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Cognitive sociology and the study of human Cognition: A critical point

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Abstract

I base my paper on review of a leading texts from the field of cognitive sociology with the attempt to compare the implicit notion of cognition with the conceptions elaborated in the field of cognitive science and allied disciplines (e.g. cognitive psychology, cognitive anthropology, cognitive science of religion, cognitive archeology etc.). I will refer mainly to Cerulo (2002a, 2009), DiMaggio (2002), Vaughan (2002), Wakefield (2002) and Zerubavel (1997, 2002, 2003). The exemplar issues will be presented in the course of four steps. First, I problematize the notion of cognition limited merely to habituated behavioral forms related to specific local situations as presented in study by Vaughan (2002). Second, I discuss the excessive focus on local structures of meaning that are conceived as one of the goals of sociology of mind presented by Zerubavel (1997). I point out the problematic position of sociology of mind, since it draws a substantial focus on intersubjectivity defined in contrast to cognitive individualism and universalism. I present this methodological stance in relation to interpretative program of social sciences. Consequently, I show that this type of cognitive theorizing casts vital doubts on results emerging from the field itself as well as on cross-disciplinary relevancy of that investigation. Viable forms of collaboration between cultural theorizing based on interpretative and descriptive methods and cognitive science will be explained throughout the paper as well as in its final conclusion.

Key words

Cognition, cognitive sociology, cognitive psychology, interpretation, experiment

“Our job, as social scientists, is to generate hard facts that resist social explanations”

Bruno Latour: Reassembling the Social, p. 101

Introduction

The element of cognition as a constitutive force under many key issues has been present for a long time in sociology. However, the recent sociological discussion starts to address cognition as a specific issue that subsumes variety of rather classical topics previously addressed as ideology (Mannheim 2008, Scheler 1960),

habituation and routine (Schutz 1973, Berger – Luckmann 1991, Bourdieu 1977, 1984, 1990, 1993), knowledge (Schutz 1973), organization of reality and problem of frames (Goffman 1986) and so forth. As Karen Cerulo argues (2009), there is a rising effort to establish a distinctive program in the sociology of mind that will contribute to understanding of sociocultural aspects of cognition and address classical issues in a new way.

At the present time, field of cognitive sociology is not a coherent one; it can be roughly divided into two branches. The first calls for a joint collaboration between a natural-scientific research of the human mind and social sciences (for discussion see DiMagio 1997, Cerulo 2009, Bergesen 2004a; 2004b, Wakefield 2002). The second insists on the sociology of mind as an independent field of cultural and social study without any tangible connection with natural sciences and their research in cognition and culture (see Zerubavel 1997, compare with Coulter 2004; 2008, Hamilton 2008, Antaki 2004). In the following lines I will mostly refer to the second of above mentioned and illustrate that their notion of cognition is in many respects controversial, especially in the light of scientifically well-established accounts on the problem of cognition. My skepticism is mainly of a methodological kind concerning the way the field of cognitive sociology is built-up regarding its theoretical background and actual conceptual framework available at hand.

Cognition can be defined just with an extreme unease. From this vantage, neither the claim that “cognition is the set of processes by which we come to know the world” (Lawson 2000: 75) nor that cognition is an act of social beings (Cerulo 2002: 3) sounds inadequate or problematic. It seems that controversy comes up with the choice of method. For example Lawson (2000: 75) when addressing the problem of cognition turns directly to the problem of the research method. He argues that “cognitive science is the set of disciplines which investigate these [cognitive] processes and proposes explanatory theories about them.” (Lawson 2000: 75). It seems that on this very point the field of cultural studies grounded in natural scientific agenda (c.f. Saler 2001: 56–58) and the field of cognitive sociology detach. Presumably it is mainly because of their methodological heritage that prevents and at the same time inhibits social theorists to take part a program that develops conceptions in relation to theories proposed by natural scientific program in a cognition and culture (compare with Wiebe: in press).

Cerulo (2009) to certain extent invites the application of natural scientific postulations in the social scientific study of culture. For her it means to bring as much agenda from a social sphere as possible in order to improve and refine the natural-scientific findings about the functioning of the human brain and set these findings in a specific cultural context. Zerubavel stands in contrasting position to the one defended by Cerulo, since for him it is hard to imagine the research of rich patterns of social and cultural life by the natural scientific methods and theories. As he puts it provocatively: “in its present state, cognitive science cannot provide answers” (Zerubavel 1997: 1).

However, both cognitive sociologists – Cerulo and Zerubavel – presume a principal rupture of natural and social sciences. For Cerulo, the problem seems to be defined by a division of labor between the disciplines. Cerulo encourages to employ natural scientific postulations as the base for testing and confrontation with the social reality but not to actually work with the naturalizing methods and

principles of explanation. She recognizes cognitive sociology to be fully competent to address the problem of human cognition solely within the explanative apparatus of sociology (compare with Cerulo 2009). Zerubavel seems to defend a more radical ground. He finds natural scientific investigation as incompetent in cultural matters and cultural analysis of cognition based on natural grounds as impossible or far too coarse to be able to uncover the rich fabrics of social life.

The effort to establish the distinctively sociological program in cognition renders also on the very conception of human cognition that exists without any reference to relevant concepts from natural sciences. In what will follow I try to formulate four polemic points supporting this argument.

1. Cognition merely as a habit

Diane Vaughan (2002) focuses on the role of culture as a mediator between individual situated behavior and institutional rules and structures. Her analysis of air traffic control offers a vivid image of individual decision-making embedded in institutional standards of the air controlling profession. "Individual activity, choices and action occur within a multilayered social context that affects interpretation and meaning on a local level" (Vaughan 2002: 29). What Vaughan refers to are everyday tasks that the controller has to successfully undergo in order to foster a smooth traffic on the airport. Knowledge and decision making of the individual controller is depicted as a routinized set of schemas and programs as well as a mutual coordination of the devoted staff actually located in the control tower.

One of the initial impulses in the discussion is that, however complex or unfamiliar the actual service may seem to a newcomer, advanced controllers solve most of the tasks without visible deliberation. Vaughan (2002: 41–42) uncovers aspects of master level skills (simultaneous monitoring of several data screens and technical interfaces, fast and on-spot estimations of space and time relations of the aircrafts, multitasking and sharing of processes among several controllers etc.). Nevertheless, she does not address the actual nexus of professionals and technical devices in an explanative way; therefore one is tempted to analyze their behavior as the resulting outcome of adherence to local cultural patterns (see Berger – Luckmann 1991: 157–193) and identity structures. Air controlling tasks do not require the practical skills only but also deeper acceptance of newly attributed behavioral patterns followed by role expectations. Hence the ultimate competence of air traffic controller is conceived as a socially transmitted and habitually stabilized body of practical knowledge followed by patterns of role behavior (feel for responsibility, vigilance and personal discipline etc.) gained in the course of training and further routinized in individual exercise and maintenance of the professional skills.

The individual decision making rests on relatively stable but socially acquired schema and rules of conduct as well as actual capacity to exercise these sets of behavior. Presumably it is the stable character of these structures and the routinized process of decision making what invites Vaughan (2002: 46) to address the problem under the label of cognition.

Vaughan (2002: 42) refers to Clifford Geertz and his notion of local knowledge as the set of skills indivisible of particular cultural situations. Here, cognition is identified with shared cultural systems and sets of organizing assumptions that permeates social structures and also shapes individual cognitive processes. Cognition is thus a culture at work (compare with Geertz 1973: 10–13), a highly practical ability serving actual tasks embedded in the nexus of information and larger symbolic systems (see Vaughan 2002: 42–46).

Vaughan's notion of cognition is without doubt addressing a relevant problem. The working situation of the air traffic controller – with many of his tasks partly nested in external and hence for a visiting spectator cognizable devices, specifically structured space and time as well as distribution of tasks among experts – is actually a significant problem for anyone interested in the human cognition. Nevertheless the shift of the problem to the cultural level only neglects the great potential of a cognitively oriented research (on the philosophical foundations of the problem of extended and situated cognition see Clark 1998; 2008). My point is that Vaughan postulates a higher level of analysis – that is the cultural level – for the problem of cognition and makes it without any reference to the mental (see Crane 1999, Sperber 1996: 13–15), corporal (see Barsalou and Wiemer-Hastings 2005, Pecher and Zwaan 2005) or artifactual (see Knappett 2005, Knappett and Malafouris 2008, Malafouris and Renfrew 2010) dimensions of the problem. She invites readers to approach cognition merely as a situated and temporal behavior learned in the course of a professional training process.

The type of theorizing presented here – where institutional, cultural and organizational influence cognition (taken as an individual act or as the outcome of the nexus of air-controllers and navigation devices) – does not analytically touch the problem of cognition, but rather that of cognitive products manifested in the form of actual social practice. Vaughan does not explain what particular cognitive mechanisms are at work here. Instead she presents an entirely new level of problem, where human cognition is rendered as behavioral programs and routines dedicated to the exercise of a particular professional task only. If cognition would be just an actual capacity to act competent in a certain cultural situation then the ability to reason and decide would be dependent on and replaceable by a different set of local skills nested in the specific professional career. Nevertheless, it is clear that the general capacity to reason, coordinate and react in accordance with human colleagues and material artifacts is not dependent on an exercise of a specific professional activity.

The objection also can be raised on meta-scientific grounds, since level of culture cannot be conceived entirely independent and for the course of analysis only relevant level of reality when addressing the issue of cognition (see Pyysiäinen 2004: 224–231).

And finally, even if one would be willing to understand the case presented by Vaughan as the problem of learning and norm imitation (but see Tooby – Cosmides 1989), one would expect to receive a substantial analysis of the cognitive mechanisms vital for the successful attribution of skills. However, Vaughan brings neither any generalizations nor explanations of the brain or bodily capacities which would in turn enable us to understand how the very process is scientifically conceivable. Hence the outcome of culturally driven analysis of cognition can be

applied only with a very limited relevance to different problems and fields of social studies.

Vaughan was perhaps aware of her rather shallow conception of cognition, when she identified it with unquestionably complex but still just local and situational (nested in actual social and material constellations) professional skills. Hence she correctly addresses the problem of the macrostability and reproduction of practices and attempts to identify a provisional middling cultural structure that would connect personal logics of action with institutional rules of conduct and create a transgenerational continuity and stability of practices tenable (Vaughan 2000: 50–51).

Vaughan (2002: 49–51) recognizes such an element in Pierre Bourdieu's *habitus* (c.f. Bourdieu 1990: 52–65; 2000: 72–87). She finds *habitus* to be a factor that actually stabilizes institutional structures on an individual level. According to Bourdieu *habitus* serves as a predisposition limiting a diversity of social action. *Habitus* tends to generate all the reasonable common-sense forms of behavior (and only these) which are feasible within the limits of its generic regularities (Bourdieu 1990: 55). What we witness here is the schema from bottom-up where institutions – traditionally regarded as a stable element (c.f. Giddens 1986: 170) – are propagated by an internalized and unconscious mechanism of cognitive and motivating structure (Bourdieu 1990: 53).

Nevertheless, the application of *habitus* in a cognitive oriented research, in principle, does not explain the stable features of human cognition. *Habitus* is not rooted in evolved psychological capacities or biological predispositions but originates from cultural and historical situations and is caused by them. Bourdieu does not elaborate sedimentation and development of *habitus* in the form of specific psychological or biological predispositions of a man.

Social conduct emerges from an inevitable but not predictable confrontation of *habitus* with a particular historical situation. The moment of the actual behavior emerges from a relation of (1) socio-historical conditions producing *habitus* and a (2) specific social situation of action. For Bourdieu this relation also defines the sphere of possible social-scientific analysis since meaning in its objectified form is in the course of social action at accessible to all the social actors endowed with a practical sense. It's the ability of *habitus* to establish a common-sense world through the set of practices which allows establishing the objectivity of- and consensus about a certain situation. "The objective homogenizing of group or class *habitus* that results from homogeneity of conditions of existence is what enables practices to be objectively harmonized without any calculation or conscious reference to a norm..." (Bourdieu 1990: 59).

Bourdieu conceives cognition as a process, a specific sense for action – a practical sense or feel for social game – stable or just gradually changing in time. Hence Bourdieu's concept of cognition¹ – embedded in the *habitus* – develops on a trans-

¹ It is striking how many seemingly similar moments Bourdieu's conception of *habitus* shares with an evolutionary psychological approach to human mind where specific psychological mechanisms are evolved as an adaptive response to the qualities of environment (see Tooby – Cosmides 1992: 82-87). Bourdieu's (2000: 78) hysteresis effect – a concept so well portrayed on the character of Don Quijote to describe a problem of a false predisposition to actual life situations is resonating with that of misadaptation how developed by evolutionary psychology. However there are more fundamental

generational level and operates in the course of life in the form of a specific motivational and enabling structure. The important point, which in my eyes methodologically devalues the concept of habitus for the sake of explanation of cognition, is that Bourdieu was not primarily interested in the inner functioning of habitus, that is in the very mechanism structuring a specific activity, but rather in social situations and life strategies that reveal habitus as a goal oriented capacity (see Bourdieu 1990: 66–67). As Bourdieu (1990: 54) puts it “Habitus is an infinite capacity for generating products – thoughts, perceptions, expressions and actions – whose limits are set by the historically and socially situated conditions of its production.” Hence habitus as a concept resists to a deeper analysis, it is a sort of black box whose inner architecture were never really explained (Alexander and Smith 2003: 18–19).

Bourdieu, in contrast with Vaughan, who analyses behavior in a specific micro-social and artifactual environment, operates on a transgenerational level. The plausibility of his work comes from the ability to render a rich and vivid image of social life, yet hand in hand with facts and figures, specific life strategies in context of marital patterns, family dispositions, position in social structure, etc.

Bourdieu’s concept of habitus allow us to understand the predispositions which would grant the very access to the position of air-controller, that is a personal social efficiency based on the trans-generational patterns of dispositions nurtured in the family but these are not in any way issues which Vaughan is appealing to address in her paper.

2. Meaning as social convention

In his seminal paper, Eviatar Zerubavel introduces the program of sociology of mind with the following words:

“...to avoid the danger of regarding the merely conventional as if it were a part of natural order by specifically highlighting that which is not entirely subjective yet at the same time not entirely objective either [...] Cognitive sociology tries to promote a greater awareness of our cognitive diversity as social beings.” (1997: 9)

Zerubavel relates the problem of cognition to the perception. It is the social act of perception what the main issue is for him. The sociological problem of the mind seeks to uncover intersubjectively constructed and socially mediated mechanisms of perception (Zerubavel 1997: 8). Zerubavel dedicates himself to explore the presumably ‘shadow zone’ between the putative idiosyncrasy of meaning as an individual act of perception and universalist tendencies to institute a global validity for merely a local and ideologically laden meaning structures. This line of theorizing marked by the avoidance of cognitive individualism/universalism – correctly recognized as barren – invites Zerubavel to explore an intersubjective and cultural diversity of meaning.

differences between these concepts – where Bourdieu makes an effort to explain an actual lack of social efficiency in the light of previous class dispositions, evolutionary psychological concept seeks to explain an inner human design as a result of evolution and concern the actual presence of behavioral variabilities among cultural forms (Tooby – Cosmides 1997: 11).

One of the major issues which Zerubavel addresses under his *Social Mindscape* program is stereotypes and classifications as acts of perception (c.f. Cerulo 2002b). Here Zerubavel reveals his sociological position in contrast to the psychological concept of *prototype* elaborated by Eleanor Rosch (1978). Zerubavel argues that many real world categories are distinguished largely by the use of language and not by mental structures (compare with Sperber 1994). As he points out, there may be no real difference between a ‚three-star‘ and a ‚four-star‘ hotel in the real world yet language holds the categories for both of them (Zerubavel 1997: 66). It is especially the case of use dual categories and their use. Zerubavel finds them as a limiting case of otherwise non-existent entities, as it is the situation of categories like white/black, up/down, those related to social life – e.g. man/women, good/bad (compare with Cerulo 1998). For Zerubavel the use of these categories in the everyday language reveals that there is a whole field open for a sociological investigation here. Such studies would answer the question of how precisely the boundaries between categories and their grades (Cerulo 2002b) are established or how they differ in societies.

Nevertheless the fuzzy-boundaries of these categories, which Zerubavel finds so appealing as the argument for cultural relativity of meaning are, in fact, just partly associated with culture as the final constituent. Zerubavel’s argument for the culture is based on the functioning of cultural models and schemas internalized in the course of first socialization (see Berger – Luckmann 1991: 149–157) and later unreflectively used by the members of specific society. Nevertheless the cultural models and more specifically fundamental structures behind them – foundational schemas (see Shore 1996) are the subjects of study by anthropologists already for quite a long time. It seems that these cognitive structures canalize perception and are possibly transmitted culturally, that is by use of language, behavior mimicry and contact with material objects. However, the exemplar analytical purpose of *concept* and *schema* is that they serve as a methodological link between cultural and psychological level of research. Cultural schema, as a sort of generalized concept, invites us to confront them with the evidence based upon observations from diverse cultural situations proposed by Zerubavel but also with the experimental evidence coming from a psychological research of the human mind. The particular appeal of concepts and schemas stems from the fact that they are exactly those types of scientific tools that help us to connect and mutually confront otherwise unrelated scientific fields.

What seems to me peculiar is that Zerubavel’s discussion of meaning is fully governed by the social convention as the primary motor behind the semiotic activity. It’s not that he would actually confuse *determination* by social factors with *mediation* by them when it comes to distinction of types of sign but he simply does not discuss the factor of non-conventional meaning and thus does not let it enter the sphere of culture and language communication (see Zerubavel 1997: 68–80). Cultural models presumably influence a cognitive processing of information; nevertheless culture does not determine these processes the way that they would be entirely independent of universal capacities (compare with Brown 1991). By the same token culture serves here merely as a mediator or channel of possible information and as a storage of usual, meaningful and socially acceptable interpretations of reality.

Zerubavel is evidently aware of the distinction between conventional and non-conventional meaning structures since he discusses the case of *index* and *symbol* (Zerubavel 1997: 70–72). Although he distinguishes their difference in theory, he does not follow the point to its full implications. Indexical connections, such as between smoke and fire, banner and wind, symptoms and disease, are naturally established causal links between objects existing in reality independent of social intervention. In the case of the index the construction of meaning is not a matter of *interpretation* based on a symbolic convention but rather that of *abduction*. Though, smoke can be produced without the fire, we naturally expect that smoke is caused by fire. Here the social stands as a mediator of a specific knowledge needed for the act of reasoning but not as the cause behind the physical link between smoke and fire. The mechanism of abduction is based on a logical fallacy of affirming the antecedent from consequent (see Boyer 1994: 147, Gell 1998: 13–16, Knappett 2005: 87–95, Violi 1999) and is recognized as one of the main theory-forming factors related not just to the increase in scientific knowledge but also to our everyday common sense understanding. Abduction allows us to derive the meaning even in the situations where we do not have access to entire information needed for construction of logically correct image (Violi 1999: 744). Abduction can be recognized as one of the cognitive mechanisms behind the social act of stereotyping and the property-attribution in socially meaningful situations (compare with Hirschfeld 1999: 580).

Though certain links between real-world phenomena (e.g. ‚snow-winter‘) are established prior to a social judgement, the possible interpretations of indexically conveyed meaning are reproduced and conveyed by cultural context. Hence, the stability of more complex interpretations can be preserved just in a secure and closed social context. The role of social factors as the storage and the vehicle of the meaning does not relativize the difference between: (1) indexically stored meaning based on natural – that is pre-socially (but compare with Gell 1998: 68–71) established – link between two or more phenomena and that of (2) conventional meaning traditionally stemming from the notion of symbol introduced by Saussure’s semiology.

Zerubavel distinguishes these two types of semiotic activity; however, it serves him merely as an opposing limiting case in his explorations of meaning. Even though, Zerubavel announces the intention of a multilevel analytic approach to cognition – connecting mental and social constituents of perception – the main ingredients of his book are substantial examples of specific meaning structures that illustrate how socially laden or biased the forms of meaning in societies actually are.

Next, one of the key elements in Zerubavel’s program of sociology of mind is the goal of a comparative research but he develops hardly any analytical tools which would make such a project scientifically conceivable and actually possible. As Martin (2000) argues, the act of comparison is explicitly or implicitly associated with the construction of an element of comparison – a mutual invariant – that enables the researcher to meet and compare selected data against the same ground. Such an invariant may be just a tentative, notional construct, but it is preferable if it refers to empirically observable phenomena. Reader does not receive any conceptual tools, since under *comparison* Zerubavel (1997: 11) means gathering

the strips of evidence that would contradict our locally based expectations so these would be, in turn, rendered as culturally dependent and relative.

The implicit method of comparison proposed by Zerubavel is based on the intuitive capacity of the researcher which belongs to his usual every-day analytic abilities inherent to a competent member of society. Nevertheless methodological position depending on intuition is in fact a problem which should be addressed itself as the object of a scientific inquiry.

Biases of perception and inference when it comes to social matters have a long tradition of investigation within a cognitive psychology which could, in my opinion, serve well as starting points for Zerubavel's theorizing. It consists of well-elaborated theories and concepts – naive sociology (Hirschfeld 1999), folk psychology (Baker 1999) etc. – that address the problem of reasoning as an intuitive common-sense activity and document in a substantive way the constraints and expectations humans intuitively hold. The critical rationale behind this remark rests on a fact that social sciences substantively rely on common sense intuitions as the primary tools of qualitatively oriented investigation, still do not seek to address the underlying mechanisms which shape the very act of reasoning and observation in social situations.

Hence, Zerubavel's invitation for a comparison reminds me of ethnographic instructions that are presented to undergraduate students in order to be more sensitive and attentive to the phenomena in the field. A purpose of works dedicated to qualitative methods of ethnographic research is fairly obvious – to discuss the pitfalls of ethnographic research before actually entering the field – we do not expect generalizing concepts or testable theories here, however, we expect a different conclusions in the case of volume that is to establish a new branch of research in cognition as it is in Zerubavel's case.

3. Beyond individual and universal

Cognitive sociology seems to operate in the space demarcated by two bordering extremes; that is the cognitive individualism and cognitive universalism. Zerubavel (1997: 3–10) insists that the concepts we hold in our minds (especially those of moral order and aesthetic reasoning) do not rest upon the experience of a sole thinker, but instead on a social act of thinking. Thinking tightly connected with the linguistic communication is recognized as the feature of social groups and hence it is opposed to the personal act of perception. In contrast, the cognitive universalism can be presumably identified with a tendency to put stress on entirely innate cognitive capacities that shape specific forms of behavior in all conceivable cultural situations. Zerubavel finds cognitive universalism to be a dominant vision of the human mind in present cognitive sciences. The search for universal, he argues:

“certainly helps cognitive scientists produce a remarkably detailed picture of how we are cognitively ‚hard-wired‘, it also prevents them from addressing the unmistakably non-universal mental ‚software‘ we use when we think.”
(1997:3)

It seems to me, that at the current time it serves rather as a speculative image formulated by stark opponents (see for instance Coulter 2008) of cognitive-scientific approach.

The putative distinction of cognitive *individualism* and *universalism* dismissed by cognitive sociology, as a misleading research program in cognitive psychology, obscures presumably important moments in cognition research, namely the distinction between the *universal capacities* of human mind versus local *variability* of cultural and social forms (see Wakefield 2002: 251). Where the search for intersubjectively constructed meaning demarcated by individualism and universalism seems to open the possibility only for a *descriptive research* in cognition through accounts of locally biased contents of thought the latter presents systematic and explanatory focus on innate human capacities and generative mechanisms shaping a specific form of cultural behavior evolved under a given environment. As Wakefield (2002: 251) insists the overemphasis on the supposedly dangerous universalist position in cognitive theorizing sometimes hides the opposing extreme – the excessive demands on sociological explanation when addressing even a clear example of innate mental functioning as merely a culturally acquired habit.

I think that the sociology of mind when appealing to address “the unmistakably non-universal mental ‘software’ we use to think” (Zerubavel 1997: 3) and portraying (under the label of universalism) the cognitive psychological program in cognition to be seriously limited, fails to mention a few important points here: The research in human culture always seeks significant and generally relevant features. For example classical works of sociology of culture were appreciated for their potential and analytical relevancy exceeding the actual cultural settings and historical milieu of their origin. To generalize in order to compare is one of the leading motives behind many scientific accounts on cultural forms. The same is true even for research projects in human cognition. Everyone interested in mechanisms of remembering, in preferential systems, patterns of denial etc. face the problem how exactly formulate generalizations and compare gathered cultural material. As Martin (2000: 47) points out, generalizations must be formulated as systematically related sets of empirically testable deductive hypothesis. “Rules for generalizations might well be formulated according to scientific principles which are not contingent upon any one culture” (Martin 2000: 53). Max Weber’s ideal type is respected as a classical tool for comparison in social sciences that does not rest upon any material phenomena in the world; however, its notional character prevents us to make any explanative accounts from comparisons that are actually based on the ideal type. This problem, if recognized as urgent, may be solved by accepting a naturalistic conceptual framework as a base for a comparative research. These theories enable us with the ability to explain a manifest or variable forms of cultural behavior on the basis of natural mechanisms behind, since it establishes a standard against which cultural differences may be highlighted (Martin 2000: 55, Tooby – Cosmides 1992: 43–44). Hence naturalistic theories allow us to construct universally relevant and empirically testable tools for comparison, those which would not rest on local cultural traits but rather on reflectively postulated invariants based on empirical evidence. This effort should not be understood as a sort of hegemony exercised by natural scientific tradition but rather as a contribution to an explanation of cultural reality based and formulated on objective grounds (see Tooby – Cosmides 1989: 37).

Let me add one more point in defense of universal as a goal of scientifically informed cultural research. The search for universal in cultural behavior does not equal with a search for single form of cultural trait that would be universally present across world cultures and history. The quest for human universals usually appears in much more sober way.

This may be illustrated on the theory of religion proposed by Pascal Boyer (1994, 2002). Boyer, when accounting for prevalence of religious beliefs, draws attention to the process of their transmission. He argues that religious concepts in some respect violate ordinary expectations. However, these concepts are real in a way that they are present and salient in culture, they still may be extraordinary in regard to their special cognitive demands. For Boyer the search for *universal means* to search for universal cognitive constraints that guide ongoing generalizations of religious concepts (compare with Tooby – Cosmides 1992: 45–46). These processes are based on implicit assumptions and principles of intuitive knowledge (compare with Sperber 1994) that plays a crucial role in the acquisition and transmission of cultural representations. Since religious concepts are neither explicitly articulated nor always prevalent in public discourse, the role of intuitive understanding and the ability to complete the picture from just scarce information seems vital for all folk religious categories. Boyer does not stress the universal characteristics in the actual content of cultural representations, on contrary he insists, that these representations are inevitably just local and take a specific form when being held in an individual mind. However, Boyer (1994: 397–402) argues, that specific cultural variations do not affect the content of intuitive presumptions or their developmental schedule in a significant way. For Boyer cultural representations are always mental states rooted in material form that is in the brain (compare with Sperber 1996). Hence cultural is accessible only through investigation of individual minds and their intuitive mechanisms.

However reasonable and convincing the problem of culture accessed through individual (Boyer 1999: 216) accounts is, it does not yields the problem of culture as an environment, since it does not primarily account for the inter-subjective (or objective) character of culture envisaged by Zerubavel. The individualistic methods in the research of human cognition are criticized in this respect by Michael Tomasello. Tomasello (1999) recognizes the role of cultural environment in ontogenetic development and seeks to address culturally universal abilities of humans, those which are existing cross-culturally and still related closely to cultural behavior (Tomasello 1999: 160–162).

Although it may seem that his theoretical position can actually be appreciated by sociologists of mind, his approach to the problem of cognition differs in many respects. Tomasello favors language and other symbolic media for their important role in the development of human cognitive abilities (compare with Tomasello 1999: 79–80) and focuses on the development of cognition in the process of ontogenesis. He makes a clear distinction among (1) innate cognitive abilities, (2) those based on prelinguistic ontogenetic phase and finally those (3) following development of language.

Higher cognitive abilities based on language are intrinsically related to linguistic communication and other discursive practices. Tomasello is stressing the role of language especially in the attribution of multi-perspective and dialogical cognitive

representations of reality such as analogy or metaphor. Developmental abilities prior to language are not conveyed via discourse and are based on innate abilities of a human child (compare with Sperber and Hirschfeld 1999) in the form of evolved and universal human capacity to understand other humans as intentional and mental beings like themselves (Tomasello 1999: 10). Since language is recognized as higher-level symbolic device developed on former skills, Tomasello first draws attention to ontogenetically prior cognitive skills. This allows him to build up a rather solid view of cognitive abilities resulting from natural steps in human ontogenesis. Culture in the form of external symbolic stimuli then contributes to his overall explanatory model of cognition. The culture as influential force behind development of higher-level cognitive abilities comes at the later stage of Tomasello's analysis and is well connected with researches in more primitive cognitive abilities of human and non-human infants.

Going back to the main line of discussion, I would like to stress that dealing with the problem of cognition on the cultural level only, means to give up all the plausible attempts to build up theories explaining the problem. However, it is important to underline that all the researchers dealing somehow with the problem of cognition have to take cultural environment seriously, cultural level does not offer sufficient invariant for the generalizations based on comparative data (c.f. Tooby – Cosmides 1992)

Thus Zerubavel (1997: 8) actually does not introduce a new and self-sufficient line of theorizing when he points out to a social construction of intersubjectivity. The crucial point here is whether one offers generalizations and conception which can actually uncover and explain generative mechanisms under variable cultural forms. Unfortunately the results of descriptive research in social cognition, based on local interpretations and presented without any connection to theories interested in underlying natural mechanisms in principle cannot contribute to scientifically informed cumulative knowledge.

4. Interpretative exploration in cognition

The inter-subjective level of analysis peculiar to sociology of mind uses methods of the investigation focused on generating and translation of meaning from a local cultural context (Geertz 1973). This method is in many respects based on common sense interpretations of local cultural reality (Popper 1991: 61–64) – it deals with meanings, seeks to translate native cultural representations and make them intelligible for a reader of an ethnographic text (compare with Sperber 1996: 17–18, 32–41).

Emphasis on interpretation as a valid method comes usually in two steps: (1) when seeking relevant study problems and entering the field, but also at later stages as (2) a source of granted knowledge in the course of analysis.

Scientific interpretations of reality build upon the existing theoretical framework that governs scientific tradition at the time. Its conclusions are sometimes seen as sort of allegories (c.f. Clifford 1986) – texts conveying general assumptions of reality through depicted situations rendered by researcher. Interpretation is scientific to that extent as it meets the essential requirements to offer an objectively postulated conclusion based on inter-subjective observations. This demand is

fostered by a commonly shared paradigmatic frame which limits a possible ways of explanations in social sciences.

How far we intend to reach with our analysis? Are we content with proximate or are we seeking ultimate, though maybe just conjectural explanations? Sperber gives us the example that the interpretative cultural research can legitimately end up with the statement such as: "Opote could not consume his catch without the risk of damaging his fishing magic" (Sperber 1996: 40). What is possibly striking for everyone here is just a very limited explanative power of such a conclusion. Sperber argues, that explanation of real-world phenomena can in principle be described in a much more fruitful manner. Scientific explanation connects a specific phenomenon found in a given situation with rather general underlying mechanisms. For Sperber (1996: 41) it is a discovery of "some natural mechanism that explains a wide range of phenomena in a testable manner" what should be the goal of a scientific explanation of social reality. Sperber's programmatic statement consists of two crucial points.

First comes the demand for testability as the final outcome of (possibly interpretative) research. It means either to develop one's own testable theories (see Popper 1963) or to identify the observed phenomena with theories and concepts already established within the field. Although social sciences developed their own methods of testing comparable to those of natural sciences, the field is filled with a whole range of technical terms without any direct link to empirical evidence. Some of the once existing concepts were critically analyzed and found obsolete or ideologically laden, however many are still in use. There are also many essential terms which are just way too abstract to be employed without detailed definition every time they are used (see Kroeber and Kluckhohn 1952 compare with Pyysiäinen 2004).

Second, a call for a natural mechanism is a principal methodological demand for social scientific theories to be created in continuity with already established concepts based on natural grounds. This is a metaphorical appeal that calls for the collaboration with other neighboring study fields (Pyysiäinen 2004: 24–27, 79) but it is also a more literal one, since it denies to postulate concepts in contradiction with theories describing more basic levels of reality (in case of social sciences there should be always a link with psychology and biology). The ultimate goal should be to build up a vertically integrated model of explanation which would benefit from the already granted knowledge from other fields (Barkow 1992: 4–9).

This may raise the need for a reconceptualization of the social scientific terms the way that it will possess joints with natural and empirically observable phenomena. Still, these new concepts may be developed with a systematic relation to the standard one, so it would benefit the past achievements of the field. It is also a call for a certain methodological economy which in practice means to reduce observed phenomena to more basic ones; those which can be explained with more limited conceptual repertoire (see Sperber 1996: 5–6).

Cognitive sociology is just a young discipline (see Cerulo 2009) in the study of cognition which profits from a long tradition of sociological theory, but it does not profit from the long-running research in cognition since there are hardly any connections with already established fields of cognitive science. In fact there

seems to be just a very limited number of scholars who are actually eager to use a cognitive scientific concepts and theories.

I find this to be rather limitation of otherwise appealing research field. Materialistic methods of brain and mind research as well as materialistic conceptions of human culture (Sperber 1996) are portrayed as incompetent and hence unwanted in the discussions dealing with cultural issues (Hamilton 2008, Coulter 2008). I found this untenable, since the cognitive scientific theoretical framework and its conceptual tool box is well established and extensively empirically tested within cognitive science and adhered study fields. They very often seek upon explanations of the same real life cultural phenomena as social sciences do. Hence as there is no isolation of study fields, there is even no principal need for the isolation of the scientific traditions.

Sociology elaborated a whole range of illuminative research methods which are priceless when working directly in the field. However what is in my opinion problematic is the process of generalization and construction of concepts. They are developed without any direct link to the natural scientific enquiry into a problem of cognition that prevents and disables cognitive sociologists to take part in discussion.

Why should a student of religions care?

Perhaps one may ask why is this provincial discussion about the sociology's sub-field good for someone who is interested in the study of religions. This issue can be addressed in two ways, general one and more particular one.

First, any scientific description of reality comprises, in its vital part, a description and presentation of once observed phenomena and this always goes with a help of theories and concepts. As the saying goes *theories without data are empty but data without theory are blind.*² Hence in order not to be blind one needs right concepts and satisfactory theories which will render presented data in understandable yet solid way. Some concept will portray our data weak and shallow but some will make the problem stand out and will connect our issues with related study fields. In short some will make our conclusions stronger and our data harder. Yes, it is once again a discussion about hard and soft sciences and Bruno Latour made a very illuminating point here when stating that: "Our job, as social scientists, is to generate hard facts that resist social explanations" (Latour 2005: 101). His note comes from an observation of what he calls a *fortunate wreck of sociology of science*. In his opinion sociology was unable to analyze natural sciences simply because the type of knowledge produced there was harder than the one produced by social sciences. Standard postmodern social scientific vocabulary was simply unable to portray knowledge based on laboratory research and observations of real-world phenomena as merely a result of social struggles and particularistic interests of social actors. Latour calls this to be fortunate since it portrayed postmodern social analysis as incompetent also in other field where applied. For Latour it meant to pave his very own way of social science as a project that uncovers *assemblies* and trace networks of actors (Latour 1987, 2005), but for rest of us it can simply be an

² Rephrased from Kant's Critique of pure reason.

appeal to search for as hard explanations of our data as possible. It is important to stress that “hard” does not mean scientifically incontestable. We still have to process and offer our data in clear and testable way but we can do it with methods producing results that stay unshaken when facing to *social* as a way of their explanation.

This brings us to a more particular suggestion which perhaps will be beneficial to those students of religions that are willing to render issues under their study as somehow related to the problem of human cognition. Here, the point of this paper is that if they decided to do so they do not need to consult with a work from a field of cognitive sociology unless they are particularly interested in a sociological point of view on the issue. The reason for that is that most of the works from that field will not offer more than what can be recognized and uncovered by standard sociological methods. In case of cognition more was done in different fields.

Conclusion

Meaning of the word “cognition” stands for many scientifically addressed problems related to the essential questions of social life. The problem of reasoning and decision making, attention and perception, memorizing and recollecting and the line can be well extended. These topics lay in the very center of a social activity hence social scientists were always engaged in these matters and this is true especially for those interested in cultural aspects of social life. Sociologists (Cerulo 2002a, DiMaggio 1997), rightly points out that when discussing issues related to cognition we inevitably intersects with the territory once occupied by a sociologically articulated problems concerning the very foundation of social. Sociology was always interested in these problems. Hence the pivotal question does not stand whether *if* but *how* should social sciences participate in these discussions in order to contribute to scientific knowledge of social reality. I tried to formulate this answer. My answer is that sociologists will miss far more than just another possible explanation of the problem if they omit the ongoing discussion in experimentally based fields of cognitive theorizing and postulate their own interpretatively based views of the problem. They would give up the opportunity to pose theories in correspondence with natural grounds, since cognitive scientific tradition, in contrast with social sciences, rests on such grounds. The essential question is whether the general direction of sociology of mind is willing to participate in such a study program of cognition or if they find their own research methods entirely sufficient for the problems related to the human cognition. As I tried to stress, the second will inevitably lead to the sociology of mind developing as a gated community (Cerulo 2009), since the issues and problems of social life are already well addressed and studied by research programs resting on natural grounds which can actually offer a scientifically plausible explanations.

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