding farming on many units in the future. Still, there is a group of farmers that are interested in investing and developing their farms. This should not be under-communicated. These are still family farmers, many relying on expectations of a family successor to keep up their motivation for further investments.

Worrying about the future of family farming was a topic also 150 years ago. The old classical theories and thoughts were concerned with the possibility of sustaining agriculture in a capitalising and industrialising world. Marx predicted that small farmers would have to give up their farm to tenant farmers and consequently find themselves having their labour exploited as proletarian workers. Lenin was also expecting that capitalism would subsume the family farm as a structural phenomenon. Both Weber and Kautsky stated that farmers would adapt to this new situation and stay on the land despite the fact that the land did not give immediate financial rewards. The two major brands of the "new" sociology of agriculture of the late 1970s and 1980s diverged in their predictions of the future situation of family farming. The Marxist inspired branch of theorists expected that capitalist forces would hamper small farmer's ability to control the means of production – their land. In other versions capital interest would be able to control farmers through contracts or capitalisation of agricultural industries.

But Norwegian farming is still carried out on family farms. Why is this? Political economic theories of structural dominance by capitalist forces have failed to explain the patterns of Norwegian agriculture. Even though the number of farms has decreased dramatically, they are not replaced by large capitalist companies that own a lot of farms. Land on closed or abandoned farms is sold or, most often, rented out to neighbouring farmers.

It is tempting to explain the relative success of the family farming system in Norway with, for example, the protectionist policies of the Norwegian social democratic model securing Norwegian production against cheaper imported products. It can also be explained by Norwegian cooperatives, owned by the farmers themselves. Still, Norwegian agriculture is

also influenced and challenged by global trade agreements and other major changes that have taken place in industry over the past centuries.

Capitalism will not be the immediate future structure of Norwegian agriculture. Analysis in this chapter have shown that the family structure is strongly valued and one could use the explanatory force of Chayanov (1986) from his early text of the 20th century; "Reproduction of the family farm is a sufficient goal". Handing the farm over to a new generation of family members is a very strong incentive for investing in and developing Norwegian farms. There are however too many farmers giving up farming to conclude that economic returns are of no relevance.

But, when structural theories alone fail to explain the development of Norwegian family farming, answers should be sought within other theoretical tools. Branches of contemporary sociology have been more interested in trying to understand the interrelationship between structural opportunities and constraints and the actors will and ability to control their own choices, with modern classics such as Bourdieu and Giddens as frontiers. The former emphasising structure, while the latter the individual to a slightly stronger degree.

The structuring aspect of the farmers' reality is for many given through inheritance of the farm in kinship. Analyses in this chapter encourage a closer perspective on kinship relations in the continuation of farming. There is a strong connection between future prospects and prospects of a family successor. The family connection to farms as places and property has also previously been found to be a constraint for sales of farm properties, including those that have closed production (e.g. Flemsæter, 2009). Families keep the properties as a source of maintenance of traditions and emotions. Having future successors in sight encourage development of the farm as a productive unit also. It is however noteworthy that maintaining and developing farms for future successors are not necessarily taking place when the successor is ready to take over, rather it takes place when the transferor has entered agriculture and has started his or her own family reproduction. The choice and motivation for upgrading the farm is then more family oriented and lesser production oriented.

Another aspect of family farming is the economic aspect. The family farm organisation is a household economic model unlike a more capitalistic oriented business model. Historically Norwegian farms did not give sufficient income to the farming families. Household income was supplemented through other labour, either based on own resources in forest and outfields/waters or in income generating work off farm for both farmer and family members. Pluriactivity has been a stable strategy, and still is on many farms. The relative increase in off farm income is now working as a disincentive to invest in farming activities. Almås (1984) stated that survival of Norwegian family farming depends on reproduction of an enlarged scale of agricultural production to keep up with development. Being able to gain substantial economic returns are of crucial importance for being able to invest in the farm. But those should be earned from the farm. Analysis in this chapter has however shown that money from off-farm work will not be re-allocated to farming when off-farm income is dominating the structure of household income. In this perspective those farmers that eventually leave farming are not outcompeted by capitalistic production out of their control, but by their own adaptations to income generating activities outside the farm.

The sociology of agriculture must challenge the dichotomies of structural and actor oriented social science approaches to the study of agricultural restructuring, family farming, and

farmer adaptation to be able to offer explanations on how structures influence on actors and groups differently, and how actors possess different interests in changing their current situation. Classical structural theories certainly have much to offer in understanding some parts of the political economy of agriculture. This study has however shown some of their shortcomings in relation to understanding the survival of the Norwegian family farm system.

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Climate Change and Shifting Technoscientific Agendas

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1. Introduction

The social studies in science and technology assume the perspective that knowledge and technology are built and legitimized in a certain context. A context that encompasses machines, texts, scientists, laboratories, imagination, power, interest. Considering any human construct, science and technology also embrace several social elements, and without a thorough observation in the practice itself, some might say that these elements would disappear from its composition. Science and technology would appear as necessary, functional, detached from the worldly concerns. The traditional epistemology and technology's philosophy guided us the belief that the real knowledge and its working technologies would not be related with these listed elements.

However, Thomas Kuhn (1995) in his study foresaw the sunset of these perspectives. As it is a common sense, the dynamics of conflicts and consensus in the scientific communities define the luck from different paradigms on the definition concerning the model of science. This definition presented the development of restrict groups, inserted in determined places from situated scientific practice, even though, it was considered the generalized symbolic dimension. Based on this, David Bloor (1991) assume that knowledge is what the community considers as knowledge. A community in which the cognitive content, values and practices are constructs grounded on the context.

Harry Collins (1992) characterizes this context based on the local general expectations of how the world functions. These expectations appear, for example, by the moment in which the scientist has to decide the way he/she should decide for an interpretation among several allowed by the experimental data. In other words, the practical problem of the interpretative flexibility caused by the data, the context of the practice argues with the generalized expectations around the given knowledge endorsed. The price of the defection of a group is the loss of referrals and political support.

Bruno Latour (2000) argues that the context of the scientific practice subscribes itself in the laboratories, or, better saying, in the calculus centers, from where the knowledge is purified from its extra-scientific elements and it is shown in the format of articles and books.

By its turn, the calculus centers are not devoid, purified by its context, from its agreements behind the walls, from its Tribe's idol. Laboratories also present the hierarchical marks from the scientific community. As Nunes; Gonçalves (2001:28) discuss:

> Some laboratories have the capacity to use or reproduce knowledge from determined central region of the system, within the calculus centers. Other would reproduce knowledge, that, besides being new or innovative, it would be declared as local or regional interest.

This is the core of the matter concerning the differentiation center/periphery in the international system of science and technology (ISST)[1]. There is an established hierarchy based upon the references of scientific excellence, issues and patents, that has dynamical stability, and that, concerning the knowledge building, operates in the distinction of the valid knowledge (concerning circulation strength) and non-valid (concerning circulation weakness). As Latour (2000: 371-2) affirms:

> In another words, we do not need to oppose the local Chinese knowledge to the universal European knowledge, but just two local knowledge (…) Who includes and who is included, who locates and who is located are not things that constitute cognitive differences or even cultural, but it result from a constant battle.

Referring to this constant battle, it is possible to mention the "Matthews effect", Merton (1968) discusses the system of reward in scientific life: the scientists who has more is likely to earn more, the ones who has less, is likely to earn less. The scientific system tends to "oligopoly" in which concerns the scientific credit in the calculus centers. Mentioning Merton (1968: 57) "The social structure of science provides the context for this inquiry into a complex psychosocial process that affects both the reward system and the communication system of science".

The gathering tendency of the scientific credit from the calculus centers influences the ones who pass through there, giving them differentiate conditions and it is reflected in the scientific product, namely, research, publication, patent, in a game where no one loses: the calculus center wins, besides the quality of its formation, the scientists win besides their competence.

> The judgments about the scientific capacity of a student or even a researcher are always contaminated, throughout his/her career, by the position that he/she occupies within the instituted hierarchy (the Great Schools, in France, or the universities, for example, in the United States) (BOURDIEU, 1983:124).

2. Center/Periphery

There are some locales in the globe which is central in doing the technical-scientific calculus, known by its pairs and, therefore, producers of knowledge and technology concerning the most power of decontextualization, circulation and definition. This condition was not established, nevertheless, as the Matthew's effect presume, it has major impact on developed science and technology, that is, it promotes the stability of the international

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[1] About the differenciation center/periphery as a structural condition of the international system of science and technology, vide Neves (2009)

system of science and technology, better saying, it promotes the stability of the legitimate value that circulates through this system, and it happens to be validated as guiding principles concerning the good and bad technical-scientific practice.

The society, as a social system, has a central zone which invades the entire "ecological domain in which the society exists", as Shils (1992) affirms. The legitimate order of symbols, values and beliefs that controls the society is located in its center. In the case of science and technology international system, it is established a legitimate order through the construction of legitimate research agendas, ensured experimental practice, allowed imagery of the world, sanctioned paradigms.

Considering the international system of science and technology formed by trans-scientific fields (KNORR-CETINA, 2005), that is, social areas of scientific and technical production that whether expand itself or restrict itself based on the locale and global circumstance that is faced. One of the circumstances refers to the legitimacy of the practice that governs the field: the greater the proximity concerning the central practices, the greater the expansion. It is due to the legitimacy agreement, which says that the legitimate is legitimate because it finds support in its practices, publications, conferences and etc. In a general level, the definition of the main scientific system can be noticed as a battle which mobilizes the relation of resources.

> It brings into the game resources relations, for example, when it is occupied a scientific position, when money is distributed among the group of scientists or researchers, when it is elected a speaker to a scientific conference or even when the result is produced by a scientist incorporated into another's investigations (KNORR-CETINA, 2005, p.206).

It is needless to say that these resources are highly concentrated in the center. Thus, these relations are unequal, producing hierarchies that are mobilized, in a basic level, as power relations. The center concentrates resources, thus concentrates power of definition and expansion of the scientific practice that are not built. It is the main role of the periphery whether the acknowledgement of these scientific practices or its negation, the last, therefore, would bring the consequence that the science and technology distance themselves from the major values and it tends to be considered of a restrict and exotic interest, acquiring low capacity of definition and circulation.

3. The peripheral condition

To observe the international system of science and technology is the same as to face limiting conditions of scientific practice. We will refer here to the conditions less cited in literature when mentioning the differences between center and periphery in the scientific system. It is not related to the quantitative differences present in the international rankings from articles and patents, though. It is related to the previous conditions of the scientific producing, not the product itself, although the last is a direct consequence of the former. It is related, to be clearer, to the set of elements available to the scientists by the moment of the subject choice. It would be guided to the periphery because of the mentioned topics:

1. Local problems. Limited interest and even more aggravating is the fact of having few works to relate its consequences to the main interests in science;

2. Local imaginary. Collective beliefs – Brazilianness, anthropophagi, syncretism, tropicalism – that conforms concepts and theories to the symbolic local perspectives;
3. Local research agendas. It is related to the two former points; the first one is concerning the "peripherization" of objects and; to the second one concerning the paradigms.

It happens that such elements from the peripheral condition will guide the efforts to the local agendas, concerning the governmental initiative from the scientific and technological politics, or even the scientists practice.

The adhesion to the central research agendas is one of the system's requirement to the circulation of the science and technology to beyond its contexts of its construction. The local interest must be related to the global research interests (central), if it is wanted to reach the credits from the system of credit concession from the center of the science and technology international system. The closer from the central patterns of the investigation – "knowledge frontier" – quicker and more profitable will be the concession. The past decades, in Brazil, the scientific[2] production evaluation system has been awarded the scientists who publish in journal from abroad, supporting the creation of international researches network, and therefore, connecting local and global interests. In order to publish abroad, it is necessary to adhere the calculus centers, global agendas. It, concomitantly, reinforces the centrals and reproduced the differentiation in ISST.

The following discussions are focused at the last point and it seeks to relate it with the newest agenda suggested by the centrals, namely, the climate change. It is in vogue a process that intends to search a techno-scientific paradigm which corresponds to the general expectations of the sustainability of the global society, structured especially after the IV IPPC report (Intergovernmental panel for climate change, from the United Nations Organization). The perception that the society based on the intensive consumption of fossil fuel has come to the limit, associate also the emergency of its technological limit. Thereby, it is needed a new technological paradigm to the production, daily consumption, communication, transport, that satisfies the socio environmental requirements from this new society, that has already been denominated as a post-carbon society (SZERSZYNSKI; URRY, 2010).

4. The research agenda on the definition of hierarchical position

Research agendas are always under construction. We could relate the construction with the society structure in some moments, and it makes clear the close relation between scientific and technological interests in a capitalistic society. Among the areas in which this relation is clear are mainly the war industry, and then, we have health, telecommunications, information technology, biotechnology, nanotechnology and most recently, we have also the issues related to the environment. It is possible to affirm that among these research "latest agendas", the central science reproduced investigation patterns and results that guided the science into the leader position in the knowledge frontier. It was due to the periphery to follow this frontier and it could be done either changing politics focus, sending researchers to the new centers, or even transforming the whole society from the laws that ruled the

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[2] Citing: The criteria of the National Council of Research (in Portuguese – CNPq) and the Coordenation of Specialization of Graduated People (in Portuguese – CAPES)

science until the most generic conceptions concerning nature[3] – the last is related to a very extreme situation, though.

This precedence on the agenda proposition is one of the defining elements in the science hierarchy, promoting - in all levels of scientific investigation, a difference center-periphery. The antecedence conducts to reference, and it is a scientific rule well documented by the specialized literature[4]. By verifying the construction of sector funds[5], politics of focusing the scientific and technological activity in strategic areas in Brazil, and it is possible to find that, first, the politics – as a whole – is laggard and, second, the thematic focus incorporate are related to the "latest agendas". Furthermore, many of the politics for the scientific and technological development had an *ex ante* meaning, that is to say that these politics were merely normative, with a symbolic meaning because it was not possible to develop those agendas propositions.

The preceding agenda determination guides, necessarily, to the publication os articles and patent depot. This dynamics, by the way, is a cycle: articles guide to new agendas that are guided to new articles. Based on this, this dynamic which restructure itself along the time, is detached from the global conditions of research necessities, we can mention here the biomedical research. Following Sumathipala *et. al.* (2004) less than 10% from all the worldwide sources aimed to biomedical researches is directed to the 90% of known health problems. The authors affirm that 93% of the avoidable deaths occur in under developing countries and, yet, just a small part of the research financing is directed to these illnesses in these countries. The central agenda satisfies just a part from what is considered as a global problem to the biomedical area, sub-representing a greater part of the raised problems for the local agenda. That is the reason why the expression "neglected illnesses" is used, because it does not take part in the major interests in the central researches. It can be said, thus, that the conditions of entering the SICT do not regard the local interests, sub-representing them, and, therefore, causing damage to a more equal agenda on science[6].

5. Adding numbers to hierarchy

The central hegemony, the precedence on the agendas proposition and the hierarchy are processes well known in the specialized literature end it seems to continue producing a differentiation between central and peripheral countries on the ISST, and it is assumed the risk of the distance of this positions to increase, and a factor that can explain this increase is the technology sophistication from the experience, for example, vide the LHC case – which cost 3 billion of Euro. Nevertheless, in the past few years, the data concerning publications demonstrates a different scenario that may be indicating major shifts.

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[3] Concerning the most known case among us: "the biotechnologic war" in the 90 and 00 decades, which occur in politics, science and other society dimensions (vide Premebida, 2011)

[4] Vide, for exemple, Merton (1957).

[5] The funds were created in 1999 by the studying and Project financing named FINEP and it is related as subventions to biotechnology, spatial research, and energy among others.

[6] It gives place to many speculations, for example, to what Victoria and Moreira (2006) named "editorial racism", that is to say, the prejudice from the editors from international magazines against authors from the south hemisphere.

Considering the case of Brazil. Brazil has raised significantly its scientific production, and it is possible to note this raise considering the international publication ranking. If we take this criterion, in the period of 1991 to 2003, the country has doubled its participation in the global scientific production when compared to the former period, the increase was form 0.71% to 1.45% as the following table shows.

	1991–1995				1999–2003		
Countries	Publication	Ranking	World share	Countries	Publication	Ranking	World share
Top 5							
USA	1174603	1	34.89%	USA	1284415	1	31.48%
UK	297940	2	8.85%	Japan	378029	2	9.26%
Japan	274849	3	8.16%	UK	364585	3	8.93%
Germany	248554	4	7.38%	Germany	346305	4	8.49%
France	193504	5	5.75%	France	249929	5	6.12%
Top 10 with less than 2%							
Sweden	58755	14	1.75%	South Korea	79777	14	1.95%
Switzerland	52539	15	1.56%	Sweden	78520	15	1.92%
China	48052	16	1.43%	Switzerland	73075	16	1.79%
Israel	37675	17	1.12%	Brazil	59361	17	1.45%
Belgium	36140	18	1.07%	Taiwan	54694	18	1.34%
Poland	31961	19	0.95%	Poland	54460	19	1.33%
Denmark	29333	20	0.87%	Belgium	53554	20	1.31%
Finland	25528	21	0.76%	Israel	49312	21	1.21%
Taiwan	24984	22	0.74%	Denmark	40340	22	0.99%
Brazil	24018	23	0.71%	Austria	38963	23	0.95%

Source: study by Glänzel et al (2006) based on the bibliographic data extracted from the 1991–2003 annual updates of the Web of Science (WoS) of the Institute for Scientific Information (ISI – Thomson Scientific, Philadelphia, PA, USA)

Table 1. Scientific output, ranking and world share in publications of the top 5 countries, the top 10 countries with less than 2% in the world and Latin American countries

In recent article that seeks to measure the internationalization of Brazilian science in two different periods (1997 to 2000 and 2001 to 2004) Leite *et all*. (2001) affirm that "Comparing the two periods, the results also show that the proportion of researchers with highly international profile is increasing over time whereas the proportion of those with highly national profile is being reduced". In the same article, the authors observe that some areas are in greater evidence then the others in this growing process of internationalization. Considering it, "Earth and Exact Sciences, Biology and Engineering are the field with highest international publication profile, with more than 50% of researchers presenting an IPR[7] at least intermediary". The disciplinary field which gain more evidence in this stage of scientific Brazilian production are related in the table below

The current data confirm the raise and the impact of Brazilian science. In 2010, according to The SCImago Journal & Country Rank[8], Brazil assumed the 13th position in the ranking considering the impact of its journals present in the data basis Scopus. The same way, the raking from ISI/Thomsom Reuters, presents Brazil as one of the most advance concerning scientific international publications (KING, 2009). But what does it mean to the relation

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[7] IPR (International Publication Ratio) is na indicator created by the authors to measure the size of the Brazilian production.

[8] The SCImago Journal & Country Rank (http://www.scimagojr.com) is a portal that includes the journals and country scientific indicators developed from the information contained in the Scopus® database (Elsevier B.V.).

center and periphery in ISST? What it is valid to affirm is that the hierarchy has carried few changes, even though some positions had changed. The United States still concentrate about 30% of the scientific and technologic worldwide production, reproducing, this way, its calculus centers, reinforcing its hegemony in ISST.
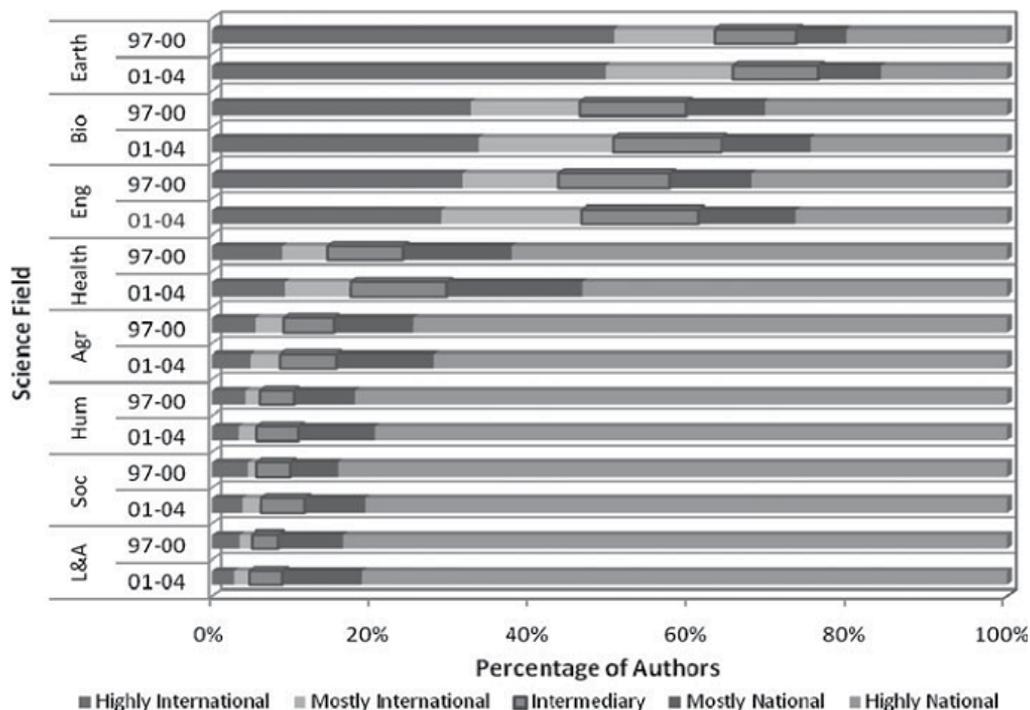
Source: Leite et all. (2011). Legend: N = 31,073 (1997–2000) and 33,006 (2001–2004). Only researchers with three or more publications between 1997 and 2004 were considered. Agr Agriculture, Bio Biology, Eng Engineering, Earth Earth and Exact Sciences, Hum Humanities, L&A Linguistics and Arts, Health Health Sciences, Soc Social Sciences.

Fig. 1. Distribution of Brazilian researchers among different groups of IPR and the effect of fields in 1997–2000 and 2001–2004.

6. A new tropical scientific agenda

However, there is something peculiar in the position taken by Brazil in recent decades in ISST when observing large areas of knowledge or paradigmatic standards of publication. According Glanzel et al. (2006, p. 75) these patterns can be divided into four:

"I. the 'western model' with clinical medicine and biomedical research as dominating fields, II. the characteristic pattern of the former socialist countries with excessive activity in chemistry and physics, III. the 'bio-environmental model' with biology and earth and space sciences in the main focus IV. the 'Japanese model' with engineering and chemistry being predominant."

The Brazilian pattern, as can be seen in the table below (Table 2), fits in Section III, the bioambiental model form the concentration of scientific and technological activity.

Field	% in 94-98	% in 04-08	Increase in %
Agricultural Sciences	2.19	5.39	3.20
Plant & Animal Science	1.65	4.65	3.00
Microbiology	1.51	3.04	1.53
Pharmacology & Toxicology	1.06	2.84	1.78
Environment/Ecology	0.97	2.71	1.74
Neuroscience & Behavior	1.09	2.46	1.37
Physics	1.58	2.32	0.74
Immunology	0.96	2.25	1.29
Biology & Biochemistry	0.92	2.15	1.23

Source: King (2009).

Table 2. Brazil in World Science: 1994-98 vs. 2004-08[9]

The fact of being highlighted in this paradigm into the former decades brings many consequences to Brazilian science and technology, considering that a new technoscientific agenda is constructed nowadays because of climate changing in which will demand more answers from the bioenvironmental paradigm in terms of knowledge and technology. This demanding are impacting science, politics and economy.

> That is, there is not only a greater collection of public opinion, as well as the world economic leaders seem to be engaged in competitive new paradigm of clean growth. While this technological competition can generate positive indirect effects for all countries that can not commit can compromise its savings in the future (MOTTA et al., 2011: 18).

The social context in which speeches are built concerning the climate changing characterizes itself by the awareness of environmental hazards distributed globally, which has required scientific and technological responses to reduce these risks[10]. Taking the case of agri-environmental technologies, it emerges a new discourse which serves to the defense of "sustainability", but at the same time, it must be justified by their "productive efficiency". In Brazil, this format of research justification in the agri-environmental field assumes a fundamental dimension of the scientific practice considering the positioning of the country into the international division of labor, as exporting country of agricultural *commodities* and scientific organization, from the available resources, thematic differentiation and researches fields, and also what concerns the merely cognitive scope, relating to technological knowledge produced in lights of demanding from its national context, vis-à-vis the new global context.

The issue of climate change has entered the political agenda of the central countries of the globe. The problematic context of "environmental risk", "green policies" and "ecological

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[9] Based on percent share of Thomson Reuters-indexed papers, ranked by percentage in the five-year period, 2004-08.
[10] Check Stern (2007).

engagement" reflected in the new knowledge and technologies, which are already composing the new agri-environmental[11] paradigms in science and technology, crucial to economic performance in the next decades, specially Brazil, given the centrality of the country regarding biodiversity and food production. Thus, nowadays, the issue of climate change will reconfigure the dynamics of ISST, imposing these appropriate themes from the equation that charted the new technological paradigm, to "sustainable" technologies

There are compared advantages to Brazil when talking about environment and agricultural production. There is to say, there is a background into this research field that cannot be disregarded. It can be mentioned and detached the study of tropical diseases by FIOCRUZ[12], tropical agriculture from EMBRAPA[13], environmental sociology, American Indian anthropology from local knowledge. All these areas have been consolidated in the national scientific system, creating a "tropical research agenda" for the country, which has, whilst incipient, recruiting local to scientific problems. Incidentally, one of the greatest scientists the world, the neuroscientist Miguel Nicolelis, recently launched what he called the "Tropical science manisfest: A new paradigm for the democratic use of science to social and economic transformation of Brazil." It is possible to observe what the "scientific agenda tropical" could offer.

> It is this tropical science that will make it possible to humanity to maintain and enlarge its sources of clean energy, to produce enough food and water to billions of human beings (...) Also cultivate natural biomas, where it is possible to extract new medicines and cure for several diseases, to preserve the climate services and also ecological that would put the global warming in recession and also to recognize and avoid the new agents which could be able to destroy the whole human race. This new model means to free Brazilian science from uncritical subservience of the imported models (...). (NICOLELIS, 2010)

This new tropical agenda research was recently the subject of a publication (Bound, 2008) with a rather suggestive name: "Brazil, the natural knowledge economy." According to the report, Brazil's natural resources are a source of innovations although it is still precarious, innovation system, and that if we look with the eyes of the economic knowledge, we could easily characterize it as a economic natural knowledge. Natural resources would give Brazil prospective advantages in the context of global warming.

> Most importantly, they (resources natural) highlight the propitious timing when climate change, the environment, food scarcity and rising worldwide energy demand are at the forefront of global consciousness. What changed between the maiden flight of

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[11] Here, I refer specifically to new systemic ecology, to new material research to biomass fuel, among others.

[12] Fundação Oswaldo Cruz (Fiocruz), vinculated to Ministry of Health of Brazil, is the most prominent institution of science and technology into health field into Latin America. Founded in 1900 by the sanitarian Oswaldo Cruz, Fiocruz stands out for combat health problems related to the tropics (Yellow fever, malaria, Chagas disease, Aedesaegypti).

[13] The Brazilian Agricultural Research Corporation (EMBRAPA) under the Ministry of Agriculture, Livestock and Food Supply of Brazil, was established in 1973. Recently has excelled in research and development of tropical varieties.

the 14-bis and the maiden flight of the Ipanema[14] is not just Brazil´s capacity for technological and scientific innovation, but the rest of the world´s appreciation of the potential of that innovation to address some of the pressing challenges that confront us all (BOND, 2008:14).

This is an unreasonable[15] optimism. The recognition of comparative advantages do not mean that they are used. Also does not mean that it exploitation may be translatable into new scientific paradigms. The construction of a new scientific agenda may have limited its scope or impact to the context of construction, without influencing local epistemes on global dimension ISST. That is to say that it is very affordable, taking into account the history of world science of reproduction, building a scientific agenda with relevance to tropical regions, which coexists the same kinds of problems and to which this new agenda seeks to give answers. It seems, finally, that science coexists with peripheral issue, as discussed in the literature, from circulation (Latour, 2000). Latour and the theorists on *actor network theory* support the argument that to become a fact, every single idea must pass through the hands of a multitude of actors with different interests and strategies, which are not predictable and much less have any commitment to the original idea, which makes it (inevitably) unrecognizable when it circulates. Against it, those involved with the idea must accomplish two things: "enlist other people so that they participate in the construction and the fact that control the behavior expected of them to make their actions" (Latour, 2000:178). It seems to me that the problem of building a tropical science resides in the first case, which thus invalidates the second.

Peripheral Science has a low capacity of recruitment of actors, especially those who take strategic positions for the knowledge circulation ISST: journal editors, peer reviewers, teachers and students in calculus centers, entrepreneurs, among others. If the case is to enlist in the tropics, then it brings the problem of low network density technoscientific built there, and the absence of central calculations able to add scientific capital that exceeds the conceptuality of knowledge and technology built. In this sense, it seems that the reference to "tropical context" argues against the ability of movement of knowledge built in this context. Unless it purifies itself, although, depriving it.

7. Concluding remarks

Purifying the peripheral knowledge of the science references marks the science in these contexts. The likely local relevance becomes irrelevant when your site is the periphery of the ISST. Thus, although all knowledge starts from certain location, the location really matter where it goes, if it is assumed some differentiation center / periphery in ISST. It is important mainly for the " relevance administration" of scientific products (KNORR-CETINA, 2005). According to this formulation, the scientists always seek to answer, in the introductory

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[14] 14-bis and Ipanema aircraft models are developed in Brazil. The first was built in 1906 by AlbertoSantos Dumond and the second was built in 2005 by the Brazilian company Embraer and is thefirst commercial aircraft to operate entirely on biofuel.

[15] Some recent studies indicate that the United States leads the development of low carbon technologies and that China was the country with the highest growth rate of patents of these technologies in the last decade. This knowledge translates into projects already leaders in wind, solar and methane destruction (MOTTA et al., 2011).

sections of their articles, the real intention of the article. Therefore, for example, it can be summarized the relevance of the research results in what they present as innovative to the field in question, the response of a given disease, the solution to environmental problems, economic, and finally, to the problems mentioned by the scientific agenda which it links.

> The relevance of the elaborated practice in the introduction is, above all, a speech phenomenon related to itself, instead of being a phenomenon related to the practice. So, I want to say that the relation of generalized sources that ate integrated to the scientists, to the potato processing industry, to the population who benefits with more and better proteins or to the United States which benefit with the control of the waste, is not related to the practice of scientists. (KNORR-CETINA, 2005:256).

So, it is administered according to the relevance of other elements presented in the scientific and transscientifics, emphasizing what, ultimately, would favor the publication of the article. In the scientific center, the relevance is ensured by the local agenda (global) from the research what makes a legitimate context. In the periphery, it is needed to purify the context and references to local problems. It should, therefore, "manage the irrelevance," giving up the agendas of peripheral research.

It was not advocated in this article the argument of the impossibility of change in the hierarchy of the international science and technology. The calculus centers are shifting and also they are in constant variations, being subject to exemplary works and advanced technology. But, also, it cannot be disdained the tendency that some of the hierarchy spots tend to be constant – as it has been shown along the history of science and technology. Yet, it is advisable to have in mind that within the center of scientific and technologic production emerge another calculus centers, anticipating its global agenda, methods and paradigms – consensual- in the system as a whole, including its periphery.

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Religious Participation and Educational Attainment: An Empirical Investigation

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1. Introduction

Religion plays a very important role in the lives of many Americans. Over two-thirds of Americans belong to a church or other religious organization, and this trend has risen substantially over time. Two-fifths of Americans attend church in a typical week, and 95% profess belief in "the existence of God or a universal spirit" (Iannaccone, 1998). In addition, charity giving to religious causes accounts for more than two-thirds of all reported individual charitable contributions. Religiosity is not confined to particular income groups, racial groups, or locations in the U.S.: religious adherence and participation is widespread among all demographic groups. Religion plays an especially important role in education. Wilson (1978, pp. 262–263) notes that

> "…Religious training is something that all but two percent of American parents feel they should give their children
>
> …Parents see the church as a place of character building for their children . . . Children are frequently the most important consideration in choosing a particular church … Couples with growing children have the highest rate of church attendance."

In addition, sociologists and psychologists' research also shows that parents' religious participation has a profound impact on their children's moral behaviors. For example, Nock (1992, p. 333) summarizes:

> "... American parents believe it important that their children receive moral and ethical guidelines from their church. This is why church attendance is highest among parents with young children . . . children are much more responsive to the behavioral models than to instruction. They are much more likely to imitate what they see parents and others do than what they hear parents and others say . . ."

Given this important role of religion, few economists have studied the relationship between religious participation and education attainment. This is certainly not the case in other disciplines. Hundreds of articles in sociology, psychology, and medicine overwhelmingly document the positive impacts of religiosity on a wide variety of educational outcomes. Those few studies by economists have also found that religiosity, and in particular religious participation, is strongly associated with positive educational outcomes.

As pointed out by Glaeser (2002) in the context of religion and education, the most natural omitted factor is the degree of religious belief, i.e. the extent to which individuals believe that there are returns to religious activity. Measures of religious belief are strongly correlated with religious attendance and negatively associated with education. Less educated people are more likely to believe in miracles, heaven, devils, and the literal truth of the Bible. Furthermore, denominations are, to a significant extent, defined by their beliefs, and unsurprisingly sorting across denominations on the basis of religious beliefs is stronger than sorting across denominations on the basis of education. As such, religious belief is a natural omitted factor that is negatively correlated with education, positively correlated with attendance and very important for sorting across denominations. For the analysis of this study, I try to separate the measure of religious facts and religious belief.

In this paper, first I apply the cross-tab method to investigate the relationship between one's highest education attained and other various religious variables: whether a person's education level will affect his or her religious activities. Second, I use the regression model to test whether education, occupation, and other variables are associated with his or her church attendance. I rely on the General Social Survey[1] (GSS), a nationally representative survey that collects data on religious preference and religious participation. In this paper, I craft a simple statistical model of religious attendance, education and belief and then I estimate that model. I try to explore whether other factors also affect church attendance. In the literature, there is a negative relationship between education and church attendance; however, this relationship is proved to be statistically insignificant. This negative relationship may be the result of omitted factors (such as interests and social skills), which relate both to church going and school attendance. Both activities require sitting still, listening, being interested in abstract ideas and putting future gains ahead of current gratification. There is the connection between church attendances and a wide range of formal social activities that require similar skills and interests as church going.

My results are striking. I find that there is significant association between "one's highest degree" and "their feelings about the bible", "agree to allow anti-religionist to teach", and "how fundamentalist was one at age 16. Similarly, a significant relationship exists between "one's highest degree earned" and "how fundamentalist was one currently". Other variables that are significantly associated with "a person's highest degree earned" include the following variables: "feelings about the bible", "confidence in the existence of God", "The Pope is infallible on matters of faith or morals", "how often does one pray", "whether one should agree that there can by Bible prayer in public schools or not", "whether one agrees that sinners must be punished or not", "whether one has ever had a 'born again' experience", "how often does one take part in religious activities", etc[2]. Besides, I find that there is a significant effect between one's religion attendance and other control variables. Education has a significant negative effect on the religious attendance; however, the effect is insignificant. Other variables that have significant effects on a person's religious attendances are the following: the number of children a person have, whether the person is married or not, and the marital status of the person. As the number of children increases, the days of church attendance will increase; if a person is from the Catholic denomination, his or her

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[1] I use the most recent data available from GSS, which is from the year 2010.

[2] In the result part, I do not report all the significant associations; I only report those ones I considered important according to the literature.

religious attendance will increase; if a person is married, his or her church attendance will decrease. In addition, I find that more prestigious occupation has a negative effect on one's religious attendance. These results are robust to a variety of specification checks.

The chapter proceeds as follows. In section two, I review the literature on religiosity and outcomes, and on religious activities and education motivation and achievements. In section three, I briefly state the theoretical model according to Simon Fan's paper "Religious Participation and Children's Education: A Social Capital Approach". In section four, I describe the data sources and empirical strategy for the analysis. Section five presents the main results, and assesses their robustness to alternative interpretations. Section six concludes.

2. Literature review

2.1 Religion and motivation

Religion is directly or indirectly related to academic success or failure. A look at the religious history of Catholics and Protestants in the American society shows that the religious background of those two groups is actually influenced by their religious and social upbringing (Veroff, Feld, & Gurin, 1962; Guiso, Sapienza, & Zingale, 2003). This stems from the parents' demands placed on children from an early age onwards to achieve academically and reach upward social mobility. For example, Protestants perform better academically than the Catholics (Veroff et al., 1962; Hanushek, 1996)). This is mainly attributed to the way mothers deal with their children's academic performance. In Protestant homes, mothers are inclined to use symbolic punishment as disciplinary action such as restricting privileges or reprimanding; whereas in Catholic home, the mothers use physical punishment such as spanking and reward also materialistically reward for good academic standing. This kind of physical reward and punishment is not conducive to academic motivation and strive in the long run, but is only a quick fix (Veroff et al., 1962). However, it also should be noted that academic performance varies in meaning from one religious group to another. Catholics, for example may have more internalized standards for academic performances than the Protestants, but this hypothesis needs more research to stand on more solid ground (Veroff et al., 1962).

More recent studies also look at the relationship between religion and education for immigrants and non-immigrants, Hispanics versus African Americans, and Asian versus white Americans rather than Catholics versus Protestants. Studies try to analyze whether those immigrants' succeed or fail in the rooted environment of religion, or in a certain social structure. The researches show that Asians, specifically Chinese and Korean, have higher academic achievement rates than white Americans. Whether those Asians come from a prestigious background (daughters and sons of engineers, physicians, or scientists) or non-prestigious background (daughters and sons of low-skilled laborers, uneducated or poor), they are repeatedly the valedictorians of their high schools or the winners of decathlons, etc. (Zhou & Kim, 2006). They also enroll in the most prestigious universities in the United States of America such as University of California-Berkeley, Los Angeles, and Irvine (Zhou & Kim, 2006, Evan & Schwab, 1995).

Some research may attribute this high academic achievement to the fact that these immigrant groups are deeply rooted in their religious Confucian background. However,

Confucian may not be the only construct that leads to the success of this ethnic group though it places a big value on academic achievement and education. Other studies attribute the success of Asian ethnic groups to the structural construct that favors students from urban middle-class backgrounds (Zhou & Kim, 2006).

Moreover in thinking of the conditions that generate motivations, considerable research proves that the requirement that parents have of their children, the values that the parents stress, and the attitude that the parents want to apply all could enhance and improve the children's motivations. In addition, it is shown that the religious background that families have could inhabit a strong achievement motivation for the individual members (Corten & Dronkers, 2006). The religious practices are not only the main generator for individual achievement motivations but also for the generator for group motivations as well. The achievement behavior of religious groups has attracted many theorists and thinkers to analyze the relationship between the religion and the achievements. For example the comparative high achievements of the Jews in most countries and the comparative low achievements of the Catholic is the best example to show that different values of religion could create a difference in motivation. Some theorist such as Weber conducted a comprehensive study about how the behaviors of Protestantism keep up with the behaviors required for a competitive society and how the behavior of Catholic falls behind. At the beginning of the study he compared the education requirements for Catholic and the education requirements for the Protestant, and he found that the requirements were basically the same for both groups. Weber moved on to compare the religious values to see whether the different attitudes towards religion affect life styles. Weber found that the different religious values could have a great impact on the life styles of people and on their academic achievements.

Many other researches (Deary, Strand, Smith, & Fernandes, 2007) attempt to show that religion has a great impact on academic achievement by comparing and explaining the achievement differences of various religious groups. They found similar results: Protestant college graduate are more likely to go to a science field than Catholic college graduates. Taking into consideration that the science study requires more work and more motivations, Protestant college graduates entered more competitive job fields. On the other hand, a huge number of Catholic graduates have been found in less competitive jobs. Smith (2007) points out that there are more Jews in the professional and managerial occupation than Italians. This difference is attributed to the religious backgrounds that differentiate one group from another.

Similarly, a national survey was taken to measure the achievement motivations of people coming from different religious denominations (Godfrey & Morris, 2008). The three main religious groups in the survey are: Catholic, Protestant, and Jewish. The survey shows that the overall achievement of the Jewish is higher among all the religious groups. The Catholic and the Protestant achievements are almost equal but earlier independence was found in the Protestant children. The results of the survey show that different religious values explain the difference in motivation.

Besides studying religion, motivation, economists also study the relationships among religion and other social factors (the age, place of residence, income, and family size (Jackson, Fox, & Crockett, 1970). The results show that there is a positive relation between income and achievements. The achievement motivation for those with low income is higher

than those with high income. Catholicism presents a greater motivation at lower income level while Protestant shows less motivation. Theorists also find a positive combination exist between family size and motivation for achievement. The larger the family size, the more motivated the individual is, probably due to financial pressure. Also, the Catholic tends to emphasize more on material rewards than the Protestant.

Jackson and Crockett study (1970) comes up with conclusions to strengthen the Hypothesis that other non-educational achievement motivation is related to religion. For the Catholic men, the lower the income, the more motivated he or she is. The opposite is true for the Protestant: the higher the income lever, the more motivated he or she would be. The different relation of income and motivation exist because the Catholic and Protestant children are raised in different way. The research found that Protestants have more generalized abstract strivings than the Catholic through examining theoretically and empirically different kinds of child-rearing attitudes of Protestant and Catholic home. Protestant mother are more likely to select an alternative way to encourage the children to strive for abstract goals instead of material goals. Protestant children are more responsible, and more able to deal with obstacles in their lives. They concluded that the way the children are treated or raised has a great impact on achievements. More importantly, the research reach the conclusion that the incentive and vehicles for achievement taught to young children have important bearing not only on achievement motivation among different religions but also on the quality of individual motivations within one religion group.

2.2 Religion, academic achievements, and other social factors

In addition to achievement motivation, religion also has direct bearing on other educational results. Several studies have shown that the religious students are braver and perform better academically (Mooney 2010, Jeynes, 2005, Jeynes, 2007). The studies generally find a positive impact of the religion on student success. The religious participation and personal religiosity help to lower the rates of substance abuse, limit activities that adversely influence college careers. Students who participate in religious activities have made the choice to cut other types of social ties. For example, a student who is going to mosque every Friday or who is going to the church every Sunday is less likely to be found in a bar. Also, this kind of students is more likely to complete his duties on time. Researches (Mayer& Sharp, 1962) show that being a part of a religious group promotes conformity such as going to classes or completing assignments. Alcohol and substance abuse are one of the most important factors in destroying a person's education or career (Rakitic, 2003). As we know some religion prohibits alcohol consumption such as Islam and other religions such as Christianity insist that only a little bit of alcohol would be enough. The common thing about both of the religions is that they agree alcohol has a bad effect on students and students who chose to join religious groups are less likely to be addicted to alcohol and drugs. Besides substance abuse, depression, loneliness and anxiety are more often observed for people who are away from religion and from God. People who are depressed often prefer to skip classes, to return home and start to use alcohol. Religious groups or religious activities provide a social support outside the family to combat loneliness. Students feel more comfortable because they have access to the needed support. Religious students are also found to devote time and energy to a variety of pro-social causes (Wilson, 1978; Lundberg & Startz, 1998; McCleary & Barro, 2006). They help connect colleges with the surrounding community and

provide volunteers and partnerships with groups (Sikkink & Hernandez, 2003). The research also finds that the majority of volunteers are religious students (Vander, Hermans, Aarnoutse, 2008).

Research done recently shows that the individual religiosity increases educational attainment. Veroff (1962) explains that this positive relation between religion and academic attainment is because religion helps create a disciplined life and generates ethics. For people with a disadvantaged background, religious groups teach these people to be more disciplined, have more positive attitudes, and encourage better behaviors. Because of religious beliefs and practices, believers become more able to deal with troubles and stressful situations that might negatively affect their academic or career achievements than non-believers who may feel stressful and totally lost. Another way through which religion influences education is by creating a family like atmosphere for those who have single parents. For example some theorist (Ewing, 2000; Fan, 2003; Galor & Zeira, 1993; Galor & Tsiddon, 1996) found that religion has a great influence on the educational achievement of the poor. People in urban areas are more religious because the churches play the role like parents by providing youth with authority figures, disciplines and the ways they should act. The church's role is to help people to be more active in the society and keep them on the right way. Family life is proved to be very important for education achievements and religion is one of the factors that have a positive impact on family life. Religious families are more capable to establish healthy family relationships and have more social control.

The national longitude data conducts a survey on racial groups in the United State including whites, African Americans, Asians and Latinos to know if religious students have higher academic achievements than their peers. The results show that Jews have higher GPA comparing to the Catholics and the Protestants. According to the survey, Jewish people have the highest rate of religious attendance while Hispanics have higher rates of attendance than African Americans. The survey tests the hypotheses that the effect of religiosity on grades varies according to the race, class, and immigration but none of the tests show that the relationship between religion and education differs among groups. According to the NLSF data, after controlling for all the social factors of race, income, and gender, religiosity has a significant influence on the achievements and satisfaction of students in the colleges and universities of the United States. Students who attend religious services once per week in the last year of their high school are able to obtain higher grades than no regular attendees. Religious students study more, go to party less often and dedicate more spare time for religious activities. Also, people who party more are less focused during their study, in contrast, religious students not only are able to spend more time on study, but the quality of the time spent is better: they are more concentrated, have a higher self-esteem, and have a better sense of purpose. Sometimes religious activities have a positive effect and students do a better job on exams not only because they studied well but also because they have more confidence in their intellectual ability.

Others studies are more concerned about the influence of religion on the student's social life at colleges or in universities, such as students get involved in different types of activities like sororities and fraternities. By influencing social activities, religiosity could indirectly influence students' educational achievement, satisfaction at college, and other outcomes such as interactions with professors. Research also tests the influence of religion on dealing with the effect of negative experiences such as the death of relatives or the parental divorce.

In short, religiosity has a great influence on educational achievements. Loury(2004), Regnerus(2003), and Jeynes (2003) argue that attending churches or other religious services provides students with the right guidance that then will improve their academic achievements. The religiosity increases the level of satisfaction and the grades of students attending colleges and universities.

Religion has a big influence not only on education achievement but also on personal achievements. Some research (Hazan & Berdugo, 2002; Landes, 2000; Lipford & Tollison, 2003) shows that there is a relationship between religious preference and worldly success. The survey asks the question about what is your religion, whether it is Protestant, Jewish, or Catholic. In case the answer is Protestant, another question was raised as what domination you belong to. After analyzing people from different religions, Jews show the highest level of the success while the Catholics has the lowest level of success. The reason partly is explained as that Jewish people have the highest level of religious activities. The people who are more religious tend to have more appreciation for the time, less parties and more concentration. Through religious activities, the Jewish people will also be able to meet new people and build up more social networks.

In conclusion, religion has a big influence on motivation, education achievements, and on all other aspects of social life. Individuals who have a religious background are able to success in school, colleges and universities, and later on at work. When people are more religious, they are more likely to focus on what they need because they have a clear status of mind and are more confident. The researches all show that religion is a factor contributing to all kinds of success. Our analysis contributes to the literature by analyzing the relationship between a person's highest education and religions activities. We expand the literature by not emphasizing on different religious groups but instead focusing on various religious activities and perceptions such as "how fundamental one considers himself or herself to be", "how often he or she prays", "how often he or she attend religious activities", etc. Also the paper expands the literature by applying a simple statistical model to analyze whether factors such as a person's education, occupation, marital status, and number of children, affect his or her religious activities.

3. Theoretical background

The study of religious activity and education is mainly empirical. However, the empirical analysis is based on a sound theoretical background of economic literature of religion. This part states about the theoretical research related with the paper. Fan (2008) argues that people's religious participation is determined by the concern for their children's human capital accumulation as well as their religious beliefs. This part of the paper introduces the economics theoretical research of religion. As pointed out in Fan's paper, in recent decades, some important contributions have been made in modeling religion and religious behaviors. Azzi and Ehrenberg (1975) analyze a model of church attendance and contributions in which individuals allocate their time and money among religious and secular commodities to maximize lifetime and afterlife utility. Iannaccone (1990, 1998) applies Stigler and Becker's (1977) idea of "consumption capital" to explain rational habit formation in religious activities. In this framework, current religious participation increases an individual's stock of "religious human capital" and thereby increases the individual's utility from future participation. Iannaccone (1992) presents a model that accounts for the continuing success of

groups with strict requirements. In particular, the model shows that efficient religions with perfectly rational members may benefit from stigma, self-sacrifice and bizarre behavioral restrictions because deviant norms mitigate the free-rider problems faced by religious groups. Bisin and Verdier (2000) extend the study of religion into an intergenerational framework. Assuming that parents get more utility if the children adopt their religion, Bisin and Verdier (2000) present an economic analysis of the intergenerational transmission of religious traits through family socialization and marital segregation. Barros and Garoupa (2002) introduce spatial location models into the economics of religion. Dehejia et al. (2005) show that involvement with religious organizations insures an individual's stream of consumption and of happiness.

This study is also related to the human capital models based on social interactions. In analysing the relationship between religion and social factors, there are several important theoretical papers. For example, Borjas (1992) and Lundberg and Startz (1998) analyze models in which an individual's human capital is determined by the average level of human capital of the ethnic group to which she belongs as well as her own parental human capital. Benabou (1993) suggests that the neighborhoods with a high level of average parental human capital facilitate one's human capital formation. He shows that neighborhoods are formed endogenously, higher income people live in the communities whose rent and average level of human capital are both higher. Epple and Romano (1998) and Brock and Durlauf (2001b) posit that a student's academic achievement is determined by both her own ability/effort and mean ability/effort of her classmates. Epple and Romano (1998) show that in equilibrium, parents who have high income and high-ability children pay high tuition to send their children to private schools in which there is better peer-group externality than public schools. In summary, the existing theoretical literature implies that education is related with religious activities; besides, religious activities are related with other social factors. The following part of the empirical research aims to detect the relationship of education and religious activities, as well as the relationship between religious activities and other social factors.

4. Methodology

This part of the research describes the data used for analysis and the methodology applied for estimation of the results.

4.1 Data

We draw data from the General Social Survey (GSS) of the USA in our empirical analysis. The General Social Survey is conducted by the National Opinion Research Center of the University of Chicago. The dataset is collected through a detailed personal interview survey of U.S. The GSS contains social and demographic characteristics of families. Most importantly, GSS is a rich dataset that contains rich information about people's religious activities of the sample. The religious variables include "how often the person attend religious services", "how many times a person prays every day", "allow anti-religionist to teach", etc. Besides, the GSS data also includes information about people's education achievement such as one's the highest degree. The GSS is not a panel data, which means that it does not follow the same objectives every year. The data from the year 2010, which is the most recent available dataset used for the analysis of this paper.

Variable Name	Mean	Std. Error	Median	Variance
Marital Status	2.41	0.036	2	2.557
Age	47.97	0.391	47	312.5
Family Income	30813.3	690.787	23310	0.0008
Highest Year of Education	14.64	0,588	11.33	0.00008
Highest Year Mother Completed	11.55	0.088	12	13.8
Highest Year Spouse Completed	13.73	0.102	14	0.0008

Table 1. Descriptive Table of Important Variables

Table 1 is the descriptive statistics about people's marital status, age, family income, and education. People on average have married for twice, the standard error and variance are quite low. The average family income is 30,813 and the median income is 23,310, the standard error for family income is big while the variance is small. The highest year of education for an individual is 14.64 years; the standard error and variance are both small. The highest year of education for their mother is a little lower: 11.55 years, the median is about 12 years; the standard error and variance are both very small. The highest year of education for the spouse is 13.73 years, the standard error and variance are both small. This means that there is no big differences between the education of the parents and their children, neither there is a big difference between the education of the spouse and the respondent.

4.2 Empirical estimation

4.2.1 The cross tab analysis of religious and educational variables

In this research, two research questions are addressed. The first research question is: "Whether a person's education is related with his or her religious activities." The analysis of the first question could be expressed in the following table:

Education Variable: One's Highest Degree						
Important Religious Variables						
Religious Facts			Religious Opinions			
How often Pray?	How Often Take Part in Religious Activities?	The Religion One Is Raised	How Fundamental Is He or She?	Religious Preference	Whether One Considers Him or Her Religious?	Strength of Affiliation

Table 2. The Structure Tree of Analysis

Table 2 demonstrate the logic of our analysis: we analyse the correlation between one's highest degree and his or her religious activities. The religious activities are divided into two categories: the first category is the fact concerning one's religious belief such as how often one prays, takes part in religious activities, and in which religion is one raised. The second category is one's opinions considering how religious one person is. The questions include how fundamental one considers him or her to be, the strength of affiliation, etc. The corresponding results of the analysis will be shown in the result part.

Aanalyse this issue, crosstab analysis is applied. Crosstab method is usually applied to when the independent variables are categorical variables. The data is divided into several cells and the significance of association among different cells is estimated. To use the crosstab method, it is very crucial that there are no empty cells. Technically, there will be empty cells only if the variables are continuous. Since we don't have continuous variables in our model, we are not worried about this problem. We did the crosstabs with the response variable by each of the categorical predictor variables, and those tables looked good with cell size, as a result, the analysis is valid. The results of this part of the analysis are shown in Table 3 to Table 11. The meanings of the crosstab results and regression results are explained in detail to satisfy the needs of those who are less methodologically inclined (sociologists included) and those who are generally less familiar with the jargons of sociology (non-sociology readers)

4.2.2 Regression analysis of religious, educational, occupational, and other variables

The second part of the analysis applies regression analysis to analyze the relationship between religion and other social economics variables. First, I estimate the effect of education and other variables on the number of church attendances of individual i in year t: R is a variable indicating the number of days of attending religious activities. The constant term is denoted by α_1. E is a categorical variable indicating the level of one's education. M is a variable indication the marital status of the person: whether he or she is married or not. N is a variable indicating number of children in the family; X is a vector of independent variables including age, family income, religion denomination, whether the person is divorced or not, ethnicity, whether the person feels happy or not, whether the person feels life is exciting or not, race, the type of household, whether the person is Hispanic or not, the marital status of the person, and the gender of the person. Since the independent variable of religious activity attendance is a continuous variable, the paper applies ordinary least square regression to estimate the model.

$$R_{it} = \alpha_1 + \delta_1 E_{it} + \delta_2 M_{it} + \delta_3 N_{it} + \sum_1^{11} \delta_m X_{im} + \varepsilon_{it}^1 \tag{1}$$

Second, I estimate the effect of occupation and other variables on people's religion activities. The estimation equation is as the following:

$$R_{it} = \alpha_2 + \lambda_1 O_{it} + \lambda_2 M_{it} + \lambda_3 N_{it} + \sum_1^{11} \lambda_m X_{im} + \varepsilon_{it}^2 \tag{2}$$

R is again the variable indicating religious attendances. The constant term is denoted as α_2. O is a categorical variable representing a person's occupation. M is a variable indication whether the person is married or not. N is a variable representing the number of children in the family, X is a vector of control variables that include age, the family income, religious denomination, whether the person is divorced or not, ethnicity, whether the person is happy or not, whether the person feels life or not, race, the type of the household, whether the person is Hispanic or not, the marital status of the children, and gender. The independent variables from equation one and equation two are similar.

5. Results

Followed by the empirical estimation, the results are described as two parts: the first part concerns about the association between one's highest degree achieved and his or her religious practices and beliefs. The second part of the results is about the association between other factors (age, education, family background, etc.) and one's religious practices.

5.1 The association between one's highest degree achieved and his or her religious practices and beliefs

There is no significant association between a person's highest degree earned and "how often the person attends religious services". However, there is significant association between one's highest degree and their feelings about the bible. Besides, there is significant association between a person's highest degree and "allow anti-religionist to teach". There is also a significant association between one's highest degree earned and "how fundamentalist was one at age 16. Similarly, a significant relationship exists between one's highest degree earned and "how fundamentalist was one currently". Other variables that are significantly associated with "a person's highest degree earned" include the following variables: "feelings about the bible", "confidence in the existence of God", "Pope is infallible on matters of faith or morals", "how often does one pray", "whether one should agree that there can by Bible prayer in public schools or not", "whether one agrees that sinners must be punished or not", "whether one has ever had a 'born again' experience", "how often does one take part in religious activities", "whether religious experience changed one's life", "whether there is a turning point in life for religion", "one's religious preference", "religion in which one is raised", "strength of affiliation", "try to carry one's beliefs into other dealings", "whether there is any turning point when less committed to religion", "whether one considers himself or herself a religious person", "whether one tried to convince others to accept Jesus", "whether one thinks that he or she believes too much in science, not enough about faith", "how fundamentalist is spouse currently", "whether one considers herself or himself a spiritual person". Tables 3 to Table 11 describe some of the most important associations between one's highest degree achieved and his or her religious practice in detail. We classify the tables 3 to 11 as one's belief such as in which denomination is he or she raised and people's opinion of religious activities such as how fundamental the person considers himself to be.

5.1.1 Facts concerning one's religious belief

Table 3-6 describes some of the facts concerning the association between one's highest degree and his religious practices.

Table 3 shows the relationship between a person's highest degree and how often he or she prays. From the table, we can see that for people with less than high school education, most of them pray once a day (31.2%); for people with high school and junior college education, the majority pray several times a day; for people with bachelor and graduate degrees, the majority of them pray once a day. The largest percentage of people who never pray comes out of graduate degree holders (21.2%). The Pearson Chi-Square is 35.128 and the significance lever is 0.019, this means that a person's highest degree is significantly associated with how often a person prays.

Highest Degree	Several Times a Day	Once a Day	Several Times a Week	Once a Week	Less Than Once a Week	Never
Less than High School	85 28.2%	96 31.2%	32 10.6%	21 7%	35 11.6%	32 10.6%
High School	301 30.4%	286 28.9%	112 11.3%	59 6%	113 11.4%	120 12.1%
Junior College	49 34%	48 33.3%	19 13.2%	10 6.9%	8 5.6%	10 6.9%
Bachelor	97 26.2%	101 27.3%	53 14.3%	21 5.7%	42 11.4%	56 15.1%
Graduate	55 25.3%	592 29.3%	240 11.9%	7 3.2%	24 11.1%	46 21.2%
Statistics	Total Observations 2023		Pearson Chi-Square 35.128		Significance Level 0.019	

Table 3. A Person's Highest Degree and How Often Does One Pray

Highest Degree	Never	Less Than Once a Year	Once or Twice a Year	Several Times a Year	Once a Month	2-3 Times a Month	Nearly Every Week	Every Week	Several Times a Week	Once a Day
Less than High School	148 49.2%	27 9%	29 9.6%	31 10.3%	16 5.3%	25 8.3%	6 2%	19 6.3%	0 0%	0 0%
High School	442 44.4%	92 9.2%	152 15.3%	106 10.6%	56 5.6%	59 5.9%	19 1.9%	62 6.2%	7 0.7%	1 0.1%
Junior College	50 34.7%	7 4.9%	21 14.6%	20 13.9%	7 4.9%	13 9%	4 2.8%	18 12.5%	4 2.8%	0 0%
Bachelor	139 37.4%	25 6.7%	54 14.5%	54 14.5%	26 7%	27 7.3%	15 4%	22 5.9%	8 2.2%	2 0.5%
Graduate	85 39%	13 6%	36 16.5%	27 12.4%	15 6.9%	16 7.3%	6 2.8%	16 7.3%	2 0.9%	2 0.9%
Statistics	Total Observations 2031			Pearson Chi-Square 63.96			Significance Level 0.003			

Table 4. A Person's Highest Degree and How Often Does One Take Part in Religious Activities

Table 4 shows the association between a person's highest degrees and how often does he or she take part in religious activities. The majority of the people in all the degree categories never take part in religious activities. Only very few people in the sample attend religious activities several times a week or once a day. The largest category for people to attend religious activities several times a week or several times a week is people with junior college degrees. The biggest category for people to attend religious activities nearly every week is

people with junior college and graduate degrees. The biggest category for people to attend religious activities 2-3 times a month is people with less than high school degrees. The largest group of people who attend religious activities once a month and several times a year is the bachelor group. The biggest group of people who attend religious activities less than once a year is the group with high school education. In conclusion, the most of the people in the sample never attend any religious activities. There is no clear trend between the people's highest degree and their attending of religious activities. Actually, the largest group of people who are attending religious activities every week and once or twice a year is the graduate group. There are 2031 observations in this sample test. The Pearson Chi-Square is 63.96, and the significance level is 0.003,which means that people's highest degree are significantly associated with attending of religious activities.

Highest Degree	Protestant	Catholic	Jewish	None
Less than High School	130 43.2%	116 38.5%	4 1.3%	34 11.3%
High School	547 54.8%	300 30.1%	7 0.7%	71 7.1%
Junior College	75 51.7%	52 35.9%	0 9%	11 7.6%
Bachelor	204 54.7%	118 31.6%	14 3.8%	13 3.5%
Graduate	110 50.9%	61 28.2%	8 3.7%	150 7.4%
Statistics	Total Observations 2033	Pearson Chi-Square 93.79	Significance Level 0.000	

Table 5. A Person's Highest Degree and the Religion in Which He or She is raised

Table 5 describes the correlation between a person's highest degree and the religion in which he or she is raised. From the table, we can see that the majority of the people are raised as Protestant (around 50%), the second largest category is Catholic. As people receive higher degrees, the number of Catholics decreases. 9% of Jews are Junior College, which is the largest category among all the five categories. The largest category with no religious belief is people with less than high school degree. The number of total observations is 2033, the Pearson Chi-Square is 93.79, and the result is very significant which means that a person's highest degree is significantly related with the religion in which he or she is raised.

Table 6 asks the respondents whether religious experience changed his or her life or not. This table could also be considered as some facts about religion. 38.5% of people with less than high school degree said religious experience have changed their life while 61.5% of high school with less than high school degree answered no. The largest percentage of people who agree that religious experience has changed their life is Junior College; the largest percentage of people who said that religious experience has not changed their lives is the people with less than high school degree.

From the results, the people who said religious experience has changed their lives are "high school", "Junior College", and "Bachelor": the people in the middle categories, the people who agree that religious experience has not changed their lives are people with "less than high school" degree and people with "graduate" degree: people with the lowest and the highest degree.

Person's Highest Degree	Have Religious Experience Changed Life (Yes)	Have Religious Experience Changed Life (No)
Less than High School	116 38.5%	185 61.5%
High School	409 41.1%	586 58.9%
Junior College	77 55%	63 45%
Bachelor	149 40.2%	222 59.8%
Graduate	85 39.2%	132 60.8%

Table 6. Whether Religious Experience Has Changed One's Life or Not

5.1.2 Opinions concerning his or her religious belief

Table 7-11 describes the association between one's highest degree and people's opinions about his or her religious beliefs. In comparison with Table 3, this part of the results concerns about people's belief of his or her religious practices instead of the facts of his or her religious practices.

Person's Highest Degree	Fundamentalist	Moderate	Liberal
Less than High school	89 30.4%	146 49.8%	58 19.8%
High School	340 35.1%	437 45.1%	193 19.9%
Junior College	46 32.6%	65 46.1%	30 21.3%
Bachelor	78 21.9%	166 46.6%	112 31.5%
Graduate	40 19.8%	90 44.6%	72 35.6%
Statistics	Total Observations: 2006	Pearson Chi-Square 53.752	Significant Level 0.000

Table 7. A Person's Highest Degree and How Fundamentalist Was the Person at Age 16.

From Table 7 we could observe that about half of the people with less than a high school degree are moderate fundamentalist when they are age 16. The percentage change of fundamentalists does not change much among people with different highest degrees. The

ranges are from 49.8% for people with less than high school degree to 44.6% for people with graduate degree. The percentage of fundamentalist decreases a lot when people obtain higher degrees: from 30.4% for people with less than high school degree to 19.8% for people with graduate degree. On the contrary, the percentages of liberal increases greatly as people have higher degrees: from 19.8% for people with less than high school degree to 35.6% for people with graduate degree. The total number of observations is two thousand and six; the Person Chi-square is 53, while the P-value is 0.000, which means that the results are highly significant: there is significant difference between people's highest degree of education and whether they are fundamentalist, moderate, or liberal. From Table 7, we conclude that one's younger belief about religion affects his education level. In comparison with Table 7, the following Table 8 describes the relationship between the highest degrees one earned and how fundamentalist the person is currently.

Person's Highest Degree	Fundamentalist	Moderate	Liberal
Less than High school	105 35.8%	129 44%	59 20.1%
High School	291 30.4%	380 39.7%	285 29.8%
Junior College	45 32.8%	60 43.8%	32 23.4%
Bachelor	54 15.5%	143 41.1%	151 43.4%
Graduate	26 12.7%	83 40.5%	96 46.8%
Statistics	Total Observations: 1939	Pearson Chi-Square 93.98	Significance Level 0.000

Table 8. A Person's Highest Degree and How Fundamentalist Is the Person Currently

Table 8 shows the relationship between a person's highest academic degrees and how fundamentalist is the person currently. From this table, we found similar results as in Table 7: those who have a lower degree tend to be fundamentalist while those people who have a higher degree tend to be liberal. So Table 7 and Table 8 together prove that people who have lower degree is more likely to be fundamentalist when they were young and also when they grow up. On the other hand, people with higher degrees are more likely to be liberal when they were young and also when they grow up.

Table 9 describes a person's highest degree and his or her religious preference. Two biggest religious categories are protestant and catholic. The results show that around 45%-50% of people in the sample are protestant, around 20%-30% of the people are Catholic, 1%-5% of the people in the sample are Jewish, and another 15%-25% of the people in the sample do not believe in anything. As people obtain higher academic degree, the number of protestant remains the same; as people obtain higher academic degree, the number of Catholic decreases. As for Jewish people, the percentage of graduate is highest. Also, as people achieve higher degrees, the percentage of non-believers also increases. There are 2031 observations, the Pearson Chi-Square is 63.96, and the results are statistically significant,

which means that people's highest degree achieved and their religious preferences are highly associated.

Highest Degree	Protestant	Catholic	Jewish	None
Less than High School	139 46%	91 30.1%	4 1.3%	45 14.9%
High School	493 49.4%	227 22.7%	8 0.8%	179 17.9%
Junior College	74 51.7%	37 25.9%	0 0%	20 14%
Bachelor	171 46%	85 22.8%	15 4%	69 18.5%
Graduate	96 44.4%	42 19.45%	10 4.6%	50 23.1%
Statistics	Total Observations 2031	Pearson Chi-Square 63.96	Significance Level 0.003	

Table 9. A Person's Highest Degree and One's Religious Preference

Highest Degree	Strong	Not Very Strong	Somewhat Strong	No Religion
Less than High School	109 38%	110 38.3%	23 8%	45 15.7%
High School	322 33.4%	394 40.9%	69 7.2%	179 18.6%
Junior College	61 43.9%	48 34.5%	10 7.2%	20 14.4%
Bachelor	138 39.5%	127 36.4%	15 4.3%	69 19.8%
Graduate	77 37.4%	68 33%	11 5.3%	50 24.3%
Statistics	Total Observations 1945	Pearson Chi-Square 20.868	Significance Level 0.05	

Table 10. A Person's Highest Degree and the Strength of Affiliation

Table 10 shows the association between a person's highest degree and the strength of affiliation. For people with "strong strength of affiliation", the highest percentage is junior college (43.9%); for people with "not very strong affiliation", the highest percentage is high school; for people with "somewhat strong affiliation", the highest percentage is high school and junior college; for people with "no religion affiliation", the highest percentage is people with graduate degrees. As people achieve higher degrees, more and more people tend to have no religion. There is no trend in the categories of "strong", "not very strong", "somewhat strong". The total observations is 1945, and the Pearson Chi-Square is 20.868, the

result is significant at 0.05 level, which means that a person's highest degree is significantly associated with his or her strength of affiliation.

Highest Degree	Very Religious	Moderate Religious	Slightly Religious	Not Religious
Less than High School	56 18.7%	144 48%	66 22%	34 11.3%
High School	165 16.5%	418 41.9%	247 24.7%	168 16.8%
Junior College	27 18.8%	57 39.6%	34 23.6%	26 18.1%
Bachelor	58 15.6%	154 41.5%	72 19.4%	87 23.5%
Graduate	37 17.1%	69 31.8%	51 23.5%	60 27.6%
Statistics	Total Observations 2030	Pearson Chi-Square 37.58	Significance Level 0.000	

Table 11. A Person's Highest Degree and Whether He or She Considers Himself or Herself a Religious Person

Table 11 shows a person's highest degree and whether he or she considers himself or herself a religious person. We could see that the number of people who are "Moderate Religious" declines as people gain higher degrees. The number of people who are "Not Religious" increases as people obtain higher degrees. There are no clear trends for people who are "very religious" and people who are "slightly religious". The largest percent of people who are very religious are people with "Junior College" degree. The largest percent of people who are not slightly religious are people with high school degree. There are 2030 observations for this test, the Pearson Chi-Square is 37.5, and the p-value is 0.000, which is statistically significant. This means that a person's highest degree is significantly associated with whether he or she considers himself or herself a religious person.

5.2 Religious activities and demographic variables

The part of the results shows the association between how often one attends religious activities and his or her education and other demographic variables.

Table 12 shows the control variables have significant effect on one's religion attendance and other control variable. From the table, we can see that education has a negative effect on the religious attendance (-0.027), however, the effect is insignificant with a P-value of 0.738. Other variables that have significant effects on a person's religious attendances are the following: the number of children a person have, the denomination to which the person belongs, and their marital status. As the number of children increases, the days of religious attendance will increase; if a person is from the Catholic denomination, his or her religious attendance will increase; if a person is married, his or her church attendance will decrease by 2.144, which is a large effect.

Attend	Coefficient	Standard Error	t	P>|t|
Education	-0.027	0.079	-0.33	0.738
Age	0.018	0.019	0.95	0.344
No. of Child	0.399	0.152	2.63	0.009
Income	-0.000	0.000	-1.70	0.092
Denomination	0.020	0.009	2.09	0.039
Divorce	0.136	0.490	0.28	0.782
Ethnic	-0.004	0.011	-0.37	0.709
Happy	-0.604	0.339	-1.78	0.077
Life	-0.513	0.367	-1.40	0.164
Race	0.669	0.391	1.71	0.090
Household Type	-0.025	0.047	-0.53	0.596
Hispanic	0.326	0.229	1.42	0.156
Marital	-2.144	0.970	-2.21	0.029
Sex	0.792	0.442	1.79	0.076
F=0.0004 R-square=0.2405 Adj R-squared=0.1597 MSE=2.4528				

Table 12. A Person's Religion Attendance, Education, and Other Variables.

Attend	Coefficient	Standard Error	t	P>|t|
Occupation	-0.022	0.022	-1.00	0.320
Age	0.016	0.020	0.80	0.428
No. of Child	0.455	0.154	2.96	0.004
Income	-0.000	0.000	-2.11	0.037
Denomination	0.018	0.010	1.82	0.070
Divorce	0.265	0.494	0.54	0.592
Ethnic	-0.001	0.108	-0.11	0.913
Happy	-0.652	0.343	-1.90	0.060
Life	-0.533	0.372	-1.43	0.154
Race	0.701	0.396	1.77	0.079
Household Type	-0.035	0.047	-0.74	0.461
Hispanic	0.344	0.224	1.53	0.128
Marital	-1.974	0.970	-2.03	0.044
Sex	0.577	0.455	1.27	0.206
F=2.84 R-square=0.2581 Adj R-squared=0.1674 MSE=2.4416				

Table 13. A Person's Religious Attendance, Occupation, and Other Variables

Table 13 shows the variables that have a significant effect on one's religious attendance. However, this time we replaced education variable with occupation variable to see whether one's occupation would have a significant effect on his or her religious attendance. In this estimation, I find that a more prestigious occupation has a negative effect on one's religious attendance, but this effect is not significant with a p-value of 0.320. There are only two other

variables that have a significant effect on one's school attendance. The two variables are the following: the number of children in the family, and the marital status of the person. The denomination is weakly significant at p-value of 0.05. If there are more children in the family, the person's church attendance increases significantly (0.455 with a p-value of 0.004); if the person get married, his or her church attendance decreases by 1.974, with a p-value of 0.044, this result is statistically significant.

6. Conclusion

Religion remains an important aspect of life in the U.S. Yet very little is known about the impact religious participation has on economic outcomes. I have attempted to remedy this shortcoming by studying the relationship between education and religious variables and study the relationship between social factors and religion using the GSS data.

Within the U.S., education decreases religious attendance at an individual level. This does not seem unusual to us because religious attendance is a major form of social interaction and education raises every other measurable form of social connection. We do not fully understand why education has this impact on social connection, but it seems to be the best explanation of the negative connection between education and religion. At the same time, there is a strong negative connection between attendance and education across religious groups within the U.S. and elsewhere. This can be explained by the fact that education is negatively connected religious belief and there is strong sorting across denominations on the basis of beliefs. We think that the negative correlation between beliefs and education occurs because education teaches a secular belief system, which conflicts with religious ideology.

This research attempts to achieve two purposes by linking religion and education. First, the study analyzes the one-to-one relationship between education and several religious activities and obtained significant results between education and some of the religious variables.

Second, it applied the human capital models based on social factors by analyzing a framework in which social factors, such as education, occupation, income, marital status, etc. affect children's education, a la Coleman. Based on sociologists' research as well as the existing economic literature, I analyzed the effects of income, marital status, education, and other social factors on people's religious activities.

In other words, religion has a value of investment as well as a value of consumption. It suggests that there is a close relationship between an individual's education attainment and the level of her religious participation. Further, this study reaches the conclusion that education is significantly related with various religious factors proving that human capital and religious activities are strongly associated. This result helps to explain why seemingly unproductive religions can be everlasting. Sometimes, it is observed that the higher one's education attainment, the fewer religious activities he or she would attend, less fundamentalist he or she will be, and more liberal he or she will be. However, for Jewish people, it has somehow a reverse trend, the educated the Jew, he or she will be more active religiously. Also, as the degree rises, the number of nonbelievers will also increase.

In addition, conform with the finding of the first part, the regression analysis in the second part also shows that education has a significant negative effect on religious attendance,

nevertheless, this effect is insignificant. Three other variables are significantly associated with religion: As the number of children increases, the days of religious attendance will increase; this result complies with former researches (Fan, 2008) explained by the fact that parents would like to take their children to attend church activities as a form of education and human capital investment. If a person is Catholic, his or her religious attendance will significantly increase. If a person gets married, his or her church attendance will significantly decrease. This may be explained by the theory that time is a constraint, the family life and church activities are substitutes, as a person get married, he or she has to spend more time on family and thus has less spare time to attend religious activities. The third variable that has a significant effect on one's religious attendance is the person's occupation. I find that more prestigious occupation is negatively related with one's religious attendance, but this effect is not significant. This result could be explained by our first finding that education is negatively related with the attending of religious activities. The more education one receives, the more prestigious one's job would be, as a result, the less religious activities he or she will attend.

In future research, the empirical analysis could be extended in several ways. For example, for simplicity, besides using the cross-tab methods, and the ordinary least square regression, the ordinal regression analysis could be applied to check the robustness of the results. Based on further theoretical development, other variables could affect church activities; as a result, we could include other variables such as the parents' religious belief, the region of the country, the density of the churches, etc. into the model. Secondly, there might be two way interactions between attending church and education, it might be useful to conduct a test of endoegeneity between the two variables: if there is the endogeneity issue, an instrument may be applied to solve for the problem. Thirdly, I only used church attendance as the independent variable in the regression model: besides church attendances, there are many religious variables such as number of days one prays, how strong one considers him to be a fundamentalist, or how strong one believes in God. It would be interesting to compare the results from using church attendance and other religious variables. If the independent variables are categorical variables, again, the ordinal regression could be applied for the analysis.

7. References

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Part 3

Trends

Symbiosis and Exploitation in Sports-Media Interrelations: The Israeli Case of Maccabi Tel-Aviv Basketball Club and the Public Channel

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1. Introduction

Studies of organizational interdependence distinguish between two contrasting phenomena: symbiosis and exploitation. These are often discussed separately, as if they were isolated patterns. Such dichotomy is clearly evident in the sports field, where scholars often emphasize either cooperation and symbiosis or competition and exploitation when studying the relationships of sports organizations with their environment. I argue here that this binary misses the delicate intricacy of organizational interdependencies. While most organizational relations exhibit forms of symbiosis and exploitation, these are not exclusive patterns. Rather, symbiotic cooperation and opportunistic exploitation exist side by side in organizational alliances. Furthermore, these are dynamic patterns, sensitive to changes in the organization's environmental context. This proposition is demonstrated through a case study of the long-lasting alliance between Maccabi Tel-Aviv basketball club and the Israeli Public Channel. This alliance has been characterized by ongoing cooperation and symbiotic rent, but also by altering exploitive behaviors. At different times both organizations used their structural advantages to attain exploitive rents at the expense of the other side.

The literature on organizational interdependence has a long tradition, going back to the early 1950s (e.g. Hawley 1950; Katz & Kahn 1966; Aiken & Hage 1968; Pfeffer 1972; Hannan & Freeman 1988; Gulati & Singh 1998). Scholars of organizational relations often distinguish between two prominent and contrasting phenomena: Symbiosis (e.g. Pfeffer & Nowak 1976; Hannan & Freeman 1977; Deutsch 1980; Koka & Prescott 2000) and exploitation (e.g. Burt 1992; Larson et al. 1998; Sorenson 2000; Das et al. 2003). Dyadic symbiotic interdependence occurs when two individuals or organizations cooperate in order to achieve desired goals. This symbiosis leads to what Marshall (1949 [1920]) had termed *composite rent*—the gains resulting from cooperation in excess to the returns in a non-cooperative situation. In exploitive relations actors take advantage of their structural social position to maximize returns at the expense of another party. I will refer to such gains here as *exploitive rent*.

The current paper wishes to break a common dichotomy in organizational literature between cooperation and exploitation. Building on the ideas of Barnett and Carroll (1987) I argue that these two practices are rarely (if ever) exclusive. Rather, they tend to exist side by side in organizational interrelations. Cooperation, trust, and the perception of mutual gains

are necessary components of organizational interdependencies. Indeed, as myriad studies have shown, without these elements strategic alliances fall apart quite abruptly (e.g. Gulati 1995; Uzzi 1997; Nahapiet & Ghoshal 1998; Zaheer et al. 1998; Putnam 2000; Whipple & Frankel 2000). However, alongside cooperation and trust, most dyadic alliances are also characterized by elements of opportunistic exploitation. Since alliances are rarely egalitarian, there is an imbalance of power, where one side holds greater power than the other. This power position will most likely be used to acquire excess returns at the expense of the other side. Nevertheless, an alliance may still be preserved as long as the exploited organization perceives the returns it derives from it as exceeding the returns it would have achieved without it.

Furthermore, I suggest that the nexus of exploitation and cooperation is mostly fluid, volatile and dynamic, rather than stable or fixed. There is a delicate balance between enjoying synergetic symbiosis and taking advantage of the other side. This balance quite often changes over different settings and time periods, depending on the environmental context. Changes in the organizational environment can take the form of a cut off in governmental support, the establishment or elimination of a monopolistic status, the introduction of new competing organizations into the market, changes in the availability of raw materials, changes in market demand, and more. Such turnabouts may lead to a change in the balance of powers between interdependent organizations. While at times such changes lead to the disintegration of the alliance, the alliance may also be preserved, but with the formerly exploited side now becoming the exploiter. Such changes illustrate that Power is not a fixed part of the social structure, but rather a volatile ongoing social relationship, which is sensitive to transformations in the environmental context.

The divide between symbiosis and exploitation is clearly evident in research on organizational interdependence in the field of sports. Most studies of the field emphasize the symbiosis and composite rents derived from cooperation between sports organizations, sponsors, the media, and other social actors (e.g. McChesney 1989; Koppett 1994; Williams 1994). Others stress mainly the exploitation involved in these relationships (e.g. Hargreaves 1986; Quirk & Rodney 1999). The current study, however, demonstrates that in the sports arena, much like in other environments, dyadic organizational interdependencies often incorporate elements of symbiosis and exploitation.

This contention is illustrated by an Israeli case study of interdependence between a basketball club and a television channel. For almost forty years Maccabi Tel-Aviv basketball club and the Public Israeli Channel (Channel 1) maintained an alliance, in which the latter held the franchise for the broadcasting of the teams' matches in the European arena. Throughout this period both sides enjoyed an evident composite rent. For the team the broadcastings served at first as leverage for exposure, which promoted the acquisition of national audience support. Later on, the broadcastings also became a major source of income, as broadcasting franchise royalties increased dramatically. For the public television channel the matches served as a primal source of ratings and as a tool to retain legitimacy in an expanding television market.

Yet, throughout the years, dimensions of exploitation were also clearly present in the alliance. First, until the early 1990s, it was the Public Channel which used its monopoly in the Israeli television market to avoid almost completely any financial compensation for the

broadcastings franchise. Following the ingress of other television channels into the market, at the beginning of the 1990s, the tables have turned. Maccabi Tel-Aviv began to employ its rising market power and the Public Channel's growing dependence to demand and receive massive financial royalties from the channel, regardless of the latter's increasing financial stringency.

The current chapter begins with a theoretical analysis of organizational dependence and interdependence, concentrating on patterns of symbiosis and trust on the one hand, and power and exploitation on the other. This is followed by a short review of these contrasting patterns in the interdependent relations between sports and media organizations. Next, I introduce briefly the historical setting of the two organizations that stand in the focus of the paper—Maccabi Tel-Aviv Basketball Club and the Israeli Public Channel. The long-lasting alliance between these two organizations and their changing interdependence comprise the core part of the paper. Finally, I situate the Israeli case in the wider context of interdependence in the sports field and examine other examples for the interlocking of symbiosis and exploitation patterns.

2. Organizational interdependence: Symbiosis and exploitation

The term organizational dependence is often used to describe the gap between the vital resources a given organization has and the vital resources it needs (Samuel 2002). Hence, the term draws our attention to the limitations of organizations: their necessity to consider the demands of other organizations in their environment and to adjust some of their operations accordingly. According to the ecological school in organizations studies, organizational dependence is better described and understood as interdependence. Organizations, while being influenced by their environments, also influence and shape these environments (Hannan & Freeman 1977).

When examining these interrelations many have stressed the positive consequences for those involved (Barnett and Carroll 1987; Hannan & Freeman 1988; Pfeffer & Nowak 1976). These scholars term the beneficial cooperation between organizations *Symbiotic Organizational Interdependence*: interdependence which emerges when organizations perceive their own goals as positively correlated with the goals of other organizations. This perception yields reciprocity and further cooperation. Each side sees the other's success as facilitating its own success, and therefore is tuned towards an auxiliary orientation (Deutsch 1980). In the ideal type symbiotic interdependence each side brings its advantages to the alliance and complements the other.

Symbiotic interdependence facilitates the emergence of mutual *trust***:** an expectation that others will help you when in need and that they can be counted on, because helping you will eventually serve their own interests, as well as your own (Coleman 1988; Deutsch 1980; Putnam 2000). In other words, trust is the belief that neither side is going to take advantage of the other; that cooperation and partnership precede individual and personal interests (Uzzi 1997). The development of mutual trust in a dyadic relationship allows both sides to take a risk and share valuable resources. Such sharing is based on the assumption that the other means well, which in turn facilitates further cooperation (Nahapiet & Ghoshal 1998). When trust develops, relations often exceed the professional level and reach a more personal and emotional level (Tjosvold 1986, 1990; Uzzi 1997).

As organizational cooperation and trust build up, symbiosis is fortified. It provides both sides with a synergetic advantage: an advantage which neither of them would have acquired separately. Following Marshall (1949 [1920]), Sorensen (2000) uses the term *Composite Rent* to characterize the difference between the returns of cooperative organizations and the returns they would have obtained in a non-cooperative situation. Marshall gives the example of a mill which is built on a water stream. Both the owner of the mill and the owner of the stream share a rent which otherwise (assuming there is no alternative location for the mill) would not have existed for either of them.

Of course, not all interrelations are strictly symbiotic. Burt (1992) examines unequal structural opportunities (an asymmetric exchange market). He claims that, when given a chance, rational players (or organizations) use their structural social advantages to maximize their returns, even when this means taking advantage of others. Therefore, Burt sees rents as a 'zero sum game', an individual asset derived from the exploitation of others, i.e. an *exploitive rent*. Others agree that often (though not always) rents are the outcome of unequal structural opportunities and exploitation (Sorensen 2000).

In this chapter I argue that when speaking of organizational interdependencies most relationships are neither utterly symbiotic nor purely exploitive. Rather, it is more useful to look at symbiosis and exploitation as the two ends of a continuum, Weberian ideal types rather than actual descriptions of social realities. Furthermore, the two are not binary and exclusive phenomena. Rarely is it possible to find sheer ongoing exploitation in inter-organizational relations, and immaculate cooperation, it seems, is even scarcer. Following Barnett and Carroll (1987) I contend that elements of symbiosis and exploitation, of cooperation and utilization are usually found side by side in organizational interdependencies. Symbiosis and exploitation share an inherent tension. Interdependent organizations often share a composite rent, but at the same time they are likely to use structural advantages to acquire an exploitive rent. As social conditions change, these structural advantages may also disappear, and sometimes even switch sides. The once exploiting organization will then find itself exploited.

3. Interdependence between sports and media organizations

The intricate relations between sports organizations and media organizations produce an ideal field for the study of cooperative and exploitive rents. Current research focuses mainly on the cooperative and symbiotic dimensions of this relationship (e.g. Greendorfer 1983; Wenner 1989; Lever & Wheeler 1993; Coakley 1999; Weingerten 2003). Accordingly, media industries and sports teams are connected by mutual interest, convenience and need. For the media sport is a source of successful television programs and sales-promoting newspaper sections. Sports broadcasts provide television with high ratings and increased revenues from advertisers and pay-per-view audiences. Sports organizations on their part win essential exposure and royalties, and media coverage helps to increase their popularity (Williams 1994). Both sides depend on one another to maintain their commercial success and their prominent place in popular culture. Koppett (1994) describes this symbiotic interdependence as circular: exposure to sports events increases public interest in these events, which in turn increases the demand for more exposure, and so on.

The interdependence between sports and the media is reciprocal, but it is by no means symmetrical. The dependence of sports organizations on the media is usually higher.

Newspapers and television can exist without the broadcasting of sports events, but sports in their current commercial form cannot survive without media financing and exposure (Bellamy 1999). Since the beginning of the 1970s, sports organizations in the West have substantially increased their revenues from selling broadcasting franchises and from sponsorships, while the weight of traditional revenue sources such as ticket selling and public financing gradually decreases (Eastman & Meyer 1989). This increased dependency on the media reduces sports organizations' control over the broadcasting and coverage of the events they "produce" (Goldlust 1987). Sports organizations must adapt to changes in game schedules, the number of games, timeouts and sometimes even in the rules of the game (Coakley 1999). Sports leagues also attempt to promote teams that represent large cities with major television markets, in an attempt to increase broadcasting revenues (Bellamy 1989).

While most studies emphasize media's influence over sports, the inverse dependence is greater than as first meets the eye. The daily press and television owe much of their commercial successes to professional sports. The press has been increasingly covering sports events since the beginning of the twentieth century, and today most worldwide daily newspapers dedicate large sections to sports. In many countries the sports section is the most well read section of the newspapers, and studies estimate that it increases the press' revenues by about 30% (Greendorfer 1983; Lever & Wheeler 1993).

Television is the media organization most dependent on sports. Sports events comprise a major part of the broadcasting schedules of national and cable networks, and many of these networks have established television channels that broadcast sports exclusively. Television networks and media corporations often use sports as a broadcasting anchor; a starting point in their competition with other networks. They see sport broadcasts as a resource for attracting new viewers and retaining old ones. The high ratings of large sport events also make them a major source of revenues from commercial advertisement. Sports fans are mostly men, and advertisers wish to market commodities such as life insurance, cars, computers, financial institutions, credit cards, alcohol and tobacco to this audience (Coakley 1999; Whannel 1992). The universality of sport makes it especially effective in global marketing. Sport talks an international language, which can be understood without the need for interpretations (Zuckerman 1999).

In conclusion, there is a clear symbiotic interdependence between sport and media organizations. Both sides realize that the success of the other leads to their own success and both acquire what Sorensen (2000) calls a composite rent from the relationship. Yet, while most of the literature focuses on the cooperative and symbiotic dimensions of the sports and media nexus, the current study examines the interplay between the exploitive and the cooperative sides of this relationship. I will next show how these two forms of rent invariably coexist in relationships, and also how they may alter over time, as the context of cooperation changes.

4. The case of Maccabi Tel-Aviv and the Israeli Public Channel

As my case study I look at a long lasting alliance between Maccabi Tel-Aviv Basketball Club and the Israeli Public Channel (Channel 1). Since the beginning of the 1970s and up to 2007, the team's European matches have been almost invariably broadcast by Channel 1. Over the

years, both sides shared a clear interest in the alliance, and their mutual choice served them both well. Yet, this long lasting relationship has been also characterized by varying patterns of exploitation. At different periods, both sides took advantage of their relative position in the television/sports market. They forced the other side to accept their terms, and maximized their rent on the other's expense. To study the historical evolution of this interdependence I rely mainly on the archives of the three major daily Israeli newspapers: *Yediot Ahronot, Maariv,* and *Haaretz*, and their respective websites: *ynet.co.il, nrg.co.il,* and *Haaretz.co.il.*

4.1 Maccabi Tel-Aviv basketball club

Maccabi Tel-Aviv, the first Israeli basketball club, was formed in 1932. In 1954, when the Israeli basketball league was founded, Maccabi Tel-Aviv became the league's first champion. Since then the team has won 48 additional championships, a degree of dominance that is quite rare in professional sports. The team is also very successful in the European arena. Since the beginning of the seventies, it has played regularly in the major European basketball league, and won the European championship a few times.

Over the years, Maccabi evolved from an amateur to a professional organization. During the last two decades, the team's yearly budget grew from about a million dollars at the beginning of the nineties to 10 million ten years later and about 20 million today. The organizational and managerial domains have also gone through significant changes. The team broke off its public and municipal support and became a private association, controlled by private businessmen (Haaretz, June 5, 2003). However, as is often the case with sports organizations that become commercialized (e.g. Enjolras 2002), the team's public support remained strong.

4.2 The Israeli Public Channel

The Israeli television broadcasting service was established in 1963, following years of political opposition to its formation, and took its first broadcasting steps in 1968. It was formed under strict regulations concerning the broadcasts' contents and the channel's financing and political independence (Weimann 1996; Zuckerman 1999). The development of the Israeli television market resembles that of European television markets rather than that of the American one. In the United States television adopted a commercial, multi-channel model right from the start. While the United States has a public channel, its standing, influence and ratings are quite marginal. In contrast, broadcastings in many European countries began with a monopolistic public channel. In this model the broadcasts are publicly funded and are motivated mainly by content demands (in most countries public television was defined primarily as an educating and informative tool), rather than by profit maximization (Zuckerman 1999).

The British Broadcasting Corporation (BBC) is the classic model of public television, later emulated by many countries, including Israel. The BBC was established in 1922 as a monopolistic television and radio broadcasting channel. It retained its monopoly until 1954, when an additional television channel, ITV, was formed (Whannel 1992). The BBC is mostly financed by public toll payments. It is compelled by the law to provide information, education and entertainment services, and to make sure that the programs maintain high

standards, diversity and balance. In addition, the channel must certify a representation of different views of debatable political issues, and it is relatively free of direct governmental interference in broadcasting contents (Zuckerman 1999). The Israeli Public Channel is characterized by similar constraints and features.

4.3 1970-1990: Interdependence during the monopolistic era

During the 1970s and 1980s Channel 1 took full advantage of its monopoly in the Israeli television market to avoid paying for sports' broadcasting franchises almost completely. Until 1976 the channel did not compensate Maccabi Tel-Aviv at all for the broadcasting of the team's European matches. Between 1977 and 1985 the payment was fixed at $7000 a year, although Maccabi won two European titles during that period. Only in 1985 did the payment rise to $35,000 a year, and to about $100,000 two years later (Maariv, July 27, 2001). Seemingly, under such minimal compensations the team should have preferred to prevent the broadcastings altogether. A large portion of the team's yearly budget was then based on revenues from selling tickets, and the broadcasts could have jeopardized this source of income. Why then did Maccabi choose to allow the broadcasts?

The answer lies mainly in the reputational realm. The main advantage of the exclusive television broadcastings was in building Maccabi's local name and providing it with an aura of a national team. This happened similarly to what Whannel (1992) describes in the British case. During its monopoly years, until the 1950s, the BBC broadcast various "national" events, which were connected to the state and to royal institutions. Among these were the soccer Cup Finals, the Derby horse race and the Wimbledon tennis tournament. Interestingly, some of these events received their national labeling only *following* their BBC broadcasting. In other words, the placement of these specific sports events in the channel's broadcasting schedule conferred upon them with a special meaning for the British public. It reconstructed them as events of emotional and national significance.

A similar process took place in Israel. The broadcasting of Maccabi Tel-Aviv's basketball matches on the Public Channel began in an age when statehood was still a primary principal of Israeli society (Horvitz & Lisak 1990). It therefore provided the games and the team with an aura of statehood. The games were promoted as national events, and Maccabi became "the national team". This positioning provided the team with wide public support and a relative advantage in its competition with the other Israeli basketball teams. Unlike the major sports events in Britain, which are guaranteed to take place every year, regardless of the participants' identity, the European league games became a national event only when Maccabi Tel-Aviv participated in them. This led many to believe that there is a public interest in Maccabi winning the local league (a pre-condition for participation in the major European league at the time). And so, as Nevo (2000) notices, following the demise of the Israeli labor party, in the late seventies, Maccabi became the representative of the new Israeli center-bourgeois statehood.

Channel 1 on its part also had a clear interest in the games becoming a national event. The construction of a sport match as a national event defines this match as a central and important event, which must be watched. The process is two-way: while fortifying the sport event's status, it also reinforces the television channel's position, as the authority with the power to distinguish between the "national" events and the "regular", less important ones

(Whannel 1992). This reciprocity was articulated by Yoash Alroii, the manager of Channel 1's sports department between 1980 and 2002: "We helped in turning Maccabi into the national team, and they turned us into the people's television." (Maariv, April 28, 2004) Miki Berkovitz, Maccabi's most famous player at the time, agrees: "Chanel 1 built itself through Maccabi, and the reputation of Maccabi was built in Chanel 1. . . . The games turned into no less than the national anthem." (Ynet, April 13, 2007). This is a classic example of symbiotic interdependence, where both sides enjoy the alliance and profit from it.

As discussed earlier, symbiotic interdependence often leads to the creation of trust and introduces an emotional dimension into the relationship. This pattern is illustrated by a dramatic incident, described in 'Haaretz' newspaper (July 22, 2003). In December 1982, prior to one of Maccabi's matches in the European league, the team released a press announcement stating that Olsy Perry, one of the team's American players, had the flu and would not be able to attend the game. Nevertheless, a reporter from Channel 1 took a television crew with him to Perry's home. They were surprised to find the player in bed after an apparent drug overdose. However, Channel 1 managers decided to conceal the exclusive scoop. Instead of revealing the true occurrences of that evening the channel preferred to cooperate with the team's cover-up story.

The Perry incident was not exclusive. Dan Shilon, who was the first broadcaster of Maccabi's European matches, described in an interview how Channel 1 played a role in the team's success on the court. Shilon recalls the first broadcast of a game between Maccabi and the Belgian team Liege on November 24, 1970:

> Liege had a player named Steven Hirst, who shot remarkably from a certain spot on the court. At the day of the game Tal Brody [Maccabi's former superstar] came to us and asked that we put a spot directly above this point. We agreed, and even changed the spot's position during half time. Poor Hirst could barely score. (Maariv, April 28, 2004)

In conclusion, during the 1970s and 1980s both Channel 1 and Maccabi Tel-Aviv enjoyed cooperation, which issued them both with a substantial composite rent. However, the interdependence in those years was by no means symmetric. During its monopolistic years Channel 1 enjoyed considerable structural advantages, allowing it to hold the upper hand in the alliance. The channel used its monopoly to almost completely avoid payments for broadcasting franchise. The matches received very high ratings (they were often the most highly watched program in the channel's weekly schedule) and helped the Channel to acquire legitimacy. Still, the Channel did not feel committed to compensate the team financially (as was already customary in other countries). Maccabi on its part realized that there were no alternatives. In the absence of a real competitive leverage it had no choice but to allow the broadcastings free of charge. And so, during the years of its monopoly, Channel 1 obtained an exploitive rent side by side with the composite rent it shared with the team.

4.4 After 1990: Interdependence in the multi-channel period

At the beginning of the 1990s the global communication revolution reached Israel, and the long lasting monopoly of the Public Channel was finally broken. The change began with the successful ingress of cable television in 1990. Most Israeli television viewers were for the first time given a chance to choose between various channels. The revolution continued in 1993, when, for the first time, a general commercial channel, Channel 2, joined the television

market. Within a short time, the ratings of the new lively Channel 2 far surpassed those of the old and jaded Channel 1 (Zuckerman 1999). During the following years, the Israeli television market continued to widen. Many additional cable channels, satellite broadcasts and a new general commercial channel (Channel 10) joined the competition.

The communication revolution has marked a new era in the broadcasting of sports events in Israel. In 1990 Channel 1 was the sole customer for the product of sports competitions in a market of many suppliers. With the launching of cable television, the television market opened to competition. One of the cables' pivotal channels was the Sports Channel, which soon demanded quality sports material. The launching of the Sports Channel brought both a quantitative (much more sport was now broadcast) and a qualitative (the broadcastings became much more professional) revolution to Israeli televised sports. Channel 1 found itself competing for contents that up to now had been free or almost free of charge, if only it chose to broadcast them. One by one it lost the broadcasting franchises of the central sports events: the Major soccer and basketball leagues, European soccer leagues, and the America basketball league (the NBA). One of the main assets to which Channel 1 chose to cling at all costs was the European matches of Maccabi Tel-Aviv's Basketball Club.

A number of factors drove the continuance of the relationship between the two sides. Maccabi Tel-Aviv on its part saw Channel 1 as a home. The team's managers viewed the alliance between the "national team" and the "national channel" as natural. Moreover, the team has always won great respect from Channel 1. The broadcasters and commentators of the games identified with the team, supported it avowedly, and refrained almost completely from criticism. The channel also considered the team's scheduling preferences, and the games were mostly scheduled for prime time broadcast slots. Furthermore, the long years of symbiotic interdependence between the two organizations facilitated the evolution of emotional relations. Still, the main consideration behind the team's decision to maintain the relation was by now a financial one. In an interview with the Israeli journal 'Status', in 1992, Shimon Mizrahi, Maccabi's chairmen, stated that the team had agreed to grant Channel 1 a broadcasting franchise for one year only, in order to retain a maneuvering potential when additional channels were launched (this was just before Channel 2 was launched). In an increasingly competitive television market Channel 1 was forced to substantially raise its compensations in order to retain the broadcasting franchise.

Despite its growing financial stringency Channel 1 was willing to increase the payments in order to maintain an asset that it viewed as a national symbol. With the emergence of the new commercial channels, Channel 1 faced growing difficulties in determining its place and duties in a multi-channel environment (Zuckerman 1999). Its managers saw the broadcasting of Maccabi Tel-Aviv's European matches as a symbol for the duties the channel should now fulfill. This perception is well articulated in the response of Channel 1's speaker, Yuval Ganur, to criticisms over the channel's massive payments to the team:

> Maccabi Tel-Aviv is Israel's most successful team. Therefore, its natural home is Channel 1. There is nothing we can do about the insane sums we have to pay for the broadcastings. (Ynet, July 10, 2001; emphasis mine)

The criticism over the large payments Channel 1 transferred to Maccabi grew stronger at the beginning of the new millennium. Following a decade during which Maccabi Tel-Aviv did not enjoy a remarkable success in the premier European league, the team improved and

regained its position among the European elite. Since 2000 it reached the final stages of the European league (the final four) eight times, and won the European cup three times. Following this success Maccabi demanded a substantial increase in the payments for its broadcasting franchise. Channel 1 complied, and in 2001 the channel and the team reached an agreement promising the team 14 million dollars for two years (Ynet, July 3, 2001). It should be noted that only three years earlier Channel 1 had paid only half a million dollars for the same yearly franchise (Maariv, May 25, 2001). The agreement received intense public criticism. Critics claimed that "these payments are far too large for a public sponsored channel" (Ynet, July 10, 2001). When the criticism grew stronger and reached the parliament, Channel 1 withdrew from the original contract and limited the new one to only one year, in which it paid the team 6.75 million dollars.

Maccabi's chairmen, Shimon Mizrahi, quickly responded: "I'm glad. Next year a third commercial channel is entering the competition [Channel 10], and it will probably wish to acquire some high potential assets. Who knows what I will ask for then" (Maariv, July 27, 2001). In a later interview Mizrahi added: "What are the ratings of Channel 1 anyway? What do they have except for Maccabi Tel-Aviv's broadcasts? After 32 years during which Maccabi marched hand in hand with Channel 1, there should be other ways of doing things" (Ynet, February 13, 2002). Mizrahi's words shed light on the way in which he was the interdependence between the team and Channel 1 in the beginning of the new millennium. In light of the television market's expansion and the team's European success, tradition and reputation, Mizrahi now saw the team's dependence on Channel 1 as quite minor, while the channel's dependence on the team was perceived to be very high. This perceived power of the team vis-à-vis Channel 1 has turned the tables. Instead of Channel 1 enjoying an exploitive rent together with the composite rent it was now the team that enjoys both worlds.

In 2002 another new player entered the picture, the commercial Channel 10. Following a slow start, the channel looked for ways to break into the Israeli television market and bought the franchise for Maccabi's European matches for 4.5 million dollars. Channel 1, suffering from financial difficulties and heavily criticized for its moves, could not compete with the offer, and so, for only the second time in almost 40 years, Maccabi Tel-Aviv's European games were broadcast on another channel. But the broadcasts on Channel 10 were unsuccessful. The ratings were relatively low and Channel 10 did not manage to use the broadcasts as leverage to reach wider audiences (Yediot Ahronot, July 14, 2003). The combination between a less attractive Maccabi team in the 2002-2003 Season and a new and unfamiliar channel in a saturated television market drove the new alliance to failure.

This failure crystallizes the fragile nature of inter-organizational symbiosis. Once the delicate relationship that was built up for decades had been shattered, both sides suffered. Romo and Schwartz (1995) report a very similar chain of events in their study on the migration of manufacturing plants in Long Island, New York. The authors found that core industries, which had the upper hand in the local economy and moved to another place with a better cost structure, discovered following the move that the symbiosis (which in that case took the form of an innovative dynamic) was gone. Even though the new deals significantly reduced supplier costs, they came with a substantial price—the loss of symbiotic rent. Hence, the symbiotic benefits of an alliance coexist with the exploitative practices described above. This complex relationship can not be simplistically characterized as either just symbiosis or only exploitation.

Recognizing the failure of the alliance, Channel 10 and Maccabi untied the pact after only one year. Channel 1 was delighted to jump on the wagon, and in July 2003 it regained the yearly broadcasting franchise for Maccabi's European matches, this time for only three million dollars. This lower payment (less than half of what the channel had paid only two years earlier) was largely driven by the deep economic recession of those years. However, the new agreement still drew wide public criticism. To put things in perspective, the channel's entire budget for dramas and documentaries during that year was less than two million dollars. The critics claimed that a bankrupting public channel should not fund a professional team, and that the money could have been better spent (Haaretz, July 31, 2003). Josef Bar'el, Channel 1's general manager, replied to the critics:

> There are only two worthy sports events: The Israeli premier soccer league and Maccabi Tel-Aviv in Europe. Every Israeli household is entitled to watch these events free of charge. It was a fatal mistake on the part of Channel 1 to give up these broadcasts. . . . Beyond the public importance of Maccabi's games, I personally have a nostalgic relation to the team. I played there in my youth and the team for me is *a symbol of Zionism; a national symbo*l. This is why I think the acquisition is necessary. (Haaretz, July 28, 2003; emphasis mine)

Bar'el's statement was later echoed by other members of Channel 1's board of directors (many of whom were political nominations and avowed Maccabi's fans). The words visualize the channel's perception of the team's matches as an event of special importance. In these games lies the nation's spirit; broadcasting them on the national channel is the way to sustain this spirit and the channel's national relevance. The team itself is of course more than happy to play along with the national terminology. Maccabi's managers often present its success as a national mission, which must be supported by the public. In reply to the growing criticism over the Public Channel's high payments they stated that "agreements must be met. No one forced Channel 1, or anyone else for that matter, to sign these agreements." (Haaretz, September 28, 2005)

At least on face value the team was right, and the payments for the franchise were all a matter of supply and demand. However, one must remember that both Israeli commercial channels gave up the franchise for the games only one year after they acquired it. This fact raises questions regarding the amount of competition for the broadcasting franchise. Why was Channel 1 willing to still pay such high amounts (about 4 million dollars in 2007)? Part of the answer lied in the channel's perception that in its hectic state of affairs Maccabi's matches were among the few broadcasts that still justify its existence and provide it with legitimacy. This approach was expressed in the words of the channel's temporary chairwoman, Gabriela Shalev: "This is one of the things that may allow us to sustain the public broadcasting; it attracts viewers." (Haaretz, May 9, 2006) Alex Giladi, the vice president of NBC, a leading figure in Israeli sport, and one of the initiators of the relationship between the Public Channel and Maccabi Tel-Aviv agrees. Following the decision of Channel 1 to stop broadcasting the team's European matches in 2007 he claimed that "Maccabi will survive the break, but this may be the beginning of the end for Channel 1." (Ynet, April 13, 2007)

In conclusion, the end of Channel 1's monopoly in the Israeli television market brought a dramatic change to the interdependence between the channel and Maccabi Tel-Aviv.

Whereas during the monopolistic era the team depended on the channel completely and was forced to give up any demand for significant compensations, the tables have now turned. In the post-monopolistic era Channel 1's dependence on the team became immense. As a result, the team could demand that the channel compensate it generously, regardless of the channel's grave economic condition and the mild market demand for the games.

5. Summary and discussion

This paper explored the interdependence between sports and media organizations by looking at the long lasting interdependence between Maccabi Tel-Aviv Basketball Club and the Israeli Public Channel. Benassi (1995), who examined organizational strategic alliances, criticizes the common view of these alliances as a provisional phenomenon, motivated primarily by financial considerations. He believes that strategic alliances are quite often a long-lasting phenomenon, used for various reasons other than financial ones. The interdependence between Maccabi Tel-Aviv and Channel 1 demonstrates this contention. The two organizations have been cooperating closely for almost 40 years, in a relationship which has been supplying both sides with various advantages in their respective markets. Hence, the alliance carried a strong symbiotic dimension, providing both sides with significant composite rent.

However, this symbiotic interdependence has often been accompanied by exploitive elements and behaviors. These exploitive elements have altered throughout the years, as the Public Channel lost its advantageous structural position and power relations shifted. In the monopolistic television era Maccabi Tel-Aviv used the broadcasts to attain higher revenues (mostly indirect ones) and establish its position as the "national" team, while for Channel 1 the broadcasts were a source of high ratings and national legitimacy. Nevertheless, Channel 1 clearly possessed more power in the relations, a fact that allowed it to avoid franchise royalties almost completely and achieve an exploitive rent.

In 1990 the tables have turned and Maccabi Tel-Aviv took the upper hand in the relationship. With the ingress of other players into the Israeli television market, the team's dependence on Channel 1 dropped dramatically, while the channel's dependence increased. Maccabi used this change to demand (and receive) extremely high royalties from Channel 1, which had lost all leverage for negotiation. The team's managers saw this as a fair and reasonable compensation for the many years in which the games were broadcast free of charge. In other words, the exploitation of the 1970s and 1980s was now rewarded by counter-exploitation, as the team rather than the channel began to enjoy exploitive rent.

The Israeli case serves as a classic example of the complex relations between sports organizations and media organizations. These relations are largely ones of symbiotic interdependence and composite rent. Media and Sports organizations often have mutual dependency in their efforts to maintain their status and power in popular Western culture. But alongside the composite rent earned from this cooperation, there are also power relations involved. When one organization is highly dependent on the other, it gives the latter a superior position, which will most likely be used to acquire exploitive rent.

This pattern is also well demonstrated in American sports. James Quirk and Rodney Fort (1999) examine the relations between the large professional sports leagues (the, NFL, MLB,

NBA, and NHL) and American media. Similarly to previous research (e.g. Wenner 1989; Lever & Wheeler 1993; Koppett 1994; Williams 1994; Weingerten 2003) they talk about the symbiotic dimensions of this relationship and the mutual gains for both sports and media organizations in terms of revenues, popularity, and legitimacy. Yet, Quirk and Fort also notice the changing nature of power relations and exploitation, which have characterized the sports-media relationship along the years.

One prominent example comes from American Football. Until 1962, the National Football League (NFL) was operating under a court injunction, forbidding it from signing a league-wide national TV contract. The fourteen teams had to separately negotiate and sign their TV contracts, and the TV networks used this to avoid high payments. When a new bill exempting league-wide television contracts from antitrust prosecution passed in 1962, the NFL became the sole negotiator of TV broadcasting rights. Consequently, the total TV income of all NFL teams rose sharply, from $3.5 million in 1961 to $16.2 million in 1964. While this initial increase may be explained with the underpayments by TV networks prior to the 1962 bill, broadcasting rights contracts have continued to increase dramatically ever since. By the end of the 1990s, the NFL, a monopoly in its field, has demanded (and received) TV contracts in the sum of more than two billion dollars per year. The national TV networks (CBS, NBC, ABC, Fox), however, all suffer from this monopolistic market. They all report enormous losses on their NFL contracts. The highly competitive environment and the fact that there is only one product to fight for, lead, according to Quirk and Fort, to excessive biddings, which are exploited by the NFL to acquire what I termed here an exploitive rent.

Quirk and Fort further examine the relationships between the major leagues and other prominent actors in their environment: fans, unions, players and cities. Once again, they show how these relationships provide the parties involved with a synergetic composite rent. For example, cities which host a successful professional sport franchise acquire reputation and publicity, while also providing their residents with a source of entertainment and local identification. Franchises, on their part, enjoy financial support, devoted fans, and new expensive sports stadiums, established and funded by taxpayers.

However, Quirk and Fort also demonstrate the exploitative dimension of this relationship. They contend that during the years, with ample support from the US government, the major leagues gradually turned into monopolies in their respective fields. With monopoly came enormous power, which the leagues now use to exploit and manipulate smaller cities. These smaller cities often see the sport team as a necessary resource for maintaining local reputation, and are therefore willing to do almost anything to retain the franchise. Under the threat of uprooting to another city and market, the franchises use their monopolistic power to demand conditions that would promise increased revenues, while imposing crushing financial hardships on cities that are already strapped with debt. Most notably, team owners demand that the cities provide publicly financed stadiums and arenas, or else the team would move to another city.

I argue that this combination of symbiosis/exploitation is not unique to the media and sports nexus or to the sports field in general. Rather, it is a common part of organizational interdependencies, which are seldom simplex. Organizational interrelations are often characterized by symbiotic interdependence, where cooperation and trust exist, and both sides share a composite rent. This pattern, however, exists side by side with some degree of

exploitive relations, where one of the sides, or both, attempt to maximize their returns by taking advantage of the other side's structural dependency. It seems that the simultaneous existence of both symbiosis and exploitation is the rule rather than the exception of organizational interdependence. Moreover, organizational interdependence is volatile and dynamic. Changes in the organizational environment and context often alter organizational relations, leading to changes in the balance between symbiosis and exploitation. Thus, the side which gained an exploitive rent at one point in time could very well be the exploited one later on. Once again, power is not a fixed part of the social structure. Rather, power relations are volatile, and are highly sensitive to transformations in the environmental context.

Finally, it seems that one of the main dilemmas organizations face is the need to settle the constant inherent tension between the stated cooperative and symbiotic relationship, and the often unequal and exploitive distribution of returns de facto. If one side perceives the other as exploitative and abusing, it may lose the trust which is so crucial to the preservation of cooperation. Therefore, in order to maintain the cooperative relationship both sides must perceive their composite rent as more substantial than the other's exploitive rent, or at least as substantial enough. Such a perception is often achieved through camouflaging the exploitive dimension of the relationship by creating narratives that emphasize coexistence and mutual gains (White 1992). Through these narratives both sides may preserve the perception of their interdependence as mutually beneficial and contributory. This narrative solution emphasizes the strength of the composite rent idea. As Burt (1992) argues, organizational relations are characterized by constant exploitation. But as long as both sides maintain revenues that exceed what they would have made acting separately, the cooperation remains expedient, and is likely to be justified by both.

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Fulfilling the Promise of Sociology: Some Steps for Generating Reflexivity in Organizations

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1. Introduction

Sociology can be defined as the study of society, that is, as thinking, writing and talking about that elusive thing called 'society'. The latter concept is highly ambiguous and contested among different sociologists. The same goes for all the main aspects of social life, like the market, corporation, state, community, science, technology, law, and so forth, which are also sociologically approached in different ways. The ambiguous nature of society therefore means that sociology, just like economics or political science, is divided and pluriform. In this chapter, sociology is introduced as a social activity, not only because sociologists are very much embedded in social life in general and in organizations in particular, but also because their sociologies have the potential to change society, both constructively and destructively. The close relation between theory and practice, not always recognized by scientists, lays responsibilities upon sociologists, which the latter cannot discard without betraying their scientific vocation. The ambiguity of that which they try to know already manifests itself in the clashing sociological theories about society, and about what are perceived to be its distinctive elements.

Different sociological approaches to the study of society can be distinguished; their definitions of theory and science differ from each other. These various traditions can prove to be of great value to the reflexive sociologist who recognizes the ambivalence that is inherent to doing sociology. This awareness is the first prerequisite for a sociological dialogue and dialogical sociology, whereby clashing sociologies are allowed to interact, and eventually create new liberating perspectives and generate innovation. This dialogical approach does not only follow from the recognition of the ambiguous nature of society in general, and of organizations, be it a research lab, a business corporation, a public agency or an NGO, in particular, but also from the commitment to the European values of freedom and reason, as these have been understood by reflexive sociologists like C. Wright Mills, Alvin Gouldner or Irving Louis Horowitz. Dialogue is the playground par excellence for representing Socratic reason in all domains of social existence. Hence, it is only through dialogical activities and the institutionalization of dialogue, or what radical sociologists have called the 'publics', that sociology can develop as a science, and avoids the alliance with reifying forces.

2. Four theories of society

Sociology is defined as the study of society and hence delivers knowledge of all aspects of social existence, including laboratory, corporate, public, military, academic, legal, and so

forth, types of existence. And hence it delivers knowledge for all agents, be it CEOs of companies, medical doctors in hospitals, legislators in states, consumers in markets, journalists in media landscapes, and so forth. What 'society' actually is, however, and, correspondingly, who or what sociology is to serve with its knowledge, is itself a sociological question to which there are diverse sociological answers. Society itself is a highly loaded sociological concept whose meanings have varied according to historical (typically national and religious) contexts, and have been subjected to debates and contestations. The definitions or understandings of sociology and of society are intimately related and interdependent. Hence, the specific perception of society has implications for the end, content and form of sociology. At the same time, the different types of sociology, as they have historically developed, determine the ways in which sociologists who adhere to them define and study society; in other words, the type of sociology determines the sociological vision of society. Furthermore, the definitions of sociology and the self-definitions of sociologists have implications for the ways in which they do their research, that is, for the development of concepts, for the methods used and the selection of data (Ossewaarde, 2012).

Four major and influential types of sociologists, and hence sociologies that define society in radically different ways can be distinguished. Positivist sociologists perceive society as mechanically governed, in line with Newtonian physics. Society is a complex of social relationships and historical developments that obey certain laws, just as physical things are ruled by the law of gravity. Along this line, there is no fundamental distinction between social mechanisms and natural mechanisms: both nature and society are causal complexes. Hence, in their view, the task of sociology defined as an objective, value-free and accurate instrument is to reconstruct these laws and explain social relationships as well as social conflicts in terms of causes. It confines itself to what is perceived as the material or empirical world, similarly to natural scientists; in this sense, positivist sociologists accept the approach or method of modern natural sciences as authoritative. They also tend to devote much time and energy to the refinement of scientific methods, particularly quantitative methods, which enable them to explain social mechanisms in more accurate ways (Levine, 1995: 96).

Functionalist sociologists see society as an organism, a metaphor borrowed from biology. Hence, society is not simply passive matter (like a stone) that undergoes certain laws of necessity, but is a living body consisting of organs that are all indispensable, and whose good functioning is essential to social existence in states, corporations, NGOs, hospitals, families, universities, and so forth. When functions are not fulfilled, for instance, when parents or families fail to bring up their children, scientists fail to grasp realities, police fails to create a safe and secure environment, or companies fail to generate jobs and profits, social order, and hence solidarity, tend to be undermined. Thus understood, sociology is itself an essential organ of society, having the function of discovering the functions of social organs, and hence, that which makes society be structured or ordered. The social function of sociology is therefore to acquire scientific knowledge about what makes social existence cohere, and hence, directly and indirectly, to prevent society from being destroyed by civil wars and revolutions, the prices of ill-functioning.

Marxist sociologists radically distinguish themselves from their positivist and functionalist counterparts in their perception of the inevitability of conflicts. They theorize society in the light of what they see as the history of class conflict; hence, living-together is a conflict

situation that is defined by socio-economic inequalities, exploitation, alienation, and other forms of oppression that result from these inequalities. In the Marxist definition, a society at a given time is a reflection of a current state of affairs in an ongoing battle, peaceful or violent clashes, between those who have (or have more) and those who have not (or have less). According to this perspective, economic position determines the social positions of social actors; hence the distinction between the haves and the have-nots; between the powerful and the powerless. Sociology, like any science, is itself organized knowledge that is class-bound. It is a representation of a particular class; as most sociologists are typically lower middle class, sociology typically propagates the knowledge that is characteristic for this class.   For Marxist sociologists, the dominant or established sociology is itself a manifestation of the current state of the class conflict; hence the task of the sociologist who has finally understood history, that is, that of class conflict, is to create intelligible reconstructions of class rivalries, and how society is destroyed and recreated through such conflicts.

Interpretive sociologists provide yet another portrait of society. For them, society is a cultural complex, a mosaic consisting of webs of meanings, symbols, values and beliefs. Religions, companies, universities, sciences, nations, markets, and so forth, are to be understood as dynamic cultural complexes, each having its distinctive set of values that inspire a distinctive type of social conduct. A particular cultural complex usually changes throughout history, and besides, it differs from other cultural complexes at a given moment. What makes a cultural complex be what it is and not that other one? This is what interpretive sociologists try to find out; they endeavour to understand the historically unique about a particular society, as compared with other epochs, but also with other cultural complexes in the same time period. Sociology, like science in general, is itself a cultural expression of a particular cultural complex, and its meaning changes with the mutations of the complex. Twentieth century sociology signified something different from what it can possibly signify in the twenty-first century. In other words, the cultural substance of sociologies, its ideas, language, ways of doing science, worldviews, and so forth, change as the society of which they are part also transforms. Interpretive sociologists try to make sense of such cultural transformations.

Those four different sociologies have introduced different theories of society, to describe, explain, uncover, reconstruct, criticize or interpret society. The very content and form of 'theory' differs per sociology. For positivist sociologists, given their definition of society as a causal mechanism, theory consists of the modelling of causal relationships, and is presented in the form of variables. The positivist theory of society assumes the form of a collection of variables – like nation, class, religion, age, sex, education, and so forth – that are deemed to be useful in presenting research findings. For functionalist sociologists, theory typically assumes the form of a realist typology or a scheme that provides an abstraction of the organism under investigation. Emile Durkheim's solidarity types (mechanic and organic solidarities), for instance, or Robert Merton's 'local' and 'cosmopolitan' real types, enable functionalist sociologists to grasp distinctions between structures, and transitions from one social structure to another. Functionalist schemes provide a systemic modelling of certain organic functions that a particular society (say, a global capitalist society) must meet to be able to flourish. Marxist sociological theory assumes the form of a critique; it unmasks and criticizes capitalist forces that maintain a capitalist status quo, and hinder the development

of a working class consciousness. Hence, bourgeois ideologies like (neo-) liberalism, nationalism and cosmopolitanism are denounced. For interpretive sociologists, theory consists of ideal types that enable sociologists to empathically interpret the cultural meanings of social experiences, and to make sense of phenomena via the application of ideal types. Interpretive sociology has emerged from Kantian idealist thought and, correspondingly, rejects the materialist and realist ways of theorizing.

In their approaches to societies, these sociologies tend to discern and stress diverse dimensions of social life, and evaluate them differently. Positivist sociologists focus, in their own materialist theory of contemporary society, primarily on the economic and technological aspects, which it perceives as determinants of (material) progress. Hence society is modelled as an industrial (either capitalist or socialist) nation, one in which positivist scientists, engineers, bureaucrats are powerful actors of social control, and machinery and policy are key institutions. For functionalist sociologists, it is especially the increasingly complex solidarity structure that is relevant. In the functionalist theory of contemporary society, society is perceived as an individualized (typically capitalist) nation, in which rights, contracts, commerce, interdependencies, trust, and reciprocities are key elements that make modern social bodies flourish. In Marxist sociology, the economic and technological dimensions of society are strong determinants, just as in the case of positivist sociology, but unlike the latter, it appraises them differently. Capitalism is the breeding ground for revolutions, which will only cease when a historical condition of absolute social equality has been reached, and the distinction between rich and poor has been abolished. As far as interpretive sociologists are concerned, it is culture that is of primordial importance for social existence in organizations. Hence, the cultural complex that is called society – typically a nation – is actually threatened by anti-cultural or nihilistic forces like technology, industry and bureaucracy. Contemporary society shows tendencies towards cultural regress, a condition that Max Weber grasps in the metaphor of the 'iron cage', which refers to the imprisonment of dwarfed individuals by systems of technical control.

	Positivism	Functionalism	Marxism	Interpretive sociology
Theory of society Scientific goal Theory Society today	Mechanism Explanation Causal model Technological	Organism Uncovering Real types Individualized	Class conflict Criticism Social critique Global capitalist	Cultural complex Interpretation Ideal type Global culture

Fig. 1. The four sociologies

3. The reflexive turn in sociology: Eembracing ambivalence and ambiguity

Sociologies, like the other social sciences, are organized within a given society, that is, within a given technological order, solidarity structure, class or culture, in a certain historical epoch. Sociologists are part of the society that they theorize themselves, and not somehow 'outside'. This awareness of the social, cultural or public imbedding of sociologies and sociologists has been pointed out by reflexive sociologists. Sociologists like C. Wright Mills and Alvin Gouldner have shown how theories of society rest on ideological biases,

prejudices, and taken-for-granted truisms, which are often inherent to the social condition in which sociologists find themselves. The technological orders, solidarity structures, class conflicts and cultural complexes of the positivists, functionalists, Marxist and interpretive sociologists respectively typically rest on the nation or class conflict as immediate context. As long as sociologists are glued to their own research traditions, they will be incapable of transcending their prejudices. Ulrich Beck and Edgar Grande (2010) note that as most sociologists, through their prejudices and old routines, theorize society as a nation, which implies that they non-reflexively collect data at the national level, typically to be able to continue with their cross-national comparisons (Chernilo, 2011). Such un-scientific malpractices in scientific research enforce the national prejudice, and maintain established categories as well as dominant theories of society, as if they were the only possible ones.

Reflexive sociologists perceive the ideological bias in so many theories of society as fundamentally anti-sociological. There is no room for ideology in sociology; or, as Alvin Gouldner (1976: 19) puts it: 'sociology and ideology are competitors'. Beck and Grande (2010) seek to transcend the ideological bias of nationhood in sociological research – 'methodological nationalism; as they call it – in sociological conceptualization. Instead, they propose a 'methodological cosmopolitanism' that takes into account globalization processes at work to cosmopolitanize national existence in worldwide organizations, particularly transnational corporations, global media, NGOs and virtual networks like Facebook and Youtube. Methodological cosmopolitanism, they hope, should enable sociologists to reflect upon social processes – particularly globalization processes – that, precisely because of the dominion of the national categories, have been neglected in established theories of society. This cosmopolitan turn in sociology does not mean that the nation-state, or class for that matter, is no longer relevant in conceptualizations; but it does imply that the established sociological categories of social existence are insufficient to take into account globalizing processes that cut through, and undermine, all previously (historically) established collectivities. Society is re-theorized as a world society, which involves clashing cultures and rationalities and multiple modernities.

Methodological cosmopolitanism does try to transcend, to some extent, existing scientific demarcations, and in this sense, questions some existing ideological biases and (typically class-based) prejudices. However, even cosmopolitan theories of world society are not exempt from ideological commitment. Very much like their nationalist predecessors, they also have too little room for the ambivalence inherent to the theorizing about society. Reflexive sociologists emphasize that in theorizing society, ambivalence is to be embraced, as something inevitable because of the intricacies of social life. The uncomfortable possibility of having to assign a social experience to more than one category, be it nation, class or world, is thereby denied (Bauman, 1991: 1). On a more fundamental level, then, the task of sociology, as Robert Merton (1976: 54) puts it, is 'to lay siege to the problem of ambivalence', which is not the same as trying to conquer it. Rather, Merton sees it as an urgent matter to make the very problem of ambivalence a sociological issue. A class consciousness, for instance, insufficiently understands the wide variety of social experiences, and fails to see the paradoxical tendencies of various, clashing social processes at work in the becoming of societies. Prevailing theories of societies tend to reify, that is, objectify abstract concepts such as nationalism, socialism or cosmopolitanism; or else, they take these for granted. In sum, reflexive sociology rejects all ideologies as scientific obstructions or diseases of the mind.

Ideologies simplify reality and illegitimately fail to embrace ambivalence as a side-product of theorizing society (Bauman, 1991).

Reflexive sociologists not only embrace ambivalence in the theorization of society, but, correspondingly, they also emphasize that social existence is fundamentally ambiguous. Donald Levine (1985: 8; 17) stresses that, for sociologists to become reflexive, they are called to grasp the imprecision and multiplicity of meanings of social experiences. Embracing ambiguity implies recognition that sociological concepts, such as nation, anomie, alienation, bureaucracy, freedom, and so forth, that are designed to represent specific social experiences, are essentially contested. And their contestation must be embraced because social existence is ambiguous, that is, social life is filled with opposing tendencies in everything that ties and divides people (power, ideologies, beliefs, religions, classes, ethnicities, education levels, salary scales, and so forth), makes that society is perpetually moving, with arbitrarily fixated categories, false certainties and bygone hierarchies dissolving in random contingencies (Bloch, 1983; Bachika and Schulz, 2011). According to Levine, embracing ambiguity, and thereby be reflexive, is to disentangle the multiple meanings of concepts and to represent experiences through plurivocal modes of representation, using parables, allegories, metaphors, and so forth.

Reflexive sociologists have made use of, and radically criticized, the four sociologies. They point out the danger of reification, of imprinting a particular theory of society on social reality. They criticize the objectification of social existence, whereby so many dimensions and so many movements are left out. They demolish theories that ignore the very ambiguity of social existence, as, for them, social existence cannot be defined by a few, arbitrarily selected, social processes or phenomena. They reject one-dimensional thinking in sociology. They reject the idea of society as a coherent entity, be it a nation, class or world society, in which a presumed whole society comes to determine which processes, phenomena or experiences are to be perceived as relevant. The message of reflexive sociological voices, which are not necessarily fully developed sociologies, is critical: they stress the need to unmask the distortions of existing theories and judgments of sociologists. Hence, reflexive sociologists often restrict themselves to formulating the fragmentation of social experiences, and unceasing disruptions that undermine any social stability, in the scientific form of sociological fragments. Through speaking and writing about society in fragments, and hence treating data as interesting splinters of social existence, reflexive sociologists attempt to deal responsibly with issues of ambivalence and ambiguity, against all attempts of simplification that they consider to be fundamentally biased (c.f., Levine, 1995: 7; Agger, 2008).

4. The scientific form of reflexive sociology: Dialogue

The domination of one type of sociology, as well as its professionalizing within the boundaries of its own particular world of science, freezes sociological development; and, would nearly make one believe that sociology has reached its goal, so that it only needs to refine its tools of enquiry. Against this one-sidedness, reflexive sociologists have stressed that it is instead through contradictions, scientific diversity, rivalry, clash of doctrines, and *Methodenstreit*, that sociology develops (Merton, 1976: 116). Sociology develops through the generation of reflexivity. The fragmentation and provisional nature of all sociological knowledge, which follow from the ambiguity of social existence, make a dialogue that relates different sociologies from the present as well as from the past highly appropriate.

Such dialogue is an open form of communication in which sociologists refuse to impose their sociological cultures and ways of doing sociology on each other. According to such a dialogical perspective, sociology, as contrasted with ideology or sophistry, moves and evolves through a clash of minds, ideas, scientific languages and methods, in and through dialogues (Levine, 1995: 327-328; Ossewaarde, 2010a; Ossewaarde, 2010b).

In this way, sociologists from clashing, rivalling sociological positions are enabled to make contributions to the conversations of each other, and contribute towards moving beyond contradictions and fragmentations in the creation of newly envisioned social alternatives (Gouldner, 1976: 21). Sociological theorizing that has been informed in and through dialogical relationships of sharing and reconciling can better fulfil its social responsibility or its scientific vocation. Such theorizing through dialoguing assumes the scientific form of playful intellectuality (c.f. Agger, 2008: 429), a childlike, Socratic, playfulness that most great sociological theorizers and innovators manifest. The dialogue between sociologies is a kind of compensation or antidote to the fragmentation of sociological knowledge, by bridging sociologists and sociologies, without enforcing a dominant sociology, theory of society, method, or definition of science. Instead, dialogue has the potential of revealing the ambivalence of existent sociological knowledge, but also of overcoming deadlocks through patient questioning, exploration, and self-questioning, with the knowledge that absolute certainty of sociological knowledge is not possible and even not desirable. The dialogical sociologist is highly vigilant of abuse of power, which often rests on the claim to absolute knowledge.

A flourishing sociology, then, depends on the availability of the appropriate social form – the dialogue – that enables sociologists to sustain reflexive scientific discourses about social worlds (Gouldner, 1973: 96). The establishment of dialogue is therefore a precondition for genuine (that is, reflexive) sociological existence, one that is devoid of ideological bias, as far as this is possible. Originally, in ancient Athens, (Socratic) dialogue was conceived as the social form most appropriate for developing scientific insights. It was through dialoguing that science could come to flourish. For Plato, the Socratic dialogue is the opposite of the oration, which he identified as a social form in which ignorance and bias comes to be publicly represented (Voegelin, 2000: 66). In other words, science, and hence sociology, is best organized in dialogues. Science comes to flourish through dialoguing, and it is destroyed through the destruction of dialogue, either from within (via scientific tribalism) or from without (via the invasion of non-scientific forces). Through the establishment of dialogue, sociology can develop as a genuine conversation, sociological otherness can be accepted, and sociologies can provide a liberating perspective on each other. Sociological freedom is optimal when neither of the sociologies is insulated from others, when no sociology is repressed or marginalized, when all are allowed to provide critical perspectives on each other, and when all are brought into a dynamic, vitalizing tension with each other (Gouldner, 1973: 361).

Such dynamism, Alvin Gouldner (1973: 96) emphasizes, is socially created through the dialogizing activity of sociologists; the latter are called 'to create tension, conflict, criticism and struggle against conventional definitions of social reality, to extricate oneself from them, and to undermine their existential foundations by struggling against the social conditions and institutions that sustain them.' Through dialoguing, Gouldner asserts, sociologists not only reveal the ambivalence in dominating theories of society, but they also contest the

practices and social contexts that sustain the theories or obstruct the dialogue. Conversing sociologists cannot tolerate any preconceived view or conceptual foundation on which society, and hence sociology, rest. The practice of dialogue can therefore recall and confirm the inseparability of theory (modelling of society) and practice (shaping society in accordance with such models); in other words, sociologists are made aware of the social consequences of their practices, which is to say that they develop reflexivity in their mind-sets. Indeed, sociology not only entails theorizing society, but also shaping it; and, since all theories of society have a practical implication for governing societies, sociologists must, according to reflexive sociologists, assume responsibility for the practical ends to which their theories and research findings are used (Gouldner, 1976: 182). In other words, reflexivity entails that sociologists are obliged to make sense of their own work. They cannot legitimately do their scientific work and then leave it to the public to deal with their scientific results (c.f., Sennett, 2008: 5).

Doing reflexive sociology, accordingly, requires an awareness of the possible practical implications of theories and methods, of the possible ways in which sociology or research can be used or misused by others, in particular by elites who are most powerful in shaping society. Reflexive sociological research, in order to be as free as possible from blind spots, moves in a sort of spiral or pendulum between the study of society and its elements (empirical objects), and sociological dialogue, and back to the same study with renewed minds. Such is the core of reflexive sociology. Reflexivity means that sociologists are aware of their own subjectivities and social backgrounds, represented in their own research, and are conscious of how they participate in constructing their own research objects (Gouldner, 1973: 105). Such reflexive self-examination is one of the virtues that are the prerequisites for a fruitful dialogue. Reflexivity demands from sociologists that they be willing to live in intimate tension with the social things they speak and write about, therefore excluding all forms of complacency and desire for absolute certainty. Clearly, such a sociological virtue, just as sociological knowledge, can only be striven after without the illusion of ever possessing it completely.

5. Sociological dialoguing: The scientific activities of contradiction, negation and critique

Sociology, like all social activity, can best be compared with movement; it moves in and through dialogues, through the contests of clashing theories of society. The recognition of the contradiction between theories is a starting point of sociological development, at least as far as the more reflexive forms of sociology are concerned. It is the first dialogical activity, a scientific activity that pushes sociologists to move, intellectually speaking, beyond their own theories and methods, towards a more truthful understanding of society and its features. The contradictions between the theories of society are, accordingly, not something that sociologists must get rid of to arrive at a better comprehension of society. Instead, to hold incompatible sociological theories in tension is to appreciate sociological otherness, which is a prerequisite for organizing a dialogue in the first place. As Richard Sennett (2008: 6) puts it, good science does not settle a question or solve a problem: instead, it unsettles, bequeaths disquiet, invites argument. Sociological dialoguing is a deliberate attempt to unsettle research conclusions. This scientific activity is a fight against all simplifications and

reductions of paradoxical, moving, and ambiguous reality in scientific modelling and analysis (Ossewaarde, 2010a).

The reflexive sociologist who recognizes the irreconcilable contradictions between the various sociologies, between their peculiar concepts, jargons, methods, mind-sets, worldviews, and so forth, can choose to draw on all these traditions to form an own scientific approach to social life. This is not exactly the same thing as eclecticism since the European values freedom and reason, and more specifically, the sociological traditions that represent them, remain the most authoritative in such acrobatic exercises. In any case, the reflexive sociologist knows why the functionalist sees society as an organism, and on which assumptions this rests; the same reasoning holds for the other sociologies. Though it is incoherent to say that all these perspectives are equally 'true', the sociologist can use certain insights and languages in particular cases. Hence, the positivist concept of causal mechanism can be useful to explain how the level of education is linked to social positions. Such sociologists, to repeat once again, are not impartial observers; there is an ongoing dialogue between their own visions or values, and rivalling others. In this way, they are obliged to question and re-question their commitments, hence avoiding the pitfall of reification. Hence, the attempt is not made to (literally) grasp society as a whole – in some complete, all-embracing, harmonious and systemic model of social order – but the somehow humbler endeavour is made to try to understand social aspects, dimensions, phenomena, or processes. This is how the different sociologies can be sources of knowledge.

Once the contradictions are recognized, certain theoretical claims – that, of course, always have practical implications – can be, ought to be, negated, so that theories can be 'purified' of well-established falsehoods and bias (Gouldner, 1976: 21). Negation is therefore a second dialogical activity. Through negation, the obstacles to theoretical development, such as arbitrary fixations, dogma, prejudice, cliché, arbitrary predispositions, and so forth, are removed and reflexivity is developed. Negation is the creative destruction of a (typically predominant) theory of society, with the view of creating a new theory. It is a demolishing scientific activity, needed to make a new scientific creation possible, in the form of a new theory of society that matches more with a current or new state of social existence. Hence, negation is inspired by social transformations, in the sense that the necessity of negation becomes obvious when some theorization turns outdated in the sense that such a particular theory of society no longer matches with changed social realities.

The negation of theories of society, however, does not imply a total demolishing. The creation of new theories may well contain elements of the old theory of society. On the contrary, negation does not imply that all known categories – such as the nation-state, class, capitalism, democracy, university, science, media, technology, European identity, and so forth – can be discarded. Instead, elements of the outdated theory are subsumed in the new theorization and are invested with a new significance, in a new movement, towards a new becoming of a new society (c.f., Couldry, 2009; Urry, 2010). In other words, negation implies both destruction and continuation. The four sociologies cannot be discarded as superfluous surpluses without damaging the sociological enterprise. Also in the act of negation, reflexive sociologists still stand on the shoulder of the great founders of sociology and work to constantly revitalize the sociological tradition as a representation of the European value of reason (Ossewaarde, 2007b).

A third dialogical activity, closely connected with negation, is the critique of the social conditions of sociological theorizing. Several sociologists, such as Anthony Giddens, Ulrich Beck and Zygmunt Bauman, have put forward 'critiques of modernity', and have developed new concepts like 'postmodernity' and 'late modernity', to point out that (early) modern theories of society, or particular concepts, that used to authoritative have lost their validity. Robert Nisbet (1966: 318), for instance, concludes that Ferdinand Tönnies' well-established *Gemeinschaft-Gesellschaft* distinction has lost much of its theoretical vitality for studying social experiences in the 1960s. Tönnies' ideal types were once useful to grasp the movements of society, but, the further individualization of the individualized society, has implied that the collectivities of the *Gesellschaft*, including the nuclear family, gender, nation, citizenship and class, have turned liquid (Beck and Beck-Gernsheim, 2002: 18-19; Bauman, 2003). The ideal types that used to make it possible for sociologists to interpret the meaning of individualization have become 'zombie categories'. As social existence increasingly takes place outside the realm of classes, gender, nuclear family, or nation, these collectivities of the individualized society are accordingly increasingly insufficient to understand social experiences and identities. Instead, sociological concepts such as self-management and lifestyle have been coined or re-introduced as more appropriate for enquiry into current social affairs.

According to reflexive sociologists, sociology therefore moves, or develops, as a science through three dialogical activities: recognition of contradictions, negation and critique. Through these activities, sociologists are able to move from practice to theories, and back to practice, back and forth; in this way, they try to do justice to rapidly changing social worlds. The problem of outdated concepts or theories lies not in their being outdated or old, but in the fact that sociological theories also constitute changing forces. By clinging on to old concepts, theories might simply become redundant, irrelevant to social practices, but they can also be harmful if they are used by policy makers for instance. They can serve to freeze social existence, or ignore important social dimensions. The identification of the vigour and weakness of current social structures, the denunciation of structures that are closed to reason and freedom, and the conceptualization of social alternatives constitute a dialogical sociological ethos. Several sociologists, however, have noted that in the current era of global capitalism, this particular sociological ethos is not at all appreciated by those in power, who hold power in the current acme of stability and would lose it if familiar certainties were undermined (c.f., Burawoy, 2005a: 263). Given the concentrations of power in the current era, there is a rather strong pressure from the power centres, ideologically supported by the ideology of neoliberalism, to destroy all imaginable social alternatives to the current state of (globalizing) social existence (Bauman, 1991: 269).

6. The alertness of reflexive sociology: Fulfilling the promise of sociology

Reflexivity implies the awareness of the practical implications of sociological research and knowledge, which further necessitates posing the questions regarding the ends, the beneficiaries and victims of knowledge. In other words, as Robert Lynd ([1939], 1970), simply put it, for what and for whom do sociologists produce scientific knowledge at a given time and in a given historical era. Precisely because sociology entails both theory and practice – and, accordingly, has, like all science, a social dimension – doing reflexive sociology involves intellectual and emotional adherence to certain values (rather than to

certain powers) that sustain or promote sociological dialogue. In other words, a value-empty sociology is not only a hollow concept, but is also undesirable and dangerous, since such sociology is typically allied to ideologies. C. Wright Mills ([1959], 2000) argues that the European values, reason and freedom, are important criteria to distinguish between true, liberating knowledge that is connected with the social form of the dialogue, and false, ideologically motivated knowledge that is connected with the social form of the orator. According to Mills, sociologists are, in their scientific activities, bound to the Delphic oracle, to a 'promise' as he calls it. This is the promise to expand the role of Socratic reasoning and genuine freedom in social affairs, to be achieved through developing a reflexive 'quality of mind' that will help people, including managers, professionals, citizens and consumers, 'to use information and to develop reason in order to achieve lucid summations of what is going on in the world and of what may be happening within themselves' (Mills, 2000: 5). This quality of mind is not the exclusive property of reflexive sociologists. Instead, the promise of sociology is to 'sociologize' the minds of a variety of people or 'publics' as Mills calls them (Ossewaarde, 2007a) – encounters where sociology and appliers of sociological insights come together.

Sciences, in general, and sociology in particular, are in the first place a representation or embodiment of the European value of reason. Reason is the Socratic, dialogical capacity to search for truth, involving the intellect, imagination, consciousness, and empathy; it ultimately finds its expression in self-knowledge, and knowledge of the other, these two forms of knowledge being inseparable and intimately related. For reflexive sociologists, reason is not a one-off instantaneous faculty, but is developed through dialoguing; dialogue is the playground of reason par excellence. Irving Louis Horowitz (1993: 144) notes that the belief in the goodness of representing the value of reason in society, through dialoguing, and the corresponding Delphic quest for self-understanding as a European cultural force, ought to inspire scientific conduct: 'if one cannot believe in social science as a higher rationality, then all is lost'. Without Socratic reason as a supreme value, science is indeed devoid of intellectual and moral substance; and hence degenerates from being a cultural force into being a mere instrument that can serve all purposes, including destructive and oppressive causes. A 'higher rationality', however, constantly exposes people, including power holders, to scrutiny, and to the uncomfortable realization that, given the fundamental scientific obligation to embrace ambivalence and ambiguity, there is no simple solution to certain situations, no foolproof choice, and no social order that is exempt from reification (Bauman, 1991: 44-5).

As a manifestation and servant of reason, sociology is a continuation and elaboration of the permanent Delphic quest for self-understanding; there can be no science (knowledge) without self-knowledge. Sociology, Alvin Gouldner (1973: 126) says, is a social activity in pursuit of 'the ancient human aspiration for self-knowledge. If that is not a high calling, then none is.' Sociology can be both the study of society and the aspiration for self-knowledge, also within organizations and through work, because the self and social life, that is, social processes and activities, are related. To fulfil the promise of sociology in organizations is to develop a quality of mind that would enable people, say, managers and professionals to locate their organization within a historical period. It is to link the most remote structural transformations (such as globalization or technological revolutions) to the most intimate features of their own existence in their organization. And it is to identify the major crisis of

institutional arrangements (like the crisis of corporate governance systems) and to discover the issues of stakeholders and organizations in our time (issues like bonuses, alienating methods of production, enveloping monitoring techniques, international anarchy, and so forth). Fulfilling the promise of sociology implies having the key values of reason and freedom at the centre of organizational concern. Understanding society, including understanding organizations, also means understanding the values – typically transmitted through social channels – that constitute, inspire and move selves in organizations. A reflexive sociology that takes the Delphic quest as the cornerstone for its own intellectual and moral enterprise, inside and outside sociology (in banking, journalism, management consultancy, marketing, public agencies, buying and selling, and so forth), integrates questions of values in all activities (c.f., Goldfarb, 2005: 290-291).

The founders of sociology, including Tocqueville, Durkheim, Veblen, Mosca, Simmel and Weber, have noted how the flourishing of reason in social affairs is undermined by the rationalization of social existence. Rationalization refers to the modernization process of eliminating all social ambiguities through various forms of technical control mechanisms; in this way, one particular definition of society, which facilitates and sustains a particular ideology or cause (peace for instance), dominates at the expense of all others. This bureaucratic mode of expression, which includes codification, protocolling, hand-booking, categorization, schematization, registration and quantification, has little capacity for tolerating ambiguity, owing to its incapacity and unwillingness to generate dialogical reasoning and reflexivity (c.f., Levine, 1985: 53). In bureaucratic structures, of states, corporations, hospitals, universities, NGOs, armies, churches, and so forth, preoccupation with control, certainty and methodological and legal rigour takes precedence over intellectual substance and public significance of European values. Bureaucracies function to create a world free of ambiguity, a transparent society of rational (or rather, technical) choices in which means are adjusted (efficiently, effectively and legally) to objectified political or ideological ends (c.f., Bauman, 1991: 230). Such a rationalized and ideologized society, however, is stuck in the ice of the cold and lifeless world of reifying and hopelessly simplifying and reductionist theories.

Bureaucracies prefer fixed categories and well-known variables to ambivalence and dialogues. They propagate compulsive identifications with a certain theory of a rationalized society, with the help of positivist sociology in which the ambivalence of social categories is conveniently denied. The used conceptual schemes and methodologies, characterized by their strictly univocal modes of representation in one-dimensional terms, are oriented to constructing precise information regarding social processes and their breakdowns (Levine, 1985: 8). In other words, bureaucracies represent a mind-set that can only deal with the superficial appearances of society, and not with the deeper structures that are constituted by contradictions, cultural factors or solidarity bonds. Therefore, sociologists like Horkheimer and Adorno, Lukacs, Mills and Gouldner have denoted bureaucracies, similarly to ideologies, as forces of unreason, as eclipses and destructions of reason and science. That is to say, the rationalization (that is, bureaucratization) of social arrangements expropriates the very intellectual, moral and political capacity to act as a free person – including free politicians, free managers, free entrepreneurs, free professionals, free media, free citizens, free consumers and free scientists – in society and its organizations (Mills, ([1959], 2000: 169; 173).

When scientific research is dictated by bureaucracies, positivism is destined to become predominant; the latter is namely the most applicable as bureaucratic tool. Hence, it is also

no surprise that bureaucracies typically sponsor positivist research; and as long as social arrangements are being rationalized, the tendency to fund and favour positivism – hence undermining the dialogue between the sociologies, and enabling one kind of sociology to be dominant – is hard to stop (Horowitz, 1993: 141). The positivist theory of society is one of a rationalized society, a bureaucratically controllable mechanism devoid of ambiguities. Positivist sociology is useful for further rationalization efforts, for improving bureaucracies, enhancing their effectiveness in further annihilating ambiguity. Reflexive sociology is organized to resist rationalization pressures, which includes resisting the pressure of being included in bureaucratic structures. The promise of sociology can only be fulfilled if sociologists are willing to adhere to European values rather than abiding by bureaucratic demands or value systems of dominant powers that control the bureaucracies; and when science funding administrators, businessmen and foundation officials do not decide what is worthy to be studied. This scientific commitment to the European values does have its prices, such a permanent, tiresome struggle, and exclusion from academic settings that are also dependent on these powers for their survival (c.f., Shils, 1980).

Once it is recognized that all social activities, including scientific activities, are many-sided, it becomes illegitimate for sociologists, given the promise and call of sociology, to work with wooden, fixed, cut and dried, concepts, simple uniform variables that are seen to be immutable (Bloch, 1983: 284). In sociological activity, particularly in dialoguing, the reflexive awareness of the ambivalence of existing theories, blind spots or personal prejudices, and of the (latent) desire for certainty is a prerequisite. In and through dialogue, sociology moves through contradictions. It does not move linearly to some apex, but it moves dynamically, as a process of perpetually becoming something new. Sociologists are called to do justice to the ruptures, catastrophes and troubles of social worlds, those non-linear transformations that bureaucracies fail to see, seek to halt or simply tend to trivialize. Political or ideological ends are perceived to be better served when social words are made graspable and manageable. Reflexive sociology has the potential to contest such closing of the mind, out of commitment to the Delphic oracle, in the fundamental belief that without this commitment despotism and barbarism are destined to follow through the employment of value-empty and non-reflexive science. Reflexive sociology holds the key in expanding the role of freedom in social affairs because it alone enables its holders to become aware of their own unreason, prejudices and bias in their claims, teachings, writings, strategies, policies, evaluations and consults; and it makes holders sensitive to how sociology is used or misused in the destruction and creation of realities, thereby achieving summations of what is going on in the world and of what may be happening within themselves.

7. Locating reflexive sociology in society: The alliance with publics

Sociologists can contribute to the construction and destruction of social worlds; they are involved in transforming daily life and in creating a new society, new ways of making the European values flourish (Gouldner, 1973: 105). If sociology is to have value as a representation of the European values in society, that is, is to be constitutive for people's self-understanding, self-organization and self-government, then it must enter public debates and inform public opinion in all realms of social existence. In this way, the dialogue between sociologies is extended to a public dialogue, in which sociology is a partner; such a public

sociology is no longer simply the affair or possession of some intellectual elite, but becomes the potential source of civic education for both rulers – politicians, governors, legislators, judges, administrators, managers – and ruled – citizens and employees. Reflexive or dialogical sociology can contribute towards a reasonable social cohesion, for instance, by revealing the solidarity structure. If this is a task for sociology, its call or promise, then sociological and social lives cannot be lived separately; hence, sociologists cannot live in their academic ivory towers. But at the same time, they cannot become civil or corporate servants, at the service of the ruling powers. In this sense, their roles are not given, fixed or certain; they, or more precisely, their ideas – for which they assume responsibility – have to permeate social structures, including political ones, without giving the reason and freedom.

Sociologists, therefore, not only endeavour to understand the world, but also to make it liveable, while being extremely vigilant of the ideological snare that can underlie ambitions to change the world or to solve problems. A dialogical sociology presumes democracy or publics (Ossewaarde, 2007a; Ossewaarde, 2010b). The latter concept, coined by C. Wright Mills, can be defined as dialogues organized in society, institutions or situations in and through which people can publicly express and receive opinions, and respond. Through such interaction, it is expected that they are able to form informed, reasonable opinions, independently of prevailing systems of authority, so that the force of the better argument comes to reign (Mills, 1956: 303-4). Publics are not so much concrete places or organizations as opportunities for coming together, for conversing and disputing, for realizing the promise of sociology in concrete situations of work, citizenship, consumption, and so forth, and thereby make their qualities of mind, their reasoning, publically relevant (Habermas, 2001: 27). Publics are based on the assumption that knowledge can be acquired through dialogical interactions in organizations, through friendly disputes in which people are actively involved, learns to listen and speak, critically and reflectively. It is, of course, also assumed that people have an active commitment to European values; the contrary namely guarantees mass events in which all sorts of unreason, such as populism and demagogies, can triumph in organization and management. Publics open dialogical opportunities for informed discussion about pressing problems, provoking conversation and deliberation, triggering real innovation and renewal. They enable people, say employees, with opposing values and different points of view to converse with each other, facilitating mutual understanding and compromise, and respect, tolerance, fair-mindedness and the willingness to be persuaded and change one's mind (Goldfarb, 2005: 282; Smith, 2009: 94).

Mustafa Emirbayer and Mimi Sheller (1999: 155) note that 'publics signify rational-critical argumentation and collective will formation regarding the paths along which the state, economy, and civil society itself are to develop.' Publics, thus understood, somewhat resemble ancient Greek city-states (re-publics); they constitute the substance of any democratic society. Examples of publics include open assemblies, town meetings, conferences, citizen juries, random samplings that bring a diversified body of citizens (typically between 12 and 160 citizen) to discuss public (especially controversial) issues (Smith, 2009: 28; 79). Such publics constitute countervailing forces against bureaucratic machineries. The absence of publics in society is a sign of a lack of democratic substance, of the underrepresentation of the value of reason, the representation of unreason (in the form of ideologies, reifications, phobias and hysterias), and the presence of power concentrations. In other words, the absence of publics signifies the absence of European values in social conduct and in organizations.

C. Wright Mills (1956: 274) notes that 'the decline of politics as genuine and public debate of alternative decisions' that Michael Burawoy (2005b) also witnesses, is the result of the bureaucratization of social existence, in which the European values increasingly lose their authority, and reflexive science is no longer supported by social (dialogical) conditions. With the decline of publics, that is, the decline of (the intellectual and moral substance of) democracy, Socratic reason tends to be eluded, and hence sociology tends to lose its capacity or possibility to influence public issues of structural relevance. The decline of democratic politics, that is, the decline of genuine and public debate, and consequently the decline of reason and the rise of mindlessness, ideology and phobia, leads Alvin Gouldner (1973: 167-8) to conclude 'it is the quality of *mind*, not politics, that confronts us with the deepest abyss'. As publics (and hence democracy) decline and bureaucracies rise, bureaucratic concerns, in particular, corporate and military interests, come to dominate social existence. Mills (1956: 304) notes how corporate strategies, marketing, publicity, entertainment, bribery, intimidation, secret surveillance and so forth, often based on misuses or abuses of sociology, all reinforce the destruction of democratic publics and the enforcement of bureaucracies – organizations in which the governed are perceived as passive workers, consumers, spectators, clients or property owners, instead of as political actors.

Since a dialogical sociology is dependent on the publics in order to safeguard the European values, it first has to revive the very conditions that make the development of publics possible. Hence, bringing sociology to the publics, to extent the promise of sociology to non-sociologists (not to live of sociology, but to live up to the promise of sociology in publics), goes hand in hand with the revival of the publics, that is, of the revaluation of the European values of reason and freedom. This revival becomes all the more urgent as trust in bureaucratic elites is lost, (early) modern bureaucratic structures in states and corporate sectors (particularly in the capital sectors) tend to dysfunction, and public anxieties and moral panics tend to spread with increased mindlessness of managers, professionals, citizens, and so forth. Reflexive sociology is significant in organizations in the sense that it organizes mindfulness, enabling its holders to become aware of the bias in planning, strategies and designs, in close tension with the objects they are dealing with; and to identify the values at stake when using their models, formats, methods, jargons, approaches. Dialoguing in publics fulfils the promise of sociology within the confines of organizations in the sense that dialoguers, in practicing the dialectic or friendly art of dispute, are, in the construction of their planning, strategies and designs, able to perceive and think beyond the actual, conventional and established understanding and expected, forecasted or hoped future. Also, dialogues propel stakeholders towards changing, creating new realities – realities in which reason and freedom may come to play a greater role in management and organization, so that organizations may be experienced as less stupefying and less oppressive.

Richard Sennett (2008: 33) observes that, ultimately, publics also support better corporate performances, turning organizational existence into a more mindful and liberating experience for stakeholders. Sennett gives the example of Nokia, which, in order to generate technological innovation, instituted the dialogue as organizational form. Its management created a dialogical community, a public, including its engineers, salespeople and designers, who were invited, as individual employees, to formulate their issues in their own terms, to consider extremes, and to challenge and dispute experts and superiors. Management recognized the ambiguity of the boundaries between business units, as more than technical information was needed to make new worlds of technology. It increased social and mental

uneasiness, urging people to use a variety of viewpoints, to release imaginations and clear the ground for new beginnings, for re-arrangements. Ericsson, by contrast, proceeded in a bureaucratic, un-reflexive and un-playful, manner. In order to generate innovation, it formulated a problem and divided it into parts, rigidly organized the exchange of information among competitive offices in its established organizational formats and rigid procedures. Without confronting real issues, offices protected their turf, hoarding information. Hence, Ericsson proved less renewing.

8. Conclusion

In this chapter it has been argued that a key problem in sociology, as in any science, is that sociologists are all too often unaware of the ambivalence of their theorizations of society since they all too often fail to take into account the ambiguity inherent to social existence. In this sense, scientific activities can fail to fulfil their promise of enlightenment, that is, the promise of the liberation from ignorance, and instead reinforce ideologies, sociology's mortal enemy; as well as the enemy of genuine innovation, renewal and revitalization. The deliberate or unconscious ignorance of ambiguity leads to the imposition of models of society on social existence, through bureaucratic implementations and enforcements. In order to develop a truthful sociology or genuine scientific knowledge, that is, one that is true to its own promise, scientific processes such as enquiry, argumentation, clarification and reflection cannot be separated from a broad erudition, empathic understanding and sociological wisdom; only then can sociology be kept out of bureaucratic structures of organizations, in which ambivalence and ambiguity are denied. Instead it must promote dialogue, both within science and within the organizations of society at large, as the appropriate social form for doing sociology. It is the only form that prevents sociologists from alienating themselves from social life, and consequently, from contributing towards reification.

Only through dialoguing is it possible to develop degrees of reflexivity, and to keep theory or theorizing about society, and practice or the social consequences of theory together. Only through dialoguing can sociology manifest, and realize its commitment to the European values of Socratic reason and freedom. At the same time, this commitment is a sine qua non if sociology is not to become the handmaid of power holders; and used as a lethal instrument for manipulating (rationalizing) social existence and for promoting some ideological form of existence in states, corporations, civil society, families, and so forth (like promoting a neo-liberal way of living). In his call for strengthening what he calls 'public sociology', Michael Burawoy (2005a) has ardently voiced the need to reconcile the different sociologies in new sociologies needed for new worlds. Burawoy stresses the urgent need for sociology's presence in the publics, in particular in protest movements that organize themselves to resist neo-liberalized bureaucracies. And indeed, in global capitalist worlds, as contrasted with the more democratic worlds, the social foundations or preconditions for being and doing sociology, and for generating reflexivity, are shaky; universities, in such contexts, tend to become dependent on, and inseparable from, ideological entities. Such entities create their own priorities in which the public mission of representing and realizing both Socratic reason and freedom of action is ignored. The European values are, as always, at risk in social existence, and sociologists face a tough battle to contribute towards the creation of reflexivity, the intellectual sensibility behind theory and practice, so much needed to defeat ideologies and live up to the promise of sociology.

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Food Policy Beyond Neo-Liberalism

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1. Introduction

For millennia food has been one of the central elements around which human civilizations have evolved. In pre-capitalistic societies food-related activities were at the core of all the material, cultural and institutional structures which shaped social relations. Besides being the adherent factor of society, food has always been a weapon and an instrument of power. Along with the development of capitalism, food-related activities have become increasingly integrated into the economic sphere, which has gained importance with respect to the socio-cultural and political spheres. Food has become nothing more than a commodity, its trade has become a way of wealth accumulation and the market, instead of self-production in peasant societies, has become its main way of procurement for urban dwellers and the workforce required by industrialization. The "domestication" of food habits and trade has been an important leverage for capital accumulation. As a matter of fact, as the literature on food regimes has clarified, different stages of capitalistic development have required different features of food governance.

This paper analyses the particular features of food governance under neoliberalism, considered the most recent stage of capitalistic accumulation. The main goal is to identify the political and theoretical constraints which seem to prevent food policy from becoming an effective tool for promoting a just and sustainable food system. A basic argument of this paper is that the analysis of the food case may give important insights for identifying the 'ideological' powers that have hitherto guided the neoliberal political-economic design. The discussion is organized as follows.

The first section describes the neoliberal global food system starting from the recent literature on food regimes and shows how it has so far been unable to achieve the goals of sustainability, hunger eradication and social justice.

The second section directly addresses the issue of food policy. It compares the future challenges facing the system with the neo-liberal strategies of interventions, demonstrating how neoliberal food policy is a useless weapon against the increasing food safety and security risks. Particular attention is paid to the issue of private governance.

The third section illustrates the main traits of food policy programs alternative to neoliberalism. The focus is on the concept of food sovereignty, which encompasses the concepts of food as a human right and sustainability.

The last section, dealing with the obstacles faced by opponents to neoliberalism, analyzes the limits of the specific ethical and political theories endorsed by the standard economic model and shows the difficulties experimented by alternative approaches in drawing new theoretical paradigms. Given its theoretical scope, the paper does not however address the political obstacles arising from concrete political practices in real institutional contexts.

The main outcome of the paper is that, in order to overcome the neoliberal policies, one must enable processes of participatory democracy by appealing to the distinctive character of the human being, namely reflexive deliberation.

2. The neoliberal food regime

In order to uncover the peculiar traits of the neoliberal food policy it is important to explore the links between the development of the food system and capitalism itself. The history of food and food policy closely follows the history of the Industrial Revolution and of twentieth century capitalism. To understand how the international division of labor in agriculture as well as food policy depend strictly on processes of capitalistic accumulation, one can depart from the concept of food regime. According to this concept, developed within the world-system research strain, the organization of food production and distribution is explained better by political rather than economic factors. Friedman's basic definition of food regime is 'a rule-governed structure of production and consumption on a world scale' (Friedmann, 1993). A particular food regime is characterized by a hegemonic power which is able "to dictate the rules". Literature on food regime, inaugurated by Friedmann (Friedmann, 1987, 1993, 2004; Friedmann and McMichael, 1989) is anchored to the theories of world system and of regulation, and was first elaborated within the research field of international relations and international political economy. Currently it is an interdisciplinary approach, encompassing the fields of economics, history, politics, sociology and law.

So far, three food regimes have been described. In the first period, spanning between 1870 and 1914 and designated as " Settler-Colonial", Britain inaugurated the policy of 'cheap food' for the industrial working class, based on the imports of basic grains and livestock from settler colonies. In this period the imposed mono-cultural agriculture, while feeding industrialization and capital accumulation in the mother countries, compromised food systems and ecological resources in colonies. In Africa and Latin America, many regions moved from a situation of food self-sufficiency to a situation of food scarcity and famine, paving the way for the successive food regime, the "Surplus" regime, between 1945 and 1973. In this period the Unites States, under the umbrella of food aid programs, invaded their informal empire of postcolonial states with their food surpluses, clutching them in the grip of the external debt. This was the effect of the high-level support that the US had to give to their enterprises in order to maintain an international economic hegemony by backing the value of the dollar to which other currencies were anchored in the Bretton Woods system. Moreover, at that time the profits of American companies that came from the favorable terms of trade with the Least Developed Countries (LDCs) were used to finance growth in Europe, itself a market for imported American products. Partly because of the changed scenario of international trade (with Europe emerging as an important food exporter), partly because of the end of the US monetary hegemony (and the associated world monetary stability), and partly because of the new corporate interests within the system (with

corporations seeking new investments and market opportunities offered by trade liberalization and by the growing demand in emergent countries), the second food regime actually ends with the demise of Bretton Woods. Since then a third food regime has initiated which, notwithstanding its still blurred contours, may be termed neoliberal or corporate regime[1].

The neoliberal food regime (sometimes also referred to as 'food from nowhere' regime or 'corporate' food regime, as reported by McMichael, 2009) is the product of neoliberalism, which has been shaping global economy over the last thirty years. The four credos of neoliberalism - deregulation, international trade liberalization, reduction of public expenditure and privatization - have produced a new international food order, characterized, inter alia, by: 1) a high level of consolidation at the manufacturer and retail level, with a dramatic rise of corporate power; 2) an international division of labor based on the organizational features of global food commodity chains, with the rise of export zones in the global south and the displacement of independent producers and small scale agriculture; 3) an increasing market differentiation, with low-quality mass products alongside with "high-tech/high quality" rich products; 4) bio-nano technologies and intellectual property rights as the new frontiers for profit extraction; 5) the accelerated depletion of natural resources, with a global food system increasingly dependent on oil and massively contributing to climate change (Garnett, 2008; Shiva, 2008).

The specific traits of the three food regimes are very different and in each of them food has had a different role in the economic as well in the political and socio-cultural sphere. This paper does not intend to review the concept and the history, and the related theoretical and political controversies, of food regime and therefore such differences are not explored. What is important here, in order to analyze the neoliberal food policy, is to highlight only the main common trait and the main difference between the neoliberal food regime and its predecessors. This will help to shed light on the core elements of the current economic and political dynamics within the world food system.

The red thread which unifies the three food regimes is the integration of the food production and consumption activities into the processes of industrialization and capitalistic accumulation. As stressed by McMichael (2009), "the food regime concept is not about food per se, but about the relations within which food is produced, and through which capitalism is produced and reproduced". Since the beginning of the first food regime (which coincides with the second industrial revolution, 1870-1914) the capitalistic development has entailed:

1. The commodification of food, that is to say, in current terminology, that food production and distribution have entered the formal sector of the economy (i.e. that regulated by formal markets, whose sales and turnovers compose the GNP). Food markets have replaced self-sustained peasant communities, where production systems are governed by an array of institutions which range from authoritative feudal and family organizations to gift and community-based systems of reciprocal systems of exchange. In this way not only alternative ways of economic organization have been destroyed, but also entire cultures and societies.

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[1] The debate on the identification and definition of the third food regime is reported by McMichael (2009). See also: Burch and Lawrence, 2009; Pechlaner and Otero, 2010.

2. An increasing dependence of agriculture on other economic sectors, including the financial sector.
3. The international integration of agricultural systems and markets.
4. A pattern of technological innovations which have rendered the food sector not only increasingly dependent on non-renewable energy sources but also increasingly harmful to the environment.

Besides these similarities, there is a profound difference between the previous and the third food regimes. Unlike the previous food regimes, where the hegemonic powers were nation states (the UK first followed by the U.S.A.) in the third regime hegemonic power is exercised by the large TNCs which control the global food chains. In other words, with the rising of the neoliberal regime, there has been a shift from state to private food governance. That is not to say that in the first and second regimes state strategies did not accommodate the private interests of the capitalist ruling class. They did indeed but in an institutional framework where states and corporations still operated in two separate spheres, namely the political and the economic sphere, which remained separate even when the political sphere succumbed to corporate power. With neoliberalism, private interests no longer "capture" (Stigler, 1971) state regulation, but in fact they substitute the state by becoming themselves the regulators of the economy (and of society). The process through which this shift has occurred, widely described by literature on globalization and neoliberalism (Sassen , 1995, 2006; Strange, 1996; Hall, Biersteker, 2002), has relied at least on the following five concomitant factors which to an extent have had mutual knock-on effects: 1- the end of the Bretton Wood system and the deregulation/liberalization of capital markets, 2- the finacialization of the economy, spurred, inter alia, by the radical innovations in the financial sector (Strange, 1998); 3- the upsurge of The Chicago School of Economics as a dominant mainstream academic "credo", also contaminating politics and laws with its blind faith in the rational choice model (as witnessed by the public choice theory and the research field of law and economics.); 4- the new strategies of corporate internazionalization based on the organizational architecture of global supply (commodity/value) chains; 4- the demise of socialist economies and the integration of new powers, such as China, in the world capitalistic system; 5- the end, as far as international relations are concerned, of the Westphalian order, and the consequent weakening of the concept of state sovereignty.

Literature on food regime extensively describes the negative results of the long wave of inclusion of food in processes of capitalistic accumulation, such as chronic world hunger and poverty, the depletion of natural resources, the destruction of peasant cultures, the growing wealth inequality and social injustice. Obviously, a good deal of literature confutes this view and applauds the outstanding achievements of the Green Revolution and biotechnologies, international market integration and peasantry upgrading. This paper does not specifically enter into the debate concerning these two contrasting views (and does not even offer a brief overview of the debate), but nonetheless introduces new arguments in favor of the view of food regime literature. The next section demonstrates, starting from the list of the main malfunctions of the current world food system, how an effective policy aimed at improving the system should repudiate the mechanisms that keep food production and consumption in the clutches of capitalist system.

3. The unsustainable neoliberal food policy

As a generally intended term food policy refers to the two fields of intervention of food safety and food security. Moreover, a third field may be added concerning the control of the environmental impact of food production and distribution; this component may be called food sustainability. As an institutionalized field of state intervention food policy emerged at the beginning of the third food regime. The term *food security* was coined for the first time following the First World Food Conference in 1974 in Rome. The term food safety was used first in the United States in 1977 when naming the Food Safety and Inspection Service (FSIS).[2] During the previous food regimes the only institutionalized field of public intervention was agricultural policy, which was part of the general economic development policy, and was often subordinated to industrial policy. The first World Food Summit was convened under the emotional boost of the global economic crisis, -consequent to the concomitant food, financial and oil crisis-, of the 1971-73. Nevertheless, it was also the culmination of decades of protests (summarized by the demand for a New International Economic Order) expressed by the "third world" countries due to the exploitation of their natural resources and the consequent persistent hunger and poverty they faced.

In 1974, governments attending the World Food Conference had proclaimed that "every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop their physical and mental faculties." This statement reflects the prevalent politically economic view of the time, which, under the general label of "welfare state", endorsed an active role of states in the economy in order to fulfill their commitment to uphold human rights and promote social justice. In 1974 the declared goal of governments was to completely eradicate hunger on a world scale. Two decades later, when the neoliberal wind had already passed into oblivion the policy attitudes of the embedded liberalism, the Rome Declaration, at the 1996 World Food Summit, set the far less ambitious target of reducing by half the number of undernourished people by no later than the year 2015.

Therefore, as a matter of fact, food policy so far has suffered from a severe internal inconsistency: while its goals were set in the political era antecedent neo-liberalism, its instruments have been developed together with the consolidation of neoliberal ideology.

Neoliberalism represents a new particular political economic approach in liberal systems of modern capitalist societies, which has replaced the previous approach of embedded liberalism (Harvey, 2005). According to embedded liberalism, to which the experience of welfare states in the thirty years 1950-1970 has been linked, the economic sphere is embedded in the social and political spheres, and the state has the mandate to intervene in the economy with regard to a variety of goals beyond the allocative efficiency; such as distributional and political goals. On the contrary, according to neoliberalism, the economic sphere is independent from the social and political one and states ought to abstain from intervening in the economy, allowing individuals to participate in free and self-regulating markets. In the case of food policy, these two perspectives lead to a very different choice of

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[2] The concept of food safety has been incorporated in the more complex definition adopted at the 1996 World Food Summit: "Food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life".

goals and instruments. Table 1 confronts food policies in the two cases of embedded liberalism and neoliberalism. In the first column, the main food policy goals are listed according to the two possible rationales for intervention: the sole economic rationale, concerning the improvement of allocative efficiency through the correction of market failures (such as non competitive markets, externalities, public goods and information problems), and the ethical/political rationale, concerning the accomplishment of social justice and human rights. In the second and third columns, the main policy instruments deployed in case of embedded liberalism and neoliberalism are listed. There are two major differences between the two political views.

The first difference is that while embedded liberalism is consistent with both the economic and the political/ethical rationales, neoliberalism only accepts the economic rationale. In other words, while embedded liberalism awards distributive and social goals a prominent place in the food policy agenda, the only goal accepted by neoliberalism is economic efficiency. An important consequence is that neoliberalism does not foresee any form of intervention in order to uphold individuals' rights to adequate and safe food. With respect to food security, the rationale for intervention is ethical and political rather than economic. Ensuring access to food for poor people means carrying out policies of income redistribution, which respond to objectives of social justice rather than of economic efficiency; it also means considering food to be a human right, which has to be upheld by governments through public commitment. However, it is worth noticing that the goal of food security is still pursued under neoliberalism, but the idea is that keeping markets free from any form of intervention will boost economic development and, through a trickle-down process, will eventually benefit hungry people; hence food security is considered to be the "natural" outcome of the economic development assured by a system of free markets.

The second difference is that in the case of market failures, while neoliberalism only acknowledges market-based instruments, embedded neoliberalism strongly relies also on command-and-control policies. Many problems of food safety and sustainability can be modelled in terms of market failures. In the case of food safety an adequate risk prevention may be considered as a public good, for which properties of non rivalry and non excludability prevent the private sector from providing the efficient supply. Also imperfect information applies, when the low food risk is seen as a quality attribute exhibiting the character of a credence good (the typical example is the presence of chemicals and phytosanitary products' residual substances). Externalities are the main concern in the case of sustainability goals; moreover, prevention of negative environment impacts may be considered as a public good; for instance, reducing green house gas (GHG) emissions is a public good, which firms do not provide unless with direct state intervention. As summarized in table 1, embedded liberalism tackles all these problems with a large set of instruments, including all types of state direct and command-and-control interventions, such as standards, regulation and state participation in economic activities. On the contrary neoliberalism only deploys market-based instruments, such as taxes and incentives, privatization and self-regulation (Backer, 2008; Pariotti, 2009). In fact, neoliberal ideology endorses a system of free markets and free trade where the only acceptable reason for state regulation is to safeguard commercial liberty and private property. Accordingly, it stresses that: problems of public goods may be solved through the Coase theorem (and hence through privatization); food safety can be fulfilled through self regulation and SCR; food security is the "natural" outcome of the economic development assured by a system of free

markets; state failures are more dangerous than market failures, which tend to be self-correcting as long as the free competitive process is not disturbed.

Food policy goals	Food policy instruments	
	Embedded liberalism (the economic sphere dependent on social and political sphere)	Neoliberalism (economization of social and political sphere)
The economic rationale		
Correcting market failures: non competitive markets	Competition policy (high enforcement).	Chicago school approach to competition policy (low enforcement)
Correcting market failure: negative externalities (limiting the environmental impact of food production and distribution, such as pollution, global warming, and non renewable resource depletion)	Command and control instruments (standards and regulation) Market based instruments (taxes, subsidies, and economic incentives)	Market based instruments, according preference to economic incentives with respect to taxes (e.g. carbon emission trading preferred to carbon tax) Self regulation Private governance CSR
Correcting Market failure: public goods (food safety and climate change mitigation as examples of public goods)	Command and control (standards and regulation) Market based instruments (taxes and subsidies) State as a direct provider of public goods	Market based instruments Privatization SCR Private governance
Correcting market failure: informative imperfection (as in the case of credence goods and food risk)	Regulation Disclosure Public information	Self-regulation Private governance
Ethical and political rationale		
Assuring access to safe food to poor people. Food as a human rights Food safety and food security policies as a matter of social justice	Regulation Fiscal measures Direct market interventions Upholding human rights (the economic dimension overshadowed by political and social dimensions)	No intervention

Table 1. Food policy instruments in the neoliberal food regime

Thirty years of neoliberal food policy seem not to have been successful in achieving the most part of food policy goals. Currently the food system at global level proves inadequate to meet people's needs and to ensure the preservation of natural resources and the environment. Health emergencies related to obesity and hunger pose serious challenges to people's lives, while the increasing food industrialization and globalization destroy the environment and natural resources apace. Figures in table 2 briefly synthesize "food failures" of current times, which pose serious challenges for the future food policy.

Food security	The number of people lacking access to the minimum diet has risen from 824 million in 1990 to 925 million in 2010.
Global warming	Considering also emissions by indirect activities associated with food production and distribution (such as home storage and refrigerators, waste disposal, transportation by final consumers and so on) the global food system is accountable for nearly 50% of total world GHG emissions (Grain, 2009). Climate change threatens food production through desertification, water shortages, yield decreases.
Energy	In the future oil shortages may threaten food availability. It takes more than 400 gallons of oil to feed one person for a year in the USA. In terms of energy conversion this food production system means that it takes three calories of energy for every single calorie of edible food produced on average. In the case of grain-fed beef it takes 35 calories of energy for every one calorie of beef. Oil shortage threatens food security also through the increasing use of arable land for bio fuel production.
Land depletion and land grabbing	The amount of arable land per capita is steadily decreasing. It has almost halved since 1960. After the 2008 food crisis rich countries and TNCs have been buying large swathes of land, mainly offered by corrupted governments and elites in developing countries.
Water scarcity	Agriculture accounts for 70% of global fresh water use. Almost a billion people live in countries chronically short of water. By 2030 demand for water is expected to increase by 30%.
Food safety	Unsafe food causes many acute and life-long diseases, ranging from diarrhoeal diseases to various forms of cancer. WHO estimates that foodborne and waterborne diarrhoeal diseases taken together kill about 2.2 million people annually, 1.9 million of them children.
Competition and power asymmetries in the food chain	There are evident imbalances of power among the different stages of the world food chain. About 7 billion consumers and 1.5 farmers are squeezed by no more than 500 companies –retailers, food companies, traders and processors- who control 70% of the world food market. Only three companies (Cargill, Bunge and ADM) account for 90% of the global grain trade. Four firms (Dupont, Monsanto, Syngenta and Limagrain) control over 50% of seed industry. Large companies in the food system are now expanding their power by directly regulating the system, setting private standard and dictating policy agendas to international organisms.
Inequalities	Hunger does not affect uniformly people in the world: it is concentrated in developing countries, in rural area and among women. In other words hunger is concentrated among poor people. Neoliberal globalization has raised income inequalities, making poverty and hunger "incurable deseases".

Food loss and waste	Food waste and loss, i.e. food that is discarded or lost uneaten, annually account for 1.3 billion tons of food, about one third of the global food production (according to a 2011 estimate). Consumers' attitudes and retailers' procurement and marketing policies are referred to as the main causes.
Malnutrition and obesity	Besides hunger malnutrition means over nutrition and obesity. Obesity is associated with higher mortality rates for cardiovascular diseases and cancer. In the United States obesity and overweight together are the second leading cause of preventable death. Over the last twenty years obesity has also spread in developing countries. World obesity epidemic has multiple causes, nevertheless important recognized causes are poverty, low level of education, children exposure to junk food advertising.

Table 2. The unsustainable neoliberal food regime

Over the last thirty years, food and agriculture have not been at the top of the agenda for governments of developed countries. Few events, amongst which the BSE outbreak and the failure of the WTO Ministerial Conference in Cancun, have been deemed worthy of the front pages of newspapers. It was with the 2008 food crisis that the issues of food security and the fragility of the global food system were brought to the fore as hot topics at the level of governments and international organizations as well as that of society.

The 2008 food crisis and the concomitant financial crisis have shown the contradictions and the shortcomings of neoliberalism to the public at large. Criticism of the system, confined over the previous years at margin of media and academia, have reached the large public and mass media.

In the aftermath of food riots, which spread across poor countries faced by the sudden rise in food prices, two alternative readings of the crisis were given, the "official" one, by mainstream academicians and FAO, and the alternative one, by some ONGs, heterodox social scientists and the various associations which had been fighting the neoliberal food system over the previous years. The comparison of the two analysis offers the opportunity to understand how continuing neoliberal policies may worsen, instead of resolve, future food crisis; it also helps to introduce the discussion on the alternative forms of intervention which is the issue of the next section.

Participants at the FAO Conference held in Rome in June 2008 (FAO, 2008) identified two main causes of the food crisis: 1) the structural changes in demand associated with the high economic growth rate of the emergent capitalistic countries (China in particular); 2) the strong pressure on the energy market, this latter aspect inducing both rising costs of the very fuel dependent food system and a strong competition between food/feed and biofuel crop cultivation. With regards to a third cause, the role of the financial market crisis and its effects on the grain futures market, there was instead a strong disagreement.

In contrast to the "official" interpretation of the crisis, heterodox analysis, as reported by ECT group and PANAP (ECT group, 2008; Guzman, 2008) identified three important points, essential for understanding the food crisis, that were missing in official documents of FAO, national governments and the World Bank (WB).

The first point was that the food emergency did not emerge overnight, and did not begin with record-high prices. It had already been affecting poor countries for 20 years. In the early 1960s developing countries had an overall agricultural trade surplus approaching $7 billion per year (FAO, 2004). By the end of the 1980s the surplus had disappeared and many countries were net importers of food. This shift had been the consequence of US and European policies that had favored corporate agribusiness by keeping commodity prices low, dismantling trade barriers and marginalizing millions of small scale farmers.

The second point was the strong food-financial crisis nexus. The reason for food 'shortages' had been speculation in commodity futures, following the collapse of the financial derivatives markets. Desperate for quick returns, dealers had been taking trillions of dollars out of equities and mortgage bonds and had ploughed them into food and raw materials. The amount of speculative money in commodity futures ballooned from US$5 billion in 2000 to US$175 billion in 2007. This is the 'commodities super-cycle' on Wall Street and its latest illustration has been the post-2008 'land grab' by rich governments and corporations (GRAIN, 2008; Ghosh, 2010; Zagema, Lobbyist, 2011).

The third point, finally, was that whereas shortage of supply had been pointed at as a main cause of the price surge, this might not be the case. Looking at data and forecasts in the period previous to 2008 production outpaced consumption, on average on a two years basis, for all types of food.

Therefore, according to the heterodox interpretation 2008 price rises were driven by the international food trade, notwithstanding the fact that global food trade has been estimated to be only around 10% of global food production. Because global food trade is controlled by a few TNCs that have gained exceptional profits from price peaks (as reported by Lean, 2008, in the first three month of 2008 Cargill and Archer Daniels Midland increased their net earnings by 86 and 42 per cent) it is likely that high prices have been the consequence, besides the speculation on financial markets, of the exercise of a strong market and buying power by these leading companies.

In other words the heterodox interpretation contends that global food crisis is political-economic in nature and not the mere consequence of unbalanced supply-demand movements. According to this view, the food inflation that has pushed millions of people into poverty and worsened the life of the 2.5 billion people already living on less than $2 a day, has been the consequence of: 1) excess of market/buying power exercised by the big corporations of the agribusiness; 2) process of financiarization of the world economy, that has made food commodities markets vulnerable to financial crisis; 3) twenty-five years of lasting neoliberal policies that have worsened inequalities and created food import dependence in less developed countries.

Consistently with the official interpretation of the crisis, FAO, WB and US and EU governments suggested the following prescriptions to cope with the food crisis: further trade liberalization; enhancing agriculture productivity by shifting from smallholders farms to labor-intensive commercial farming; relying on the private sector as provider of agricultural services; promotion of innovation through science and technology; developing high-value markets (i.e. food sold through supermarkets) for domestic consumption; facilitating input markets in order to assure better access to improved seed and fertilizers; improving the land market to facilitate agriculture consolidation processes; enhancing the performance of producer organization to achieve competitiveness of smallholders; linking

local economies to broader markets and a shift from self-consumption and self-employment to production for the market and to wage employment; investing in safety nets for the poorest people, preferring targeted cash transfers and in-kind food distribution.

Most of these suggested interventions have been criticized by the "heterodox approach" on the grounds that they are likely to continue the commodification of food initiated with the first food regime and then reinforced by the neoliberal agenda in accordance with the Washington Consensus "credo": privatization, liberalization, deregulation, decreasing public social expenditure. As far as these interventions reinforce the true causes of the food crisis, - i.e. corporate power, neoliberal ideology and financiarization- they are unlikely to prevent further future food crisis and promote food security.

As discussed in the following sections, the "heterodox approach", recognizing the limits of the neoliberal project, proposes very different forms of intervention, placing human rights and food sovereignty at a premium.

4. Building alternatives

Since its inception, the neoliberal project has been opposed by intellectuals and scholars from the tradition of Marxist research. Nonetheless, it is only since the spread of the anti-globalization movement, in the early 1990s, that critics of neoliberalism have gone beyond the boundaries of leftist intellectual circles and have affected the political arena and society at large. With respect to food-related issues within the antiglobalization movement a large network of non-governmental organizations (NGOs), civil society organizations (CSOs), farmers' organizations and indigenous peoples' organizations have discussed and promoted alternatives to food neoliberal policies. Notwithstanding their diversity and multiplicity, alternatives proposed by different subjects share a common view of the main goals and instruments able to "adjust" the neoliberal model. This common view may be summarized in the following seven points, which form the pillars of the alternative vision:

1. Food as a human right. Food production and distribution is firstly a political matter, secondly an economic matter. Each nation has the duty to uphold this basic human right.
2. Fighting inequalities. Hunger is not the result of limited resources, but rather the effect of unequal wealth distribution and economic injustice.
3. Supporting smallholder farmers. 500 million small farms in developing countries support almost two billion people, nearly one-third of humanity. Nevertheless 80% of people suffering hunger and malnutrition are food producing households in higher-risk environments (50%), herders, fishers, forest-dependent households and non-farm rural household (UNDP, 2003). Therefore supporting small farmers and rural economies is the best way to achieve food security. The case for a massive, government-led investment in smallholder farming and supporting infrastructure is clear.
4. Guaranteeing equal rights to the land, especially of indigenous people and women. Globalization and the internalization of the land market have put the access to land by communities, such as indigenous people, and individuals, such as women, with ill-defined property rights and/or low purchasing power at risk. Access to land should be considered as a human right and land should be considered a public rather than a private good.

5. Food system sustainability. Industrial agriculture, and more generally the whole capitalist economic system, is causing the collapse of earth ecological equilibria. The negative effects of global environmental problems, such as climate change, hit poor people more harshly. Over the coming years, due to climate change, many among the poorest regions in developing countries will face lower agricultural yields. Sustainability is at its core a matter of social justice.

6. Fighting corporate power. Corporate power, as emerged from the processes of consolidation and internationalization of neoliberal globalization, is deemed to be dangerous, in addition to its capability of economic exploitation (through the exercise of market and buying power), because of its lack of responsibility towards society and the environment and because of its power to inform public opinion and capture state regulatory policy. The power-based organizational architectures of commodity chains and the phenomenon of private food governance are outstanding examples of the overwhelming corporate power.

7. Community/state sovereignty opposed to the dictates of WTO, WB and IMF. The opening up of agricultural markets for food imports has put small farmers from developing countries in unfair competition with subsidized farmers from rich countries, destroying production capabilities and worsening the dependence on food imports. WTO jeopardizes government's efforts to sustain agriculture in developing countries, hindering state sovereignty and communities' autonomy.

Table 3 offers an example of the kinds of food policies that opponents to neoliberalism, relying on these principles, sought as viable and effective means to face food crisis. It reassumes, for every "official" proposal of intervention suggested in the aftermath of the 2008 food crisis, the criticism (in terms of alleged corporate advantages and of negative effects on people hit by the crisis) and the counterproposals of the alternative approach.

COPYING WITH FOOD CRISIS: NEOLIBERAL PROPOSALS	CORPORATE OPPORTUNITIES FROM NEOLIBERAL POLICIES	EXPECTED NEGATIVE EFFECTS OF NEOLIBERAL POLICIES	COUNTERPROPOSALS
Further trade liberalization.	New investment and market opportunities, accelerating consolidation processes.	Expected increases in economic inequalities.	Nations should be free to choose the trade policy, which better helps to guarantee the right to the food, not subject to the dictates of WTO.
Enhancing agriculture productivity by: shifting from smallholders farms to labor-intensive commercial farming.	Affirming capitalistic agriculture as the only viable way to secure food.	Smallholder farms (and women) negatively affected.	Improving productivity of small rural farmers guaranteeing their access to land, inputs, credit and "ad-hoc" local innovations..
Relying on the private sector as provider of marketing services, irrigation, and risk management services.	New market opportunities. Capitalistic control of public goods.	Poorer farmers (especially women) negatively affected because of their low purchasing power.	Public expenditure in agricultural extension and marketing services.

Promote innovation through science and technology.	Widening the market for the big agrochemical TNCs.	Devaluation and loss of local producers' knowledge and skills in sustainable agriculture.	Innovation targeted to local specificity and able to treasure traditional practices and knowledge.
Developing the high-value markets (i.e. food sold through supermarkets) for domestic consumption.	Widening the market for supermarkets.	Smallholders, as the poorest people, would suffer from higher prices and loss of local markets and self-production opportunities.	Strengthening local traditional markets.
Facilitating input markets in order to assure better access to improved seed and fertilizers.	Widening the market for the big agrochemical TNCs.	Devaluation and loss of local producers' knowledge and skills in sustainable agriculture	Building local input markets, improving local resources and knowledge.
Improving the land market to facilitate agriculture consolidation processes.	Investment opportunities and land control by the richest actors.	Women further excluded from land ownership.	Guarantee the right to the land, especially to landless farmers and women
Enhance the performance of producer organization to achieve competitiveness of smallholders.	No effect.	negative effects for marginal producers and landless farmers because of their lack of social capital and land entitlement.	Producers organizations should operate according to cooperative behavior, and oriented to the preservation of local market.
Linking local economies to broader markets and shift from self-consumption and self-employment to production for the market and to wage employment.	More opportunities to exploit labour.	Loss of autonomy of poor farmers and more exposure to harsh exploitation as workers.	Combining production for self-consumption with sales on well functioning local markets.
Investing in safety nets for poorest people, preferring targeted cash transfers and in-kind food distribution.	Widening the market for packaged food (more money spent by poor people and food distribution agencies as new customers).	Less benefits for women if not explicitly targeted as beneficiaries of the intervention.	Investing in universal programs of social security. Avoiding in-kind food aid, which advantages vested interest in donor countries.

Table 3. Copying with food crisis: mainstream and alternative proposals

It is worth noticing that many of the arguments of the alternative view, are also acknowledged by the mainstream perspective. For instance, FAO, WB and OCDE have

produced many studies on issues such as women's access to land, rural poverty, environmental and soil degradation, land grabbing and so on. Recently FAO (FAO, 2009) has also reviewed its traditional claim that high food prices would represent an opportunity for the agricultural sector in developing countries to increase production and raise incomes. Noting that the steady price increases after the 2008 crisis seem not to benefit smallholders, FAO has recognized what the alternative approach has always denounced, namely that smallholders are either engaged in local markets which are not well integrated with the international market, or they suffer from the buying power of distributors, or they lack resources to invest in production increases. Notwithstanding the fact that the "official" and the alternative views to food policy sometimes share the same diagnosis, they nevertheless profoundly differ with respect to the proposed cures and, more importantly, with respect to the economic and political values and credence they rely upon.

In order to understand the acute differences between the mainstream/official and the etherodox/alternative approaches it is helpful to look at the Food sovereignty policy framework, which is one of the more advanced and radical synthesis of alternative food policy view (Windfuhr and Jonsen, 2005; Borras, 2008). Launched at the World Food summit in 1966 by Via Campesina, this program has been endorsed by many organizations and social movements in various fora and international meetings. It is summarized by the Via Campesina's 'Seven Principles to Achieve Food Sovereignty':

1. Food: A Basic Human Right –Each nation should declare that access to food is a constitutional right and guarantee the development of the primary sector to ensure the concrete realization of this fundamental right.
2. Agrarian Reform – A genuine agrarian reform is necessary which gives landless and farming people – especially women – ownership and control of the land they work and returns territories to indigenous peoples.
3. Protecting Natural Resources – Food Sovereignty entails the sustainable care and use of natural resources, especially land, water, seeds and livestock breeds. The people who work the land must have the right to practice sustainable management of natural resources and to conserve biodiversity free of restrictive intellectual property rights.
4. Reorganizing Food Trade – Food is first and foremost a source of nutrition and only secondarily an item of trade. National agricultural policies must prioritize production for domestic consumption and food self-sufficiency. Food imports must not displace local production nor depress prices.
5. Ending the Globalization of Hunger – Food Sovereignty is undermined by multilateral institutions and by speculative capital. The growing control of multinational corporations over agricultural policies has been facilitated by the economic policies of multilateral organizations such as the WTO, World Bank and the IMF. Regulation and taxation of speculative capital and a strictly enforced Code of Conduct for TNCs is therefore needed.
6. Social Peace – Everyone has the right to be free from violence. Food must not be used as a weapon.
7. Democratic control – Smallholder farmers must have direct input into formulating agricultural policies at all levels. Rural women, in particular, must be granted direct and active decision making on food and rural issues.

It is clear that accepting these principles means to substitute the capitalistic market system, which is the only system envisioned by the mainstream approach, with a mixed economic system where a good deal of resources (for which private property rights might not be allowed) are allocated through state planning and participatory decision mechanisms at local community level, pursuing the objective of social justice before that of economic efficiency. Moreover even the (capitalistic) market sector should be subject to strict regulation in order to prevent concentration and speculation and to stabilize business cycles. In other words at the core of alternative food policy proposals there is the refusal of the capitalistic system as the only viable form of social and economic organization and the presumption that the main institutions of capitalism -private property, market and corporations-, can and must be regulated and limited in their scope when the public good is at stake. Obviously, this is at loggerheads with the mainstream view which instead advocates a worldwide economy and society subservient to the capitalistic accumulation process. And this is the reason why the appeals made by FAO, OCDE, and WB for concepts and goals which partially overlap with those claimed by the alternative approaches, -such as, for instance, the right to the food and to the land, the support to smallholders, market stabilization, sustainability-   are more a matter of rhetoric than real programs and commitments. It is a matter of fact that is it not possible to defend the right to the land without genuine agrarian reforms based on redistributive and de-privatization policies, just as it is impossible to stop speculation on commodities without downsizing economic concentration and regulating financial markets. Moreover, in order to sustain local markets it is necessary to renounce to an utter trade liberalization, and to achieve sustainability one needs strict environmental regulations.

In short, since it relies uniquely and completely on the economic standard model, the orthodox food policy approach is unwilling and unable to tackle the problem of justice/equity (social, economic and intergenerational justice), which is at the core of the heterodox approach. Among the three traditional goals of economic policy,-wealth distribution, stabilization of economic cycles and correction of market failures-, neoliberalism is consistent only with the latter. Moreover, it takes as its benchmark pareto efficiency (avoiding any interpersonal wealth comparison) and only admits privatization (according to the Coase theorem) as an instrument to face problems of externalities and public goods, and a Chicagoan competition policy to face market concentration. In contrast, the heterodox approach endorses all the three goals, uses as its benchmark justice/equity and is open to a large array of instruments, consistently with its multidisciplinary attitude.

5. Obstacles to the implementation of an alternative food policy

Actually, at the moment, the counter-neoliberal food policy agenda is still a utopia. While many successful experiences of local resistance exist and social movements and heterodox scholars continue to divulgate their programs and principles worldwide[3], the neoliberal model remains unchallenged, at a political as well as at a cultural level.

Understanding the causes which prevent the counter agenda from prevailing over the old model is essential in order to make food policy move beyond neoliberalism. These causes

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[3] Among the various alternatives it is worth mentioning the Local Economy Movement (Posey, 2011; Mount, 2011) and the agro-ecological project (Horlings, Marsden, 2010).

are both of a theoretical and political nature. Political causes, such as the existence of consolidated centers of political and economic power backing neoliberal policies, have been more or less well investigated by supporters of anti-neoliberalism; nevertheless there is still a lack of suggestions for possible concrete counterbalancing strategies. Theoretical causes have instead received much less attention and this is maybe one of the reasons why the old paradigm is so hard to defeat. In the following part of the paper an effort is made to show the theoretical flaws of the alternative food policy program, first at a general level and then with respect to the two particular issues of food as human right and private food governance.

5.1 General theoretical obstacles to a counter-neoliberal agenda

At a general level, the causes of the weakness of the heterodox approach are to be sought in the flaws present in the strands of economic theory which have challenged the standard model so far. Setting aside Marxism, which has developed autonomously, in the seventies, stemming from the criticism of some unrealistic assumptions underlying the neoclassical paradigm – such as informative problems, bounded rationality, non trivial transaction costs, long term and relational contracts, strategic behaviors, path-dependent processes-, many alternative economic theories began to flourish. Over the last forty years many new theoretical approaches have enriched the economic science, among which, to mention just a few: neoinstitutionalism, behavioral economics, bioeconomics, neuroeconomics, evolutionary economics, transaction cost economics, institutionalism, economic sociology, feminist economics, caring economics. All these fields of research are still evolving and there are no unambiguous classifications. However it is generally acknowledged that the neoinstitutional school is the most conservative while institutionalism encompasses nearly all the criticism made of the standard model. In fact institutionalism aims to overcome the rational choice model and the methodological individualism, claiming that in order to understand the complex socio-economic system one should focus on conflicts and power, path-dependency, bounded rationality, historical and cultural dimensions, evolutionary processes, strategic behaviors and network effects. In figure 1, different theoretical approaches (including Marxism and the two approaches in the field of law and politics which have "internalized" the standard economic model, namely the public choice theory and the field of law and economics) are positioned with respect to their consistency with the two opposite neoclassical and institutional frameworks. This figure serves to highlight the main point which is sustained in this paper, that is that the failures of alternative approaches to defeat the hegemony of the standard model - and therefore of neoliberal ideology and policies - depend upon the fact that they have not yet achieved the construction of a new and theoretically consistent, politically acceptable operational model of society (and economy) able to overcome the two key mystifications of the mainstream theory.

The two key mystifications of the standard model refer to its tenet that a market economic system can allocate resources 1) without relying on moral values (i.e. ethics does not matter) and 2) without relying on relations of subordination (i.e. power and politics do not matter). A corollary of the second mystification is that a market system can allocate resources in a perfectly decentralized way, without planning and leaders, through an acephalous network of individuals. As a consequence, following the liberal/libertarian tradition à la Nozick, any form of state intervention in the economy is deemed to be useless.
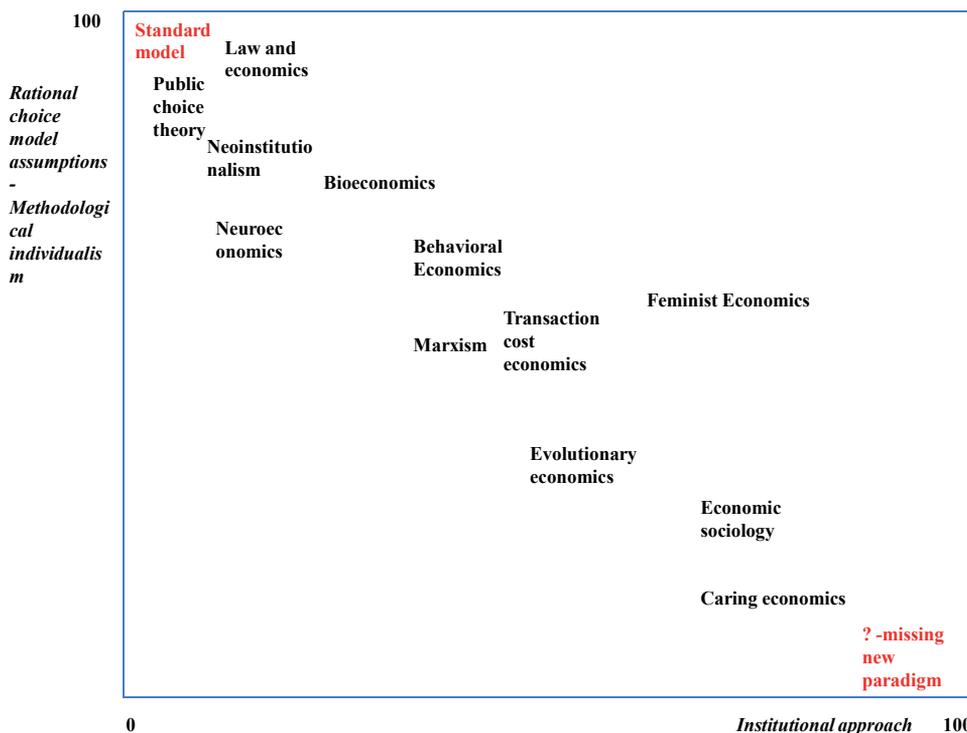
Fig. 1. Alternative economic theories

The first mystification depends on the fact that when claiming that the economic sphere should be independent from value judgments, many defenders of neoliberalism seem to forget that the standard model is completely imbued with ethics; in fact, in order to retain its theoretical consistency, it must subscribe a well defined ethical theory, that is the utilitarianism.

The second mystification is more subtle. Two arguments clearly demonstrate it.

The first argument is taken from the social theory of Coleman (Coleman, 1990) and refers to the legitimization of property rights through power relations. By completely relying on the rational choice theory Coleman, like the economic neoclassical model, assumes exchange and property rights to be the two institutions which are sufficient to have an "ordered" society (as well as an ordered economy)[4].

Nevertheless, unlike neoclassical economics, which does not question where is the source of property right (it is considered a natural right), Coleman locates the source of property rights in power. When explaining the origin of rights, Coleman says that a right is held by an actor "at the pleasure of the relevant others", where the relevant others are those with the

[4] In the Coleman's construction actors are conceived as rational utility maximizing individuals, and resources are conceived as rights. Taking for granted the existence of a legal system of property rights, Coleman notes that when exchanging a resource what really is exchanged are the rights to exercise a certain degree of control over the resource.

power to enforce the right. Coleman explicitly states that "this is a less than fully satisfactory definition because it does not give criteria for determining where the power lies in a specific case. Nevertheless it does locate the source of right in power, where the power itself may be constrained by the prior existence of other rights" (Coleman, p.58)[5].

The second argument which uncovers the second mystification is based on the evidence that neoclassical theory implicitly relies on a specific political theory, that is contractarianism, which is an extreme form of contractualism. As it is evident in the latest version of neoclassical paradigm, that is neoinstitutionalism, contract is a conceptual artifact that allows to "clean" the economic discourse with regards to the very uncomfortable themes of power and violence. When an economic exchange occurs within a contract voluntarily entered into by counterparties with equal civil and political rights, then any concern about justice and fairness is ruled out and one can concentrate exclusively on the efficiency issue. Instead, as stressed by Pateman, contractarianism not only gives little help in dealing with some basic problems of democracy, but leads to libertarianism, "a political theory that goes hand-in-hand with neo-liberal economic doctrines and global policies of structural adjustment and privatization" (Pateman, 2002). One of the central arguments of Pateman's critique to contractarianism can be synthesized as follows. The starting point is that a real democracy is inconsistent with relations of subordination among citizens. A relation of subordination occurs anytime a person gives another person the right to dispose of her/him. In a relation of subordination the one in power (the master) can command the subordinate to supply services whose outcomes are appropriated by the master. The very example of such a relation is the wage labor contract that is at the core of the capitalist system. Like contratarianism Pateman sees the autonomy of the individual (that is the liberty of choosing "what to do" with her/his person; or put in contractarian terms one can argue that in liberalism the most plausible set of rights is rights of self-ownership) as the basic moral rights on which democratic states must rely. But unlike contractarianism Pateman claims that some kind of contracts that take the form of civil subordination (like the wage labor contract) are inconsistent with the basic moral right of autonomy. To make this point clear Pateman suggests changing the term "self-ownership", generally used in the contractarian theory, for the term "property in the person". When this second term is assumed, it is clear that to say that a person sells, giving others the right to dispose of, some part of her/his person, it is to state an absurdity because the person cannot be divided (the part who sells and the part that is sold)[6]. The term self-ownership obscures this incongruence and legitimizes the "finction of property in the person" on which the contractarian theory is built. In other words, when it is made clear that relations of subordination deny people the enjoyment of their basic right of autonomy, it is also clear that these relations are inconsistent with a true democracy. One consequence of Pateman's

[5] It is almost paradoxical that an author like Coleman, who has contributed to make the theory of rational choice the dominant paradigm in social sciences, has in fact helped to highlight one of its the biggest weaknesses, namely the contradiction with the declared libertarian stances and the role of power for the consistency of the entire theoretical edifice.

[6] "The idea of property in the person is a political fiction precisely because in practice "agency", "services" or "labor power"-property in the person- are inseparable from the body. But the fiction that what is available as a commodity for sale or rent in the market is merely a piece of property, just like any other, is necessary if such contracts are to be said to constitute free relations." (Pateman, 2007, 210)

arguments is that as long as wage labor contract is at the core of capitalism - this is clearly stated by Pateman and the same idea is stressed by Ellerman (1992) and Screpanti (2001) - a capitalist system is inconsistent with democracy. Therefore, the western model of capitalist liberal economy is an example of "allocation through power" and not through decentralized processes of "free choices" made by "free" economic actors. Moreover, it is clear that when subscribing contractarianism economists end up with reducing their scope of analysis to those problems of resource allocation for which private property rights can be defined, they thus exclude from their analysis all resources for which this is not possible[7].

Finally, it is worth noticing that utilitarianism and contractarianism are both consistent with methodological individualism, which is the hallmark of the standard model, as well its main limit.

The two analyzed mystifications of the standard model, together with its theoretical elegance, are at the base of its success and of the spreading of the neoliberal ideology. In fact a system which is deemed not to be based on any ethical and political stance finds much less criticism and opposition than one recognizably based on specific values and power relations.

As a consequence of the various arguments given so far, it is now possible to state that an effective alternative proposal to neoliberalism should be able to accomplish the following tasks: 1) to denounce the central mystification of the mainstream economic theory, by demonstrating (as has been just done) that actually neoliberalism is instead imbued with specific ethical and political credos; 2) to demonstrate that the neoliberal ethical and political stances (based on utilitarianism and contractarianism) prevent the system from achieving the goals of general well-being; 3) to offer an alternative "credible" (i.e. internally consistent and culturally acceptable) theory able to support (in the sense of furnishing models and frameworks, even weak and flexible models, which help to clarify the rationales and illustrate the possible effects of diverse policies) effective policy interventions. An assessment of the current economic (and social and political) theories alternative to the standard model (and to the rational choice model) with respect to the accomplishment of these tasks is beyond the scope of this paper; nevertheless some rough judgments may be advanced. As drawn in figure 1, only a few alternative approaches have reached a considerable distance from the rational choice model. Let us scrutinize the case of economic sociology. A core element of economic sociology is the acknowledgement of the embeddedness of economic facts in the wider social and institutional environment. As recalled by Smelser and Swedberg (2005, p.7) in their masterly introduction to this field of

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[7] The consequences of economists (and economic policies) subscribing contractarianism (or libertarianism, in Pateman's words) are egregiously underlined by Pateman (2007, 212): "Taking contract seriously as a way of ordering social life –contracts all the way down, or social life as an endless series of discrete "origins"- throw light onto trends that have gained pace rapidly since I wrote *The sexual contract*. The doctrine that all parts of social life and individuals can and should be seen as private property and thus as open to commodification in the market now has global reach. Prevailing domestic and international policy proclaims that everything should be alienable for private profit, from individual "agency" to health care, water supplies, and transport; from animals, seeds, and plant life to genetic materials. All relations should be seen through the lens of contract and private property, so teachers make contracts with pupils, social workers with clients, and governments treat their citizens as consumers of public services rather than citizens who share in decision about, and have a right to, those service."

research, "a major thread in the tradition of economic sociology is that investigation must combine the analysis of economic interests with an analysis of social relations". This thread connects the authors of the classical tradition (Marx, Weber, Durkheim, Simmel) with the renovators (Mauss, Schumpeter, Polanyi, Parsons) and the current field of "new economic sociology", initiated by Granovetter in the mid-1980s. Granovetter gives a very general definition of embeddedness, which states that "economic actions are embedded in concrete, ongoing systems of social relations" (Granovetter, 1985, 487). As shown in the figure 1, economic sociology, due to its premises and methods, partially overlaps with institutionalism and in fact the boundaries between the two approaches are very blurred. None of the two anyway has been able so far to build a consistent alternative paradigm to oppose to mainstream economics. They both have rightly shifted the focus onto the study of institutions and society, but have not offered a consistent theory of these two elements able to overcome the many limits of the rational choice model and methodological individualism. Putting it bluntly, it does not make sense to say that economy is embedded in society if one does not have a clear definition of what society is. In the same way, it is a rhetoric exercise to say that one has to build institutions which serve the general interest while safeguarding individuals' autonomy without having a clear understanding of how structure (institutions) relates to agents. Sociology is still far from resolving these two puzzling problems (i.e the definition of society and the structure/agency relationship), as witnessed by Latour and Archer. Latour, recognizing the inconsistency of previous definitions, seeks to redefine the object of sociological research without "limiting in advance the sort of beings populating the social world" (Latour, 2005, p.16) and conceiving the study of society as the observation of minute associations within a collective. Latour questions the confusion, made by critical sociologists like Durkheim, consisting in replacing the understanding of the social link (which is specifically what Latour maintains should be the scope of sociology) with a political project aimed at social engineering, based on the presumption that society is a special domain of reality[8]. The problem of structure and agency - i.e. the question of how the objective features of society influence human agents and viceversa[9] - has been faced by Archer throughout her work. Stemming from her previous work on culture and agency (1988) Archer has developed a research program aimed at overcoming the shortcomings of both methodological individualism and collectivism responsible for what she calls the two fallacies of social theorizing, namely 'upwards conflation' and downwards conflation'. In her 1995 book Archer builds a realist social theory (the Morphogenetic Approach) based on a realist ontology of the social world. In her successive works (2000, 2003) she specifically addresses the problem of human agency and completes her realist program by

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[8] Latour is extremely critical of critical sociology, which pretends to explain new social objects (institutions) without investigating on the various elements which form social ties. "Whatever its claims to science and objectivity, critical sociology cannot be sociology – in the new sense that I propose – since it has no way to retool itself to follow through on the non-social elements. When faced with new situations and new objects, they risks simply repeating that they are woven out of the same tiny repertoire of already recognized forces: power, domination, exploitation, legitimization, fetishization, reification…..The problem of critical sociology is that it can never fail to be right." (Latour, 2005, p. 249).

[9] "The 'problem of structure and agency' is now familiar phrase used to denote central dilemmas in social theory- especially the rival claims of voluntarism versus determinism, subjectivism versus objectivism, and the micro-versus-macro-scopic in sociology. These issues are central for the simple reason that it is impossible to do sociology at all without dealing with them and coming to decision about them. " (Archer, 1995, p. 65).

reclaiming a notion of humanity and of human subjects endowed with powers of reflexivity. Human power of reflexive deliberation is what gives humans degrees of freedom in determining their own courses of action (Archer, 2003, pp.7-9); personal reflexivity may have real causal powers over structure, it is the missing link in mediation between structure and agency. Even if Archer does not even quote Castroriadis, somehow she addresses the very same "enigma" investigated by this author throughout his professional life, i.e. the possibility of an autonomous society made of free autonomous individuals, instead (and this is the Marxian legacy of Castroriadis intellectual journey) of the heteronomous capitalist (and now neoliberal) society whose members attribute their "ordering imaginaries" to the extra-social authority of self-interest and profit.

5.2 The case of food as human right and private food governance

As discussed in previous sections, the concept of food as human right is the milestone of any food policies alternative to the neoliberal project. In article 25 of the Universal Declaration of Human Rights, the human right to adequate food is explicitly recognized as part of the broader human right to an adequate standard of living, with this latter included among economic, social and cultural rights in addition to political and civil rights. Despite the frequent references to the principle of food as human right in the official literature of international organizations, it has never become a normative guide to food security policy (Rae, 2008; Sodano, 2009). For instance, in the US during the last 30 years various groups of scientists and exponents of civil society have proposed making the human right to food the moral and legal cornerstone of US domestic and international initiative in the area of food security, without any success. The U.S. government has consistently opposed formal right-to-food legislation as overly burdensome and inconsistent with constitutional law (Messer, Cohen, 2007). More in general, The U.S. government has repeatedly asserted that economic, social and cultural rights are not part of American legal and political culture, whose liberal ideals would conflict with the agenda requested for the upholding of positive rights.

This is a narrow interpretation of liberal ideals, which hinges upon the unwillingness to question in any way the utilitarian ethics as a normative base for economic policy. It clearly demonstrates the ideological force of neoliberalism, which indeed is a form of ultraliberalism very close to anarcho-capitalism. In fact, it is worth noticing that even in the western liberal tradition, some scholars have argued that the state mandate may be extended to the upholding of positive, besides negative, obligations. This is the case, for instance, of the Human Development Capability Approach (HDCA). HDCA complements the international human right framework by providing normative support for positive obligation and duties (Vizard, 2006), thanks to a definition of liberty that entails a concept of freedom as the range of valuable things that a person can do and be (Nussbaum, 2000). This definition, relying upon ethical principles consistent with Kant's categorical imperatives, goes a far much beyond the definition of liberty given by the classical utilitarianism of classical liberal theories. HDCA stresses that if personal freedom and security are part of the policy aims and if economic (income) and political (freedom) aspects of a person's well-being are seen as necessary for assuring basic human capabilities, then state direct intervention for upholding human rights must be accepted. From the consequentialist perspective of utilitarianism what counts is the outcome of the action taken, not the intent of the action. On the contrary, HDCA endorses a deontological ethics, from a Kant's idealistic

perspective, which insists that intent counts and that policy choices must respect the imperative of "doing the right thing". Embracing an ethical perspective alternative to utilitarianism not only helps to justify the state mandate to uphold positive obligations, it also helps to deal with typical policy choice dilemmas (Pinstrup-Andersen, 2005). When trade-offs exist between different policy options and redistributive problems are at stake (for example: should the well being of poorest children be improved, even when this would lower the total social welfare?) utilitarianism is not useful. This latter point is very important because in the case of food policy many policy actions tend to produce controversial effects; therefore clinging on to utilitarianism greatly narrows the scope of public intervention.

Where the fiction of value-free economic policy (the first mystification) hampers the guarantee of social human rights, the fiction of a market economy as an efficient power-free form of economic organization (the second mystification) hampers the regulatory state capacity and puts equity and democracy in the food system at risk. As highlighted in table 1, food policy neoliberalization has entailed the shift from direct state regulation to private governance (i.e. privatization, self-regulation, CSR), on the grounds that market (which is deemed to coincide with the private sector) is always better than planning (deemed to coincide with the state). That this is actually not the case has been largely clarified by a good deal of literature produced on the issues of private governance and the erosion of state authority due to neoliberal globalization. This literature has demonstrated that waiving of state planning and authority (Strange, 1997) has not entailed a more decentralized and free socio-economic organization but rather an authoritative undemocratic system led by the private planning of TNCs (Hall, Bierstker, 2002), a sort of private international regime (Cutler, 2002). With respect to the food sector, the emergence of private governance has been described through the analysis of the retail revolution and the emergence of third-party certification (Sodano, 2007; Sodano et al., 2008; Clapp, Fuchs, 2009; Van der Meulen, 2011; Fuchs et al. 2011). Conceptualizing the governance of the agrifood system as a field of power struggles between various global and local actors, Fuchs and Kalfagianni (2010) explain the rise of retail private governance on the grounds of structural and ideational power. Structural power refers to the control of material resources (mainly financial means), while ideational sources of power are located in the actor's ability to influence the framing of political issues and to constrain behaviors and actions, drawing on the symbolic meaning of social practices and institutions (Fuchs, Glabb, 2011). Ideational sources of power are particularly important for the legitimisation of private power, which makes retail governance much less likely to be challenged on the basis of concerns over democracy. Assessing consequences of private food regulation, Fuchs and Kalfagianni (2010) conclude that the rise of food retail governance may "have serious consequences for two fundamental attributes of global food governance, namely environmental sustainability and food security…,with the vulnerable and marginalized rural population being the most severely affected groups".

As regards the case of right to food and private governance, both theoretical literature and actions carried out by social movements indicate that many steps forwards in the construction of a counter neoliberal agenda have been already undertaken. Concrete interventions have been suggested and prompted by political protests, such as: agrarian reforms for redistributing land to women and landless rural people; a WTO moratoria for allowing states to pursue independent agricultural policies; a more effective antitrust enforcement for limiting corporate power; public agricultural investments targeted towards

smallholders; and so on. At least the two tasks of denouncing the mystification of economic theory underlying neoliberal policies and their ineffectiveness in reaching the common well being have been accomplished. Nevertheless, further efforts are needed in order to accomplish the third task, which is to offer a new theoretical paradigm to oppose the rational choice model. It is extremely difficult to outline even just the general features of such a new paradigm. What it is possible to do, instead, is to mention some insights from different theoretical approaches useful for addressing three relevant issues left open by the standard model, namely: 1) how to ethically justify economic (and food) policy; 2) how to solve problems of collective action for the allocation of common pool resources; 3) how to represent a complex system such as the food (and more generally the economic system) system made from the interaction of different human, natural, institutional and technological entities.

In order to address the first two issues, related to moral and collective action problems, it is worth starting by observing that the basic element to go beyond neoliberal food policy is to consider food for community instead of food as commodity, a concept which entails the management of public common pool resources. For these kinds of resources, four kinds of property rights, (setting aside the right of alienation that would entail private property) access, withdrawal, management and exclusion (Olstrom, 2003), must be defined and enforced through collective choice and participatory decision processes aimed at equity besides efficiency. The selfish agents of the rational choice model and the exchange paradigm are incompatible with cooperative collective actions. The feminist scholar Vaughan (1997) has contrasted the exchange paradigm with the gift-paradigm, which emphasizes the importance of giving to satisfy needs. Because the gift-paradigm is need-oriented rather than profit-oriented, it precludes the possibility of opportunistic behaviors and free-riding and solves the dilemmas of the classical theory of collective action (Olson, 1971). This paradigm is not utopia because gift-giving is already practiced, but is invisible because goods and services made available for the members of society through it are not accounted for in economic statistics. Mothering, caring, volunteering are all ways of providing goods and services without relying on market exchanges. Similar to the Vaughan concept of giftgiving is the idea of caring economics launched by Eisler (2007). Eislers's starting point is that "we need a new economics", i.e. an economic theory able to help building economic structures that meet human needs. So far neither capitalism nor socialism have proven to accomplish such a task. Eisler notices that the failure of both these economic systems (and their supporting economic theories) is explained by the fact that both have inherited and taken for granted the domination system of patriarchal culture, which may be reassumed into the following typical 'Dominator' economic assumptions: - the main motivations for work are fear of pain and scarcity; - people cannot be trusted; - soft qualities and activities are inappropriate for social and economic governance;- caring and caregiving are impediments to productivity, or at best irrelevant to economics.; - selfishness will lead to the greater good of all. Caring economics calls for a redefinition of economic indicators and measures of welfare in a way so as to take into account not only the wealth produced in the market economy (as it is currently done) but also the wealth produced in the other sectors of the economic system, i.e.: unpaid community economy; household economy; natural economy; government economy; illegal economy (which diminishes welfare).   The fundamental change to move towards a caring economics is to substitute the current social and economic relationships based on domination (which is the core trait of patriarchy and

capitalism, but also of "real" socialist regimes) with relationships based on partnership and cooperative behavior[10]. The giftgiving paradigm and caring economics help to found a new ethics for economic policy, based on the fulfillment of human needs (which is different from personal utility) through cooperative other-regarding behavior. This ethics is grounded in a notion of human subjects who, rejecting both the notions of 'modernity's man and society's being (which in Archer's terminology are the kind of agents featured respectively by the individualistic and constructionist approach of social science), possess the human capacity to transcend instrumental rationality and to have 'ultimate concerns', thanks to the distinctive human power, reflexive deliberation. Reflexive deliberation, i.e. the ability to continuously examine themselves and engage in critical reflection, is what makes individuals autonomous[11]. It is the basis for an autonomous society, where processes of participatory democracy can achieve order without relying on force and power, a "self-instituting" society, in Castroriadis' language, which interprets the ideals of libertarian socialism.

Finally, with regards the third issue let open by the standard model, at the present there are not meaningful suggestions. Interesting insights may come from the ANT program. Whereas an ethics based on the concept of reflexive deliberation helps to integrate moral arguments in policy decision processes and to solve collective choice problems, the analytical/descriptive power of approaches such as ANT, network theory and complex system theory, helps to understand patterns and property of the food system, which is the main field/object where food policies are deployed. In fact, once the τέλος of policy has been defined with respect to particular ethical concerns, still remains the problem of choosing effective, besides morally acceptable, tools and strategies of intervention. It is a matter of fact that the food system is a complex system, where the intertwining of natural objects, human beings and technological and institutional artifacts affect the system's properties and performances. Understanding this complex system, its degree of adaptivity, self organization and autonomy, is a conditio sine qua non for designing effective food policies.

6. Conclusion

Neoliberalism has produced an unsustainable food system, which might prove inadequate to nourish future generations. Notwithstanding the steady food price increases, natural resources deterioration, loss of resilience of agricultural systems and climate change disturbances, international bodies and national governments continue to propose neoliberal

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[10] Eisler indicates seven steps to move towards a caring economics 1-Recognize how the cultural devaluation of caring and caregiving has negatively affected economic theories, policies, and practices. 2-Support the shift from dominator to partnership cultural values and economic and social structures. 3-Change economic indicators to give value to caring and caregiving. 4 Create economic inventions that support and reward caring and caregiving. 5 Expand the economic vocabulary to include caring, teach caring economics in business and economic schools, and conduct gender-specific economic research. 6-Educate children and adults about the importance of caring and caregiving. 7- Show government and business leaders the benefits of policies that support caring and caregiving, and work for their adoption.
[11] The nexus between reflexivity, autonomy and moral authority is investigated by Bagnoli (2007) in her research on moral objectivity and Kantian intellectual legacy.

policies. Privatization and deregulation are passed off as bulwarks of liberty and efficiency, while they are consigning the system to corporate power and transnational financial elites. All this is made possible not only through the power of organizations with vested interests, but also through the adamant trust of the majority of academics and bureaucrats in the mainstream economics. The paper has explored the way ahead to go beyond neoliberal food policy. The main conclusion is that a viable alternative needs to recognize food as a human right, which implies a shift from the idea of food as commodity to the idea of food for community. It has been demonstrated as well that this shift requires we abandon the particular ethical and political theories underlying the standard economic model, utilitarianism and contractarianism, and look for new theories grounded on the notions of deliberative reflexivity and participatory democracy. Moreover, to design effective alternative policies it is indispensable to foster research in system and network modeling, in order to take into account the complexity and volatility of the system. Research efforts in these fields, together with the political struggles of social movements, are the true challenges for a counter-neoliberal "reloading" of the global food system.

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History and Sociology:
What is Historical Sociology?

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1. Introduction

The relationship between sociology and history is complex and far from harmonious; it has aspects that make it particularly difficult, leading to theoretical and methodological uncertainty while creating a number of "friction" topics. While some authors consider historical sociology an established field, and other consider it difficult to distinguish between history and sociology, communication between historical and sociological disciplines is notably limited. One indication of this is the paucity of university departments devoted to the subject. Despite certain expectations of the conjunction of these two disciplines, communication between their respective practitioners is frequently loaded with mutual ignorance, prejudices, bias, and even opinion-extremes. From the outset we should say that, intending to deal with the complicated relationship between sociology and history, we do so in the knowledge that our approach must necessarily be - given the thematic breadth of the problem - selective, and, moreover, limited by coming from the sociological perspective. It is very likely that if a paper on the same topic were written by a historian, other issues would be emphasised. Opinions on specific issues would no doubt diverge, and accents be placed on different themes.

2. Dialogue of the deaf?

In the early history of sociology many founders of the field sought out the key subject of its research. However, for subsequent generations of sociologists such questioning has gradually lost its importance and urgency. But the matter did not disappear definitively; on the contrary, in some contemporary debates it has returned to the professional scene. Evidence of this is the controversy concerning the relationship between sociology and history.

In the book *Central Problems in Social Theory* the author Anthony Giddens [1979: 230] argued that there are no logical nor methodological reasons for distinguishing between the social sciences and history. This claim was shortly thereafter bolstered by the influential representative of the British historical sociology, Philip Abrams [1982: 2], who formulated the argument that the history and sociology are and always have been one and the same thing. Giddens himself then again tried to argue this position in perhaps his most important theoretical work, *The Constitution of Society* (1984 [1988]), in which he states that there is

nothing that would prove the difference between the historical and social sciences sufficiently and rationally. Historical research is social science research, and vice versa [Giddens 1988: 416]. If there is a boundary then it is established simply by division of labour on a common subject, rather than any logical or methodological schism.

Whether Giddens claim is accepted or not, the fact remains that sociologists and historians do not speak the same language. Peter Burke [1989: 10] in this connection recalls the statement of Fernand Braudel about a "dialogue of the deaf". In Burke's view [ibid.: 11], the problem requires seeing not only two different professions, but structures with different languages, values and styles of thinking, shaped by differences in education and training: for sociologists, numbers, for historians, words; sociologists recognising rules and ignoring variations, historians stressing the individual and specific.

Peter Burke [1989: 9-10] believes that both disciplines are threatened by a dangerous narrowing of perspective. Historians specializing in a particular problem tend to perceive it as something unique, preventing them from seeing it as a combination of elements with parallels in other places. Sociologists contrariwise have a tendency to generalize everything through the eyes of contemporary experience and to ignore the perspective of long-term historical processes and social changes. The relationship between the two professions is also marked by a number of myths and stereotypes: sociologists have been perceived by historians as people whose abstract jargon lacks sensitivity to particular places and times while historians have had the image of quixotic collectors unable to analyse their knowledge with sophistication and precision.

While many social scientists today believe that the boundaries separating sociology and history should be overcome, there are those who very strongly kick against it. One of them is John H. Goldthorpe, who in 1991 published an essay on this subject which provoked a very strong reaction. It is pertinent to note that Goldthorpe had studied history in the 1950s at University College London. He compares the research approaches of both sociology and history and claims that they differ not only in orientation, either towards the past or to the present, but because historians emphasize their findings as time-space localised whereas sociologists believe their understanding transcends space-time coordinates. Goldthorpe levels his ire in particular at colleagues who airily entered into writing what he scornfully calls "grand historical sociology" – sociological conceptions of history.

Goldthorpe [1991: 212] begins by recalling the time when, as a student of history, he adopted a methodological standard - something like a "catechism" of methods, starting with the question: *What is an historical fact (?),* and continued with the answer: *An historical fact is an inference from the relics* (historical fact is what is inferred from what remains - "relics"). The author reasserts the thesis that the past can be identified only by the form in which it physically survived. Such remains may vary, being natural objects (bones), artefacts (tools, weapons, buildings, works of art) or- as is usual- written documents ("objectivised communication").

On the issue of "relics" Goldthorpe notes that their number (if concerning a specific time) is finite and incomplete (their number may decrease due to destruction, but it cannot grow). What historians press for, is to discover new, undiscovered remains and add them to those that are already known, to serve as a reservoir of evidence for the formulation of statements. In comparison, sociology has, the author claims, one substantial privilege, namely that it is

not entirely dependent on "relics" but can produce data itself and thereby generate its evidence. Field research produces materials that previously did not exist. Therefore sociology with respect to history is in a substantially better position, but loses the delicacy and care in dealing with sources which characterises the work of historians. According to Goldthorpe this is markedly evident only in works which are developed in the field of historical sociology; the author [ibid.: 222-223] has in mind especially two key exponents of this discipline, Barrington Moore and Theda Skocpol.

Goldthorpe finds a serious methodological problem in works that attempt to generalize the sociological perspective on historical processes. He points out that for historical sociologists analysis of secondary sources becomes the source of their findings rather than exploration of original sources ("relics"); historical sociologists draw their information from the literature written by historians. This leads to situations where, alongside data taken from historians, sociologists unreflectively adopt their interpretation. Goldthorpe does not consider sociologists' handling of sources – acquired by historians with great effort and even more cautiously interpreted - as sufficiently reliable and scientific. The author points to the great reliance of sociologists on extensive yet necessarily selective reference to historical literature to support sociological concepts and theories. He believes that sociologists should deal with the past only where necessary with regard to the nature of the investigated fact, and that in this case they would then have to work with the original sources as historians. Goldthorp concludes by labelling history and sociology as two *significantly different intellectual enterprises* [ibid.: 225]. The author does not believe that sociologists can create a great theory of a "transhistorical" type. Any suggestion that sociology and history may be considered "one" the author considers as wrong and dangerously misleading and he recommends that sociologists refrain from engaging in exploration in the field of history.

Goldthorp's essay provoked a number of polemical reactions, some of which were given space in the British Journal of Sociology in 1994. Michael Mann [1994: 37] disagreed with Goldthorp's thesis that sociology should deal only with contemporary societies; to Mann sociology is the science of societies overall, regardless of the duration of their existence. Joseph M. Bryant [1994: 13-14] rejects the conception that historical sociology should be considered as a kind of secondary structure lacking sufficient empirical basis. He points out that the work of historians and sociologists has two components; the first is "reportage" *(reporting)*, the second "interpretation". Reportage refers to the data and information that is available; interpretation tries to find meaning and significance in these data. Relevance and value relate not to the data only, but to the internal consistency and cogency of their interpretation. Nicos Mouzelis [1994: 35] adds that all historians who have created great synthetic works have worked basically with the same secondary material used by historical sociologists, and are thus exposed to the same methodological problems.

A few years later, Gertraude Mikl-Horke [1999a] took up the debate. The Austrian considers Goldthorpe's requirement that sociology abandon engaging in history to be over-wrought. She says that he overlooks the fact that every social reality has an historical nature and all sociological data will finally become part of history. Mikl-Horke [ibid.: 11] mentions that in empirical research historical and social science methods are closer and Goldthorpe does not take this into account; methods of hermeneutics and criticism of sources, mathematical analysis and statistical methods are just as much methods of sociology as history. The author, with reference to J. G. Droysen, notes that historical research is based

not only on "relics", i.e. existing available traces, artefacts and documents, but also on "traditions". Goldthorpe thus ignores cultural history such as the history of mentalities, ways of thinking, everydayness and collective memory. Part of the past is part of the present and touches the current - either in its orientation, or (in institutions and structures) as a conditioning framework. Inspired by previous discussions Mikl-Horke [ibid.: 22] attempted to define certain conditions which historical sociology should respect in its observations. These include: understanding theory as means and not ends; respectful but not uncritical treatment of historical scientific findings; if possible, working with sources; interpretive caution regarding general, structural factors; and understanding the present as something that is historically based.

Even in the early 1980s Philip Abrams [1982: 300] optimistically claimed that during the previous two decades works had been published of such theoretical self-confidence that the idea that sociology had to be theoretical and history descriptive was clearly an anachronism; the deeper the theoretical dimension of historical science became, the more obvious it was that the assumption of professional historians, excluding theory from their field, was unjustifiable. However, although in recent years some rapprochement has occurred between history and sociology, mainly thanks to historical sociology, it is not possible to overlook the fact that communication and cooperation between the two disciplines is still very complicated and not deepening much. Sociologists have their own views about history, and historians make their way with some basic sociological concepts. The significance of Goldthorp's paper [1991] lies in the discussion that it provoked, bringing the relationship between the two disciplines to the fore. While not denying that the approach to history found among historical sociologists differs in many respects from that of historians, it may not be inferred that sociology should be a theoretical discipline while the task of history is to focus on the gathering of facts and their description.

Though Goldthorp's effort to enforce a sharp dividing line between history and sociology is very problematic, his critique of historical sociology was justified to some extent. Among other things, the lesson can be drawn that sociology cannot address history only with its own perspectives and ignore in so doing the methodological procedures and conventions characteristic of the historical science. It would be a mistake for historical sociologists to be uninterested in methodological discussions on the interpretation of historical sources, using historical literature only as a "stone-quarry" for raw materials from which to create far-reaching constructions. Besides, it must be remembered that even today historical sociology is exposed to the "temptation" to create concepts that could be dangerously close to what Karl R. Popper [2000] once disparagingly described as historicism (the assumption that historical development has a given, binding character due to the nature of discernible universal laws of history by which the future may be anticipated). It is obvious that approaching history requires theory; therefore the question is not "theory - yes or no", but the adequacy of such theories.

3. Concerning distancing and approximation

To fully understand the origin of today's opinions on the question of the relationship between sociology and history, we must recall the history of this complex problem. As the format of the professional essay does not permit deeper exploration of the topic we shall confine ourselves to outlining developments in broad strokes.

Support for this can be found especially in the work of Peter Burke [1989: 12-34], who delves back to the 18th century to recall the time in which social theorists such as Charles-Louis Montesquieu (1689-1755), Adam Ferguson (1723-1816) and John Millar (1753-1801) made important contributions both to the field of history and the history of pre-sociological thinking. At that time it was not problematic for political history, social history and pre-sociological thinking to coexist and intertwine, as is illustrated by the works of British historian Edward Gibbon (1737-1794) and French historian Jules Michelet (1798-1874).

However, there have been distinct divisions since the mid-19th century when the approach advocated by the German historian Leopold von Ranke (1795-1886) began to dominate. In his view historical science should be based on the systematic and critical research of sources whose aim was to show the past as it "actually was" (*zu zeigen, wie es eigentlich gewesen*) [Wiersing 2007: 369]. Ranke's historiography is consequently oriented towards political history, which could be studied on the basis of official documents. This tendency was additionally supported by the professionalization of history, as the first scientific institutes and periodicals arose. Meanwhile governments financially supported the writing of history that could serve as a tool of propaganda and state education of citizens. In this situation the works of social and cultural historians began to be viewed as disorganized, insufficiently scientific and incompatible with new professional standards.

Amongst others, this was the fate of Jacob Christoph Burckhardt (1818-1897), whose work *The Civilization of the Renaissance in Italy* (1860) did not meet with success at the time of its creation and has been recognized only subsequently as a large and significant work. A certain exception occurred in France with the historian (and teacher of Émile Durkheim) Numa Denis Fustel de Coulanges (1830-1889), whose book about the ancient village *La Cité antique* (1864) won respect even though it combined historical and sociological perspectives. By contrast in Germany the historian Karl Lamprecht ran into harsh criticism and misunderstanding (1856-1915), when, against the prevailing individualism and the belief that great men make history (Heinrich von Treitschke), he attempted to construct a social, economic and cultural history [Wiersing 2007: 474 - 477].

Since the 19th century, many historians have recoiled from sociology because it seems too abstract, simplifying and unable to catch the uniqueness of particular events. On the theoretical and methodological level this problem was taken up by German philosophers Wilhelm Dilthey (1833-1911), Wilhelm Windelband (1848-1915) and others [Käsler 1978: 142-162]. Dilthey emphasised the difference between the natural sciences, which strive to explain (*erklären*) "from outside" and humanistic sciences (*Geisteswissenschaften*), whose objective is "internal" understanding (*verstehen*).

Windelband described natural sciences as "nomothetic", aimed at the discovery of general laws, and the humanities as "idiographic", tasked with describing single, unique events. Many sociologists have used this boundary between idiographic and nomothetic sciences to explain the difference between history, whose thinking is oriented particularly and descriptively, and sociology, whose task is to obtain generalizations. For history, sociology thus becomes a pseudoscience using methods suitable for enquiry into nature rather than human history.

At the end of the 19th century this sifting of ideas was spurred on by the controversies in economics known as *Methodenstreit* (a dispute over methods) between the Austrian School

(Carl Menger) and the German historical school (Wilhelm Roscher, Gustav Schmoller, but also for instance Max Weber and Werner Sombart). This dispute took place on three levels and concerned the use of deductive and inductive methods, exact and empirical laws, methodological individualism and collectivism [Loužek 2001].

Sociology in the 19th and in the beginning of 20th century was interested not only in the present but in the past. The historical dimension was reflected in this era by Auguste Comte, Herbert Spencer, Karl Marx, Émile Durkheim, Max Weber, Georg Simmel, Vilfredo Pareto and others, being an integral component of their sociological concepts (in the case of Weber the link to the history is the strongest; one could say that his sociology is subordinated to history). Among many sociologists of that period a belief in the theory of progress still predominated and with it the concept that history was not just some random sequence of events, but could reveal the laws of historical development (Karl R. Popper would later criticize this as "historicism"). The ambitions of many sociological conceptions of history were substantial and often went hand in hand with dismissive attitudes towards conventional history, which seemed adorned with unnecessary details and improperly organised. If history was granted some meaning, it was perhaps only as a source of material for comparative sociological studies [Burke 1989: 19].

While very few historians in German-speaking countries at the turn of the 19th and 20th century dared to deviate from Ranke's framework (Karl Lamprecht's attempt did not meet with understanding), in other countries historians gradually began to appear who contributed to the development of social history.

In the United States an important role was played by Frederick Jackson Turner (1861-1932), who tried to explain America's unique position in terms of boundaries not between states, but between "civilization" and "wilderness". James Harvey Robinson (1863-1936) stressed social, scientific and intellectual development against political history. Charles Austin Beard (1874-1948) interpreted (influenced by Marx) the American Civil War as a conflict between industrialized north and agrarian south.

In France a new historical school was initiated by Simiand François (1873-1935), who criticized the reduction of history to historical events and great personalities. Belgian Henri Pirenne (1862-1936) developed a social and economic history of Europe. The works of Dutch scholar Johan Huizinga (1872-1945), dedicated to the late Middle Ages, made a significant contribution to cultural history.

The speculative nature of social development theories that emerged in the second half of 19th and early 20th century undoubtedly greatly influenced the fact that in the further development of sociological thought there was a noticeable diversion from the study of long-term social dynamics (though not completely; there were exceptions, such as Pitirim A. Sorokin).

In sociology what pervaded was the tendency to form models on current states and focus on the analysis of data evidencing the present (Norbert Elias later identified this tendency as the "retreat of sociology to the present"). The main source of such data had been official statistics, but now, particularly in the United States, sociologists began to develop their own methods of empirical research with gusto (Chicago School, Gallup, Lazarsfeld, and many others). Amidst the growing professionalization of sociology its confidence grew and with

this its distance from history. Historical sciences ceased to be considered relevant in sociology and their findings were no longer accepted as "raw material" for sociological analysis.

However, in the 1920s there was significant shift toward history, associated with the start of the *Annales* school (from the magazine *Annales d'histoire écnomique et sociale*)[1], which was initiated by two professors at the University of Strasbourg, Lucien Febvre (1878-1956) and Marc Bloch (1886-1944). They rejected the traditional dominance of political history and attempted to found a broad-based study of history. Taking inspiration from neighbouring disciplines; they let themselves be influenced by Durkheim's sociology, and especially by the emerging structuralism. While in the period before World War II *Annales* represented only a marginal stream, after 1945 it became a very important and influential school, in whose second-generational development Febvre's scholar Fernad Braudel participated (author of the monumental work *La méditerranée et le monde méditerranéen à l'epoque de Philippe II*, published in 1949), and whose third generation is already a very diverse group of historians (representing the so-called *nouvelle history / new history*, characterised by an unusual interest in the history of everydayness), among whom are such names as Georges Duby, Jacques le Goff, Emmanuel Le Roy Ladurie, Phillippe Ariès, Mona Ozouf, François Furet, and others.

Although sociology and history during the 20th century diverged, their complete separation never occurred because of the research orientation which acquired the general name "historical sociology" (in American literature also "historical comparative sociology"). Contemporary authors who endorse it (such as Dennis Smith [2006: 191]), consider it a discipline with predecessors (Hume, Smith, Ferguson, Montesquieu, Tocqueville), which found continuation in the work of the founders of sociological thought (Marx, Weber, Durkheim).   German author Rainer Schützeichel includes the so-called "Weimar School" (Alfred Weber, Wener Sombart, Alfred von Martin, Eduard Heimann, Franz Oppenheimer, Emil Lederer, Karl Polanyi, Hans Freyer, Adolf Löwe) from the period between two world wars. A further figure would be Karl Mannheim, who applied the historical perspective to the sociology of knowledge.

In the United States Robert K. Merton, inspired by Max Weber, examined in *Science, Technology and Society in Seventeenth Century England* (1938 [1970]) the influence of English Puritanism on the development of natural sciences. Pitirim A. Sorokin published between 1937-1941 *Social and Cultural Dynamics*; in 1941 George C. Homans published the study *English Villagers of the Thirteenth Century*. All these were significant works, whose authors swam against the dominant stream in American sociology.

In the U.S. at that time, Reinhard Bendix [1960] championed Max Weber and his historical-sociological perspective. The most famous of Bendix's works is *Nation-Building and Citizenship* [1996 (1964)], in which he focussed on the historical processes of the development of relations between the state and its citizens in nation-building. He examined this issue through the examples of Western Europe, Russia, Japan, and India. Bendix concludes that different types of societies may respond to similar problems differently. Each national

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[1] The magazine was launched in the year 1929, later it was renamed and since 1994 it is published under the new name *Annales, histoire, sciences sociale*.

culture is a result of conflicts from the past, shaped by the elites who have alternated leadership.

Another credit for the approximation of sociology and history can be given to researchers starting from Parsons' structural functionalism. In 1957 [1969] Robert Neelly Bellah published a book called *Tokugawa Religion*, attempting to reveal the Japanese equivalent of the Protestant Ethic. Neil Smelser in his book *Social Change in the Industrial Revolution* [1959] focused on the problem of social change based on the example of the development of cotton industry during the English industrial revolution. Interest in the historical perspective can also be found in the writing of Seymour Martin Lipset (*The First New Nation* [1963]). In the 60's Talcott Parsons developed the theory of social evolution based on the concept of the increasing adaptive capacity of the system through functional differentiation, in publications such as *Societies: Evolutionary and Comparative Perspective* [1971a (1966)]) and *The System of Modern Societies* [1971b].

Only in the mid-1970s was wide recognition garnered by the two-volume work *Über den Prozeß der Zivilisation* [1976], created by Norbert Elias in the period before the World War II. The author presents the findings of his "psychogenetic" and "sociogenetic" investigation which resulted in two related theories: the theory of civilization, covering historical changes in personality and behaviour (Part 1), and the theory of state formation (Part 2). Subsequently others of Elias' books were pubished [1983, 2006], including a rich secondary literature.

From the perspective of historical sociology, Elias' approaches are said to be complemented by the studies of Michel Foucault focused on historical changes of power and knowledge and the relationship between them [1999, 2000]. The "German Foucault" is sometimes said to be historian Reinhart Koselleck, who deals with the history of concepts - *Begriffsgeschichte* [2006] and who as editor oversaw the creation of the monumental eight-volume work *Geschichtliche Grundbegriffe* [1972-1997]. British historian Peter Burke [1989, 2007] meanwhile, operates on the border between the history of culture and sociology of knowledge. We may also assign many of the works of Ernest Gellner to this field, especially those focused on issues of nationalism [1993, 2002] and general questions of the structure of human history (*Plough, Sword and Book* [2001]). Books by these authors have an interdisciplinary character and show how- by simply stepping over narrow disciplinary boundaries – we can obtain fresh knowledge. Such interdisciplinary approaches are now becoming a hallmark of contemporary historical sociology.

4. Contemporary historical comparative sociology

In the development of contemporary historical comparative sociology a significant role is accorded to the left-oriented Barrington Moore (1913 - 2005), who worked as an expert on modern Russian history at Harvard University. Moore is the author of *The Social Origins of Dictatorship and Democracy* [1967 (1966)], in which he presents analysis based on loose comparisons of historical events in England, the United States, France, Germany, Russia, Japan and China across the centuries. Moore focuses his attention primarily on the nature of violent clashes through which the formation of national states took place. The main actors in these conflicts are considered to form the bourgeoisie, especially the peasant classes and groups of landowners.

In his analysis Moore distinguished three historical paths leading to modern society. The first is bourgeois revolution (the case of England, France, the United States), the second is conservative revolution (Prussia, Japan), the third peasant revolution (Russia, China). Moore points out that the course and outcome of these revolutions anticipates the further development of these countries, heading either towards democracy (revolution in England in the 17th century, the French Revolution in 1789 and the American Civil War from 1860 to 1866), or to fascism (revolution "from above" in Germany and Japan); or to a communist dictatorship ("peasant" revolutions in Russia in 1917 and in China in 1948-1949). Although Barrington Moore was a type of scholar-solitaire, who participated little in academic life, his works became a very important source of inspiration for the next generation of researchers. Notable among Moore's students are Ch. Tilly and T. Skocpol, representing the so-called "new historical sociology" [Spohn 2005].

Theda Skocpol (*1947), American political scientist and sociologist, published her most famous work *States and Social Revolutions* in 1979. She understands social revolution as a rapid basic transformation of society and class structure, accompanied by and largely carried out through a class revolt from below [Skocpol 1979: 33]. She claims that revolution arose as an unintended result of multiple conflicts shaped by a complex of socio-economic and international conditions. In her work, Skocpol focuses on three specific cases: the French Revolution in 1789; the Russian Revolution in 1917 and the Chinese Revolution in 1949, whose completion was preceded by a long civil war. Despite the considerable diversity of these revolutions, according to the author they had features in common. Revolutions occur in countries that are disadvantaged in some way, whose ruling structure is internally inconsistent and fails to respond effectively to existing challenges.

All three countries, Skocpol argues, were characterized by the backwardness of the agrarian sector, coupled with the inability to move to more productive farming. In all three cases there was widespread rebellion in the lower classes, especially among the peasantry. Furthermore the old regime had to face sudden changes in neighbouring states that wielded greater economic and military power and all three countries went through a series of military defeats shortly before their revolutions. Skocpol attributed great significance to mutual relations between states, and international conditions, thus drifting from the ideas about the process of revolutions formulated by her teacher Barrington Moore, while also contributing to the further development of historical comparative sociology (see also [Skocpol 1985]).

The most prominent of Moore's pupils was Charles Tilly (1929-2008), in whose literary inheritance one can find more than 50 books. Tilly was expert in three related areas. He was engaged in the analysis of social movements, protests and violent behaviour (the lion's share of his works), he developed a theory of historical sociology and was also the author of comparative historical overviews. At the very beginning of his professional career was publication of the book *Vendée* [1973 (1964)], which dealt with the rebellion in West France seaside area in 1793, interpreted as a desperate and doomed attempt by a broad rural strata to defeat an urban revolution. Tilly, like Moore and Skocpol, spoke to the problems of revolutions [1978]. For Tilly, collective forced action results from a combination of four factors, including common group interests, an organization with specific organizational structure, mobilization of group resources and opportunity associated with specific situational constellations ripe for exploitation.

Tilly's works of a synthetic nature include *Big Structures, Large Processes, Huge Comparisons* [1984] aimed at assessing major events in the field of comparative historical sociology, and especially the work *Coercion, Capital and European States, AD 990-1990* [1995] in which the author asks how the formation of modern states and economies in Europe took place from the early Middle Ages. Unlike authors expressing Marxist positions (Perry Anderson [1979], Immanuel Wallerstein [1974, 1980, 1989]), who unilaterally emphasize the importance of economic processes, Tilly sees a second and major factor in the field of the formation and concentration of military power.

Besides Skocpol and Tilly the third key person in the so-called new historical sociology is Michael Mann (* 1942), author of the monumental two-volume work *The Sources of Social Power* [1986, 1993] focused on the development in the area of social power and power configurations, who in the year [2005] published the work *The Dark Side of Democracy* dedicated to the issue of genocide. Mann [1986, 1993] sees social power as created by four basic sources. These are called the IEMP model: Ideological, Economic, Military, and Political power. Political and military power can be summarized under the concept of geopolitical power.

Mann follows the development of social power, thus defined, from the time of Mesopotamia (i.e. 5000 BC) to the beginning of international capitalism in north-western Europe in the 17th and 18th century. He notes in different historical contexts various combinations of distinct types of power. According to Mann, two types of power configuration have recurred in the course of history . One is empires with a dominant position of military power - empires of domination (an example is the Roman Empire); the second is civilizations with multiple power players (multi-power-actor-civilization), acting not only in military and political, but also in economic and ideological fields (the city states of ancient Greece, for example).

While empires based on the dominant position of military power tended to crumble and decentralize, civilizations with multiple power players evolved towards greater centralization. Arising from multiple historical circumstances, in Mann's view there was a gradual shift of the centre of power North-West from Mesopotamia and Egypt, across Greece and Rome to Western Europe, which in the 18th century became closely linked by four institutional orders: capitalist economy, industrialism, the nation state and multinational geopolitical diplomatic civilization [1986:471], and thanks to this became a form of civilization with multiple power players.

Another large synthetic historical-sociological concept is world system theory, which was formulated outside the field of the so-called new historical sociology. Analysis of the world system, whose main representative is Immanuel Wallerstein (* 1930), developed primarily from two sources of inspiration; one is neo-Marxism with its theory of dependence (dependency theory), originating with Wallerstein, and the other is the conception of historical science, originating with Fernand Braudel .

Wallerstein [1974, 1980, 1989] characterizes the world system as a territorial system interconnected by economic ties. This system, marked by inequality and exploitation, links - on the basis of economic exchange - the rich, developed countries of the so called *core,* with the poor, undeveloped periphery and semi-periphery countries. The author analyzes how this system developed in cyclic phases from the 15th century to the present, as periods of growth alternated with periods of depression. Wallerstein's concept was critically discussed

by a number of authors (among others, Skocpol) and since the 1990's it has been considered in contemporary theories of globalization.

An important chapter of contemporary historical sociology is so-called comparative civilizational analysis, whose main representative is Shmuel Noah Eisenstadt (1923-2000) Other authors include Jaroslav Krejci [2002], who focused on the long-term development of civilizations, taking inspiration from the works of British historian Arnold J. Toynbee. Jóhann Páll Árnason [2003, 2005] has been engaged in the relationship between the development of civilization and modernization.

Eisenstadt's sociological work is notable for its synthesizing and interdisciplinary character. Eisenstadt was initially influenced by the structural functionalism of Talcott Parsons. The major work of his creative period is the book *The Political System of Empires* (1963 [1963]), in which he deals with large pre-industrial societies, particularly those described as "historical bureaucratic empires". In the next phase of his research, Eisenstadt diverted from structural functionalism and the starting point of his thinking became the term *axial age (Achsenzeit),* borrowed from the German philosopher Karl Jaspers. The axial age means the period from 8th century BC to the 2nd century BC, in which new revolutionary thought appeared: Plato's philosophy in the West and the prophets of Israel, which were followed by Christianity, Zoroastrianism in Persia, Buddhism in India and Confucianism and Taoism in China. For Eisenstadt this is the starting point for a reassessment of the question of the economic ethics of world religions dealt with by Max Weber. The axial age allows Eisenstadt to carry out a systematic comparative analysis of the potential for change of various civilizations [1986, 1987, 1992a, b, c, d] and at the same time opens the way to the development of the concept of multiple modernities [2000, 2003, 2006a, b, 2007].

The concept of multiple modernities contrasts totalitarian notions with the widespread conception that modernization can have only one single (western) form. From this perspective Eisenstadt intervened in the discussions which took place around Fukuyama's *The End of History and the Last Man* [2006 (1992)], and Huntington's book *Clash of Civilizations and the Remaking of the World Order* [1996]. He criticized Fukuyama's naivism by saying that Fukuyama associates modernization with Westernization, and also Huntington's essentialism that sees civilizations as primordially given entities.

Eisenstadt believes that Western patterns of modernity do not present a single "authentic" modernity, though they play the role of historical precedent and continue to be the essential reference point for others. He is of the opinion that in today's world we find manifestations of miscellaneous, mutually competing modernization orientation patterns, which come in connection with the cultures of the axial and also non-axial civilizations.

Prevailing contemporary historical sociology outlines big, ambitious projects of an interdisciplinary nature (Skocpol, Tilly, Mann, Wallerstein, Eisenstadt), oriented towards large-scale comparative analysis pursuing global perspectives over long time intervals. The entire field, however, is certainly not exhausted by these projects. There are also a number of specific research areas [Bühl 2003, Delanty 2003, Schützeichel 2004, Šubrt 2007], including for instance the problems of collective mentalities, habits and emotions, social memory, historical consciousness and cultural trauma. Historical sociology today is a diverse discipline that makes an effort to elaborate general theory, has a number of special theories, ranges in specialized directions and develops research on the empirical level as well. This

suggests that sociology and history have not separated completely, and that on the contrary that the volume of the recently initiated dialogue between the two branches will develop and intensify further.

5. References

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More than the usual academic textbook, the present volume presents sociology as terrain that one can virtually traverse and experience. Each version of the sociological imagination captured by the chapter essays takes the readers to the realm of the taken-for-granted (such as zoological collections, food, education, entrepreneurship, religious participation, etc.) and the extraordinary (the likes of organizational fraud, climate change, labour relations, multiple modernities, etc.) - altogether presumed to be problematic and yet possible. Using the sociological perspective as the frame of reference, the readers are invited to interrogate the realities and trends which their social worlds relentlessly create for them, allowing them in return, to discover their unique locations in their cultures' social map.

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