Rethinking Systems Theory: The Problem of Culture

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Systems thinking is gradually being rediscovered in the social sciences, and it has been enthusiastically embraced in the biosocial sciences (psychology, neuroscience, human biology) since about the mid-1990s. However, while the systems concept seems unproblematic for scholars in the biosocial sciences, it remains rather problematic for social scientists who have by and large rejected the systems theories of Parsons or Luhmann. Thus while "dynamic systems theory" or "dynamic systems principles" play a major role in psychology (Cervone, 2005) and neuroscience (Lewis, 2005), these phrases are almost completely absent in the social science literature. Systems thinking, to the small extent that it is practiced explicitly, can be found under the headings of "chaos theory," "complexity theory," and "sociocybernetics." While phrases such as "symbolic systems" and "semiotic systems" suggest that conceptualizing culture in systemic terms is not unusual, the more fundamental question of what cultural systems are and how they can be studied remain problematic (Tilly, 2000). This paper attempts to map out the place of "culture" in a renewed systemic approach in light of contemporary debates in historical and cultural sociology, social psychology, and cross-cultural pragmatics. The paper begins with a brief exposition of the "new systemism" before tackling the question of how culture fits into the picture.

1. Systemism: An Overview

Systems theories purport to explain how social systems work. Think, for example, of world systems theory, which is not merely a description of the world in terms of systems but rather aims to explain how fundamental social, economic, and political changes everywhere are driven by a global historical dynamic, in a theory that assigns causal primacy to top-down processes from the world system to all lower systems. Similarly, autopoietic systems theory is more than a set of descriptions of various social systems with an emphasis on their communication systems. Rather it makes the theoretical claim that the core dynamics of modern societies should be sought in the workings of discrete communications systems that self-organize corresponding, more or less autonomous societal subsystems such as politics, the mass media, education, arts, and law.

Methodological individualists have always been suspicious about any claim concerning the systemic properties of wholes – whether by structural-functionalists, Marxists, or idealists. They have maintained, rightly, that holist approaches refuse or are unable to account for individual actors as effective agents not reducible to a particular structural logic. And individualists have claimed that any social wholes have to be explained, or be explainable in principle, in terms of the structural outcomes of individual actions. Clearly, any new systems approach has to take a position in the individualism vs holism debate in the social sciences. More than that, such a position should be a step forward, offering a clear response to the legitimate claims of both positions. Traditional systems theories are holist, but systemic thinking does not have to be, as Mario Bunge explains:

> Systemism is the alternative to both individualism and holism. Presumably, it is the alternative that the historical sociologist Norbert Elias was looking for in the late 1930s, when he felt dissatisfied with the conceptions of the person as the self-contained homo clausus, and of society as a black box beyond individuals. Arguably, systemism is the approach adopted by anyone who endeavors to explain the formation, maintenance, repair, or dismantling of a concrete complex

thing of any kind. Notice that I use the expression 'systemic approach,' not 'systems theory.' There are two reasons for this. One is that there are nearly as many systems theories as systems theorists. The other is that the 'systems theory' that became popular in the 1970s was another name for old holism and got discredited because it stressed stasis at the expense of change and claimed to solve all particular problems without empirical research or serious theorizing. Systemism is just as comprehensive as holism, but unlike the latter, it invites us to analyze wholes into their constituents, and consequently it rejects the intuitionist epistemology inherent in holism. (Bunge 2004: 190-1)

This should also satisfy the central concern of methodological individualists that the actions of individuals – that is, the constitutents of social systems – not be reduced to a structural or systemic logic, but indeed that individual actors be treated as the producers of any social wholes. Systemism takes this concern aboard, but considers it only one among other basic elements in a comprehensive ontology and methodology. The other, equally basic elements that make any social system, indeed any concrete system, work are the relations between its constituents (the system's architechture or structure) and the relations with other natural and social systems (the system's environment). In clear contrast to methodological individualism, any system has characteristics that are the result of its structure and environment (emergent properties), which is why we can speak of a system as a separate entity in the first place. In further contrast to methodological individualists, the constituents of all systems in the universe are systems themselves – in the case of human individuals they are biopsychosocial systems (Pickel, 2005). Most important, in contrast to both methodological individualism and holism, entities emerge, exist and submerge as a result of key processes (mechanisms, dynamics) in a system.

> The twin concepts of system and mechanism are so central in modern science, whether natural, social, or biosocial, that their use has spawned a whole ontology, which I have called systemism. According to this view, every thing in the universe is, was, or will be a system or a component of one. For instance, the electron that has just been knocked off an atom on the tip of my nose is about to be captured by a molecule in the air. Likewise, the prisoner who just escaped from the county jail is about to be either recaptured or absorbed by a family or a gang. There are no permanent strays or isolates (Bunge 2004, 190).

What is a system?
> a system is a complex object whose parts or components are held together by bonds of some kind. These bonds are logical in the case of a conceptual system, such as a theory; they are material in the case of a concrete system, such as an atom, cell, immune system, family, or hospital. The collection of all such relations among a system's constituents is its structure (or organization, or architecture) (Ibid., 188).

What are concrete or material systems?
> Depending on the system's constituents and the bonds among them, a concrete or material system may belong in either of the following levels: physical, chemical, biological, social, and technological. The semiotic systems, such as texts and diagrams, are hybrid, for they are composed of material signs or signals, some of which convey semantic meanings to their potential users. (Ibid.)

Figure 1: Systems and Mechanisms

ONTOLOGY	SYSTEMS	BONDS	MECHANISMS
conceptual	kinds of systems	logical	[none]
semiotic	symbolic systems	cultural	communication
material	concrete systems	social	biosocial, economic, political

Concrete social systems such as multinational corporations, universities or hospitals, not to mention entire societies and civilizations, are exceedingly complex entities. In the most basic terms, they can be modeled as having components, structures, mechanisms and environments. In the systemic view, concrete systems are real, but of course they can be conceived, described and explained only in conceptual terms, that is, through models and theories. While people experience (being part of) social systems directly, they identify and understand social systems in part through symbolic, in particular semiotic systems, such as shared social representations. Such actors' models are a central part of any human social system and play a central role in the mechanisms that make the system work. In contrast to a concrete system, which is in constant flux, a model of this system is a snapshot in time and space. A brief example may illustrate the basic elements of a system model.

Bayer, a multinational corporation, is a social system composed of specialized divisions manufacturing and selling a range of pharmaceutical and agrochemical products and services on a global scale. The corporation's structure or architecture is that of a hierarchical bureaucratic organization, with a general holding company managing more or less autonomous subgroups or divisions. In other words, this multinational corporation is composed of semi-autonomous subsystems held together by a formal governance structure. The corporation's social environment consists of economic partners, competitors, and clients (i.e. various "markets"); state agencies, international organizations, media and publics (i.e. "politics"); national, regional, and industry-specific knowledge and skills clusters (i.e. "cultures," including class and gender cultures). The corporation influences and is itself affected by a host of natural and social environments. The central mechanism or process that "makes the corporation what it is," is the production and sale of its specialized goods and services. Of course this is a very thin and superficial model of a multinational corporation, but it "touches on the major bases." That is to say, while composition, organization, mechanism, and environment of this corporation are all considerably more complex, all four elements are basic to an understanding of how this particular social system functions. Any model leaving out one or more of these elements is likely to lead to misinterpretations of what is actually going on that may subsequently give rise to faulty social technologies (e.g. ill-conceived economic policies, management fads, counterproductive labor-saving initiatives, or costly mergers).

In order to further deepen this analysis, it would be necessary to examine the nature of the symbolic systems operating in this particular social system (e.g. values, beliefs and professional standards held by members; the organizational "culture"). The basic point here is to stress that symbolic systems (cultures, knowledge systems, ideologies, values, et cetera) are a crucial part of the systemic approach without which neither a social system's structure nor the working of its central mechanism(s) can be adequately modeled. A brief glance at the management literature shows that semiotic schemes, such as "change strategies," play a central part in the running of the corporation and in the management's attempts to engineer a particular kind of organizational culture.[1]

Typical explanatory problems in the social sciences often deal with even more complex social systems, namely entire societies, regional entities such as the European Union, and global systems such as the global financial system. There are different ways in which the same social system can be modeled. This does not imply that social systems are created by our models. A multinational corporation such as Bayer can be modeled as an economic system, a political-economic system, a cultural system, or a sociotechnical system with emphasis on legal, managerial, or specialized knowledge aspects. (It is of course all of the above and more.) The fact that different models of the same social entity can be, and usually are, in circulation is in large part a result of the fact that social systems cannot be easily observed. They are real, but partly hidden, with largely invisible and often fluid, partly symbolic boundaries. The systemic approach tells us only what to look for – composition, structure, mechanism, and environment of a social thing – but little more. Even the systems themselves are not a given but have to be conjectured. Is it therefore, as is usually claimed for approaches of this general kind, at best just another heuristic? The claim for systemism is more far-reaching since it is presented here as a fundamental ontology of natural and social things. It stakes out an alternative position in a long-standing philosophical debate in the social sciences over the primacy of individualism or holism. Systemism, as was argued above, is a general solution to this fundamental problem in the social sciences, one that is implicitly practiced by many who are dissatisfied with both positions. As any ontology, systemism poses its own methodological challenges. While it postulates that social systems are concrete entities, this does not somehow make them self-evident, easily observable things. Rather, social systems have to be conjectured and modeled.

One central methodological implication of systemism crucial for the purposes of this paper is that while a major dimension of social reality is composed of actors' models, models and theories do not create or constitute social reality (contrary to the claims of social constructivists)[2] but rather are part of it. This applies also to scientific models and theories, which differ from other actors' models primarily with respect to the standards and social systems in and according to which they are developed and criticized. With respect to semiotic systems, that is, social systems in which symbolic or conceptual

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[1] The management literature also shows a strong appreciation of different national cultures (for a review, see Pickel, 2004).
[2] One of the first systematic statements of social constructivism is (Berger & Luckmann, 1966) which subsequent treatments and applications have rehashed but not significantly improved upon.

systems play a central role and seem to have their own dynamic, social systems thinking confronts an additional set of problems – in short: the problem of culture.

2. The Problem

The "problem of culture" is a common challenge for anyone studying human social systems, that is, for all the social sciences, biosocial sciences, and humanities. In contrast to narrow sectoral or disciplinary views, a systemic perspective cannot deal with this problem by delegating it to some more or less obscure subfield. While there are no easy solutions to the problem of studying culture, there is no shortage of competing perspectives and approaches. Yet speaking in broad terms, in the social and biosocial sciences culture tends to be ignored or set aside, studied at best by marginal rather than mainstream approaches.[3] The humanities, on the other hand, are all about studying culture, usually defined in contradistinction to the sciences, thus artificially separating their studies of culture from potentially relevant insights generated in the natural and social sciences – a separation that can serve interests on both sides of the division.

This paper is part of a broader attempt to rethink the relevance of systems thinking for the social sciences (see esp. the contributions to Pickel ed. 2007 to which I refer in the following paragraphs). While disassociating the concept of social systems from the system theories of Parsons and particularly Luhmann is common on this agenda, meaning systems must indeed be accepted as real and causally efficacious, and therefore fully integrated into a new systems approach (Elder-Vass, 2007). Similarly, Erika Summers-Effler's (2007) "metaphor of vortexes within turbulent flows" and the conceptual tools she proposes are designed to reveal the temporal, cyclical, and historically-dependent aspects of social organization that have traditionally escaped systems theory. One of her key observations is that actors themselves create constancy in social organization by holding – cultural – assumptions about stability. Thus the dynamics of material social systems and symbolic systems in which such assumptions are in part rooted can not be separated in the way that we may distinguish analytically between them.

Sylvia Walby's (2007) central theoretical problem is the theorization of simultaneous multiple social inequalities. The problem is well known to Marxists and feminists who for decades have grappled with conceptualizing the intersection between class and gender. But the problem extends to other complex inequalities, such as those based on ethnicity, nation, and religion. While there is no shortage of empirical evidence on complex intersections, their conceptualization remains fundamentally contested. The old systems theory, including the Marxist base-superstructure conception and its offshoots,

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[3] Such narrow or sectoral views are common in the mainstream of sociology, psychology, economics, political science – though there are minority groups of scholars in each of the basic disciplines devoted to the study of culture. E.g. in sociology, cultural sociology and sociology of culture (the discipline in which the study of culture is arguably least marginalized), in psychology (cross-) cultural psychology (Shweder & Sullivan, 1993), (Heine & Norenzayan, 2006), in economics socio-economics and institutional economics (Hollingsworth, Müller, & Hollingsworth, 2002), and in political science political culture research (Almond & Verba, 1963). The discipline of anthropology itself reflects the schism between the humanities and the sciences in its categorical distinction between cultural anthropology and physical anthropology.

did not provide the tools for capturing complex intersecting systems, a standard criticism by postmodern theorists. However, Walby argues that the "postmodern paradigm has a tendency to fragmentation and to micro or cultural reductionism especially in the use of the concept of identity."

Wolfgang Hochkirchner (2007) applies a systemic approach to the field of technology and society in his analysis of the effects of the Internet on society. He argues that the key mistake made by many thinking about the implications of the Internet for society is to conceptualize the two as separate systems – a technological system and a social system. Hofkirchner argues that like any technological system the Internet is basically a social system, though one of a special kind, and he offers novel conceptual tools for analyzing the evolution of this techno-social system. One of the common themes that emerges from this symposium on rethinking systems theory is that culture needs an explicit and clearly conceptualized place in new systems thinking. The task of this paper is to take a step in this direction.

3. Conceptualizing culture in a systemic perspective

The concept of culture in the social and biosocial sciences is used in a dizzying array of meanings and contexts: values, beliefs; social cognition and representation, ideologies; discourse and language, speech and text; meanings; social practices and traditions, to name only a few. Whatever exactly "it" may be, there is moreover no consensus on what if any role culture should play in theories and explanations. Some ontologies reflect an all-or-nothing attitude, as in the case of materialist reductionisms according to which ideas are epiphenomena, or as in the case of idealist reductionisms according to which the (social) world is constituted by culture. Other ontologies reflect a more modest and tolerant attitude, most conveniently in the notion of different worlds separating the sciences from the humanities which need not bother with each other.[4] Put in this stark fashion, most contemporary scholars would probably refuse to identify with any one of these ontological positions. A third option, some sort of integration that grants some room to culture without letting it completely take over the whole enterprise, would I believe be widely considered more reasonable. It is in this spirit that many scholars and subfields in all the major disciplines are trying to come to grips with the role of culture in the social world. The advantage of more radical, all-or-nothing ontologies is that they preempt otherwise tricky conceptual questions. Where culture matters little or not at all – as in much of psychology or in mainstream economics – there is no point in working out complex conceptualizations incorporating cultural phenomena. Where culture does receive more attention, as in certain subfields of sociology and political science, conceptualizations are often ad hoc, with fragmentary ontologies buried deep in implicit assumptions. True, this is not necessarily a problem for theorizing and empirical work. What then is the point of working towards a systematic and explicit ontology?

All scientific theorizing is composed of at least three basic parts: First, the empirical level of data, descriptions, practical problems, etc. Second, the theoretical level of

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[4] Cf. C.P. Snow's (1959) classic and alarmist thesis on the chasm between the two cultures – the sciences and the humanities – is unlikely to raise many eyebrows today.

explanations, propositions, arguments, discussions and conclusions. Third, the philosophical or metatheoretical level of basic assumptions, implicit theories, ontologies and methodologies.   Each constitute integral parts of the enterprise, though of course all three are not always equally important or problematic. Where data are scarce or access is difficult, the empirical level will stand out. Where theoretical consensus is low and debate is lively, the theoretical level may have primacy. Where theoretical debates become impossible because both concepts and empirical evidence remain essentially contested, the philosophical level gains in importance. The project on rethinking systems theory, of which this paper is a part, intervenes at the theoretical level as well as at the philosophical level of debate in the social sciences. The present paper operates on the metatheoretical or philosophical level in its attempt to address the problem of culture and its place in a systemic approach. The basic questions to be addressed in these terms are straightforward: what is culture, where is culture, how does culture work, and how to study culture. Here are some attempts at answers based on the systemist perspective sketched earlier.

Cultures: What?
From a systemic perspective, it would seem, culture needs to be conceptualized as some sort of *system*. But before we rush ahead, a systemic approach would have to consider three equally important possibilities. Culture may be a *component* of a (social) system, and as such interact with other components (political, economic, psychological) as part of a common structure in which it is subordinate, equal, or superordinate. This is often referred to as the "sociological conception" of culture. Second, culture may be the – symbolic, semiotic – *environment* of a social system, thus interacting with it, but in a different (determining or determined, significant or insignificant) way. This tends to be the the "anthropological conception" of culture. Finally, rather than constituting some sort of – social or symbolic – entity, culture may be a *process* or *mechanism*. This is the "sociocultural conception" of culture in which the distinction between social and cultural entities is rejected, though the relationship between social and cultural processes remains problematic.[5] In reality, "culture" may be all of the above arranged in highly variegated and complex ways. Obviously, metatheoretical observations of this general kind are helpful only to the extent that they sketch out some of the possibilities available in principle. In order to be theoretically and empirically useful, we need to put together and defend an explicit ontology of culture.

The most fundamental postulate proposed here is that "pure"cultural systems are *conceptual* systems only (philosophies, mathematics, logic, languages, literatures, etc.); they are not real social systems (such as universities, professional associations, linguistic communities, etc.). In other words, only conceptual systems will be considered "pure"cultural systems. Traditionally the subject of the humanities, this widely held "essentialist" view of culture has been challenged as inadequate, especially by postmodernists. It is true that in order to explain cultural phenomena that transcend the

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[5] A further problematic element in the sociocultural conception is the status of individuals – the old indiv idualism-collectivism or structure-agency conundrum. Sociocultural theory from Anthony Giddens' structuration theory to Margaret Archer's emergentist and morphogenetic account of analytic dualism is discussed in detail in Sawyer 2005.

conceptual – such as explaining language use – it is necessary to move somehow beyond cultural systems in this narrow sense. We need to socialize culture, or culturalize the social. However, the logical consistency of a philosophical argument, the syntax of a language, the style of a literary work, or the code of a computer program, are (or can be fruitfully treated) as purely conceptual matters.[6]

Yet without philosophers, language communities, computer scientists, producers and users who make up sociocultural systems, these "pure" cultural systems would be of limited relevance in explaining what happens in real social systems. On the other hand, there can be no question that the study of purely conceptual systems, whether mathematical or linguistic, is of great significance in its own right. For it is purely conceptual systems that are at the bottom of all science based technologies, such as the computer or the internet, as well as all natural languages. Think, for example, of the grammar and vocabulary texts we use to learn a new language: these are separated conceptual systems (e.g. contemporary Portugese) abstracted from the linguistic practices of particular sociocultural communities (Portugese speakers, mainly in Portugal and Brazil) in which we want to use these conceptual systems.

Thus the basic ontological assumptions of the systemic conception of culture presented here can be restated as follows. "Purely" cultural systems are no more than conceptual systems. Real or material social systems, in the sense of "pure" (culture-free[7]) social systems, do not exist: All human social systems (from country X to organization Y and family Z), therefore, are *sociocultural systems*. "Purely" social systems, like "purely" cultural systems, exist only conceptually, as for instance in classificatory schemes. In the biosocial and social sciences, however, we are primarily interested in sociocultural systems.

The cultural part of a sociocultural system can be conceived as a cultural system in the sense just discussed, but it could also be conceived as a *property* (Pyysiäinen, 2002), i.e. the cultural properties of a sociocultural system. More specifically, the cultural properties of a sociocultural system are emergent properties of that system. In this sense, the cultural *level* is the highest level of emergent properties; but it cannot exist without any of the lower levels (social, biological, chemical, physical) except in analytical terms, as abstract conceptual systems. All human social systems therefore are sociocultural systems[8] with cultural properties in the sense of culture established earlier. If all human social systems are sociocultural systems, why bother speaking of sociocultural rather than simply social systems? The significance of speaking of sociocultural systems rather than just social systems is that the cultural differentiation and variation of social systems in the present ontology is considered important for how these systems work. Nation-state A

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[6] I am purposely not using the loaded term semiotics (or semiotic systems) since there is no consensus on whether, to what extent, and how the study of sign systems involves the incorporation of their social, biosocial, or biological settings.

[7] All are conceptually based, though not determined by their conceptual systems, as idealists would argue.

[8] Whether and in what sense other animal social systems should be considered sociocultural systems is an important question that cannot be addressed here. See e.g. Wierzbicka (2004) on conceptual primes in animal communication.

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and nation-state B may have almost identical formal institutions but sufficiently different cultural properties that affect their functioning.

What does the ontology presented here say about culture as *process* (Greenfield, 1997; Sawyer 2005), or "purely" cultural processes, or cultural *mechanisms*? Strictly speaking, there are no cultural processes or mechanisms. If "pure" cultural systems are conceptual systems as postulated earlier, then there are no "purely" cultural processes or mechanisms.[9] This is because there are no processes or mechanisms in conceptual systems – though of course there are logical implications, rules, standards, etc. Conceptual systems develop a dynamic only as part of actual political, economic, or biopsychic systems, i.e. as part of real or material systems or real sociocultural systems. This ontological position is inconsistent with approaches that accord no dynamic to sociocultural processes, considering cultural phenomena as merely a manifestation of deeper social processes. The "neomaterialist" ontology[10] advocated here, however, is at the same time inconsistent with all culturally deterministic approaches according to which there are independent cultural dynamics at work, such as powerful ideas (e.g. the "Protestant ethic") that are claimed to produce a new type of social system (e.g. capitalism).[11] Once separated and abstracted into conceptual systems, cultures have no independent dynamics. The dynamics are always sociocultural, which is to say that all processes and mechanisms are sociocultural, such as legitimation and delegitimation (Jost & Major, 2001), social polarization (McAdam, Tarrow, & Tilly, 2001), or the activation of boundary mechanisms (Tilly, 2004). The ontological sketch of culture presented here is also at odds with Karl Popper's three-worlds view of reality (Popper, 1972; Willmott, 2000). Cultural things, such as theories, do not inhabit their own separate reality (World 3). As conceptual systems, they are either part of World 2 (mental processes and social representations) or of World 1 (the physical world of people and their cultural artifacts).[12]

How would one map a particular culture based on the ontology just described? While the next section will refer to conceptualizations of culture that are clearly inconsistent with the systemic view advanced here, a variety of other available theories may be compatible with it. Take the following conceptualization of culture as an example.[13] Real social systems (country X, organization Y, or family Z) give rise to four distinct but overlapping cultural properties, each of which is or can be represented as a conceptual system: common knowledge, discourse, identity, and habitus. All four are major emergent properties of social systems that are, or can be represented as, conceptual systems.[14] But

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[9] The argument in support of the existence of cultural mechanisms is made by Wight (2004).

[10] See further on this "neomaterialist" position, Bunge & Mahner, 2001; Bunge, 2003.

[11] See for a detailed analysis of the social mechanisms involved in Weber's thesis on protestant ethics and capitalism (Cohen, 2002).

[12] The ontology employed here is in fact a one-world ontology – a world of systems (Bunge, 1977): physical, chemical, biological, social, cultural, with new emergent properties at each higher level (see also Bunge 2003).

[13] I have developed this conception of culture in more detail in Pickel, 2005; Pickel, 2006.

[14] All social actors use conceptual systems in one way or another. Scholarly activity, as opposed to other sociocultural forms of activity, is focused on conceptual system, though of course it is influenced by and takes place in the context of other social systems and processes. A possible source of confusion is that the scholars' model of other sociocultural actors' conceptual systems is both: a conceptual system *of* the actor's conceptual system – which may or may not be accurate. The problem of getting at the actor's own

in explanations of how the social system works, conceptual systems ("pure" culture) cannot play an independent causal role. They can play such a role only as part of sociocultural processes or mechanisms. Knowledge, discourse, identity, and habitus, in addition to being conceptual systems, are parts of sociocultural systems and mechanisms. It is only as such that they have causal efficacy, and it is only as sociocultural systems and mechanisms that they can play a role in explanations. Taking figure 2 as a reference point, none of the conceptual systems listed in the second column have any explanatory force on their own. Ideologies, for example, which are conceptual systems including calls for action, do not cause such action to happen and produce certain results. Rather, social outcomes are produced only by the collective action of organizations or movements in which the ideology comes to play a specific (and to that extent causal) role. The implications of this argument for a number of existing approaches to the study of culture will be pointed out in section 4. Figure 2 provides a brief representation of the systemic ontology of culture sketched so far.

Figure 2: Types of sociocultural systems

types of real social systems	corresponding conceptual systems	psychocultural/ sociocultural processes
small groups (e.g. families)	traditions	face-to-face interaction
language communities	languages	communication
religious communities	value systems	practicing faith
ethnocultural groups	nationalisms	living modernity
organizations/movements	ideologies	collective action
discourse communities	discourses	talking the talk
[individuals]	inner worlds	internal conversations

Where are cultures located?
Some answers to the question of where cultures are located, are implied or at least suggested in the ontological account just presented. While "pure" cultures are simply conceptual systems that have no independent physical or temporal location in reality, they come to life in the context or as parts of real systems. All sociocultural systems (i.e. all human social systems) are thus related to other sociocultural systems in part through culture. In addition, cultures can be seen as emergent properties of social systems. However, there are no cultural processes or mechanisms as such since emergence, persistence, and decline of cultures are always social processes. In other words, there are only sociocultural processes and mechanisms.

An important extension reflected in Figure 2 is that, while so far only social and cultural systems have been discussed, individuals themselves obviously need to be incorporated in our ontology. For in systemism, in contrast to collectivist or holist approaches,

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conceptual systems rather than imposing one's own scholarly conception in their stead will be addressed in section 4.

individuals form an independent and active, non-reducible part of the social process – yet in contrast to individualist approaches they share causal power with social systems. In the systemic view, the individual is therefore not only a part or component of larger social systems, but also a system itself, that is, a biopsychosocial system (Pickel, 2005). "Pure" cultural systems (e.g. ideological doctrines) as discussed in the previous section therefore exist not only in social systems, but also in biopsychosocial systems.

Treating individuals as biopsychosocial systems means that the components of this type of system include sociocultural elements, psychological elements, and biological elements. Analytically, we can cut up and examine social and biopsychosocial systems in a variety of ways. But what the ontology presented here implies is that such levels of analysis should not be mistaken for independent levels of reality. Unlike theories, the sociocultural process does not stop at the analytical boundaries of a given approach or explanation. While ontologically speaking all social systems and processes are sociocultural, analytically it often makes sense to neglect the cultural dimensions of sociocultural systems – think of network theory which seeks to establish general structural properties of specific network configurations, or game theory. This point becomes even more relevant when we speak about analyses focusing on the individual level, as in much of psychology[15] and neuroscience[16] where sociocultural influences are rarely taken into account. The significance of the systemic ontology is not that it rules out a priori any methodological convention or analytical focus. Rather, it means that such a-cultural conventions and perspectives remain open to challenge; their analytical closure is temporary and provisional, not final. It is methodological, not ontological.

In addition to its critical significance, a systemic ontology has positive and constructive consequences. Conceptualizing individuals as biopsychosocial systems implies that culture exists or happens at all these levels – which means that explanations of culture should in principle be open to, or at least not categorically exclude, causal relationships between any of these levels. In fact, a central question concerning how "culture works" to be discussed in the next section depends on how culture works in different "locations." For instance, the holistic conception of the cultural dupe makes little sense in light of extensive evidence that culture at the individual level is organized in a dynamic and nonlinear fashion (Chao & Moon, 2005). Individuals here are better seen as "creative consumers" of culture. Randomness and unpredictability of cultural processes seem to be higher at individual levels of analysis than at social systems levels, a point to which we shall return.

Of course types of social systems differ in many fundamental respects, which is likely to be reflected in their sociocultural properties and processes. The "production of culture" occurs primarily at the level of small groups. Single individuals may play a key role in cultural invention, but they do so as members of specialized professional, intellectual or artistic groups who in turn belong to larger sociocultural systems – media, corporations,

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[15] For surveys of psychology literatures studying the interaction between culture and psychology, see Heine and Norenzayan 2006; Lehman, Chiu, & Schaller, 2004; Shweder 1993.
[16] Even in neuroscience, there is growing interest in the sociocultural. See e.g. Cacioppo & Visser, 2003; Cacioppo, Visser, & Pickett, 2006; Harmon-Jones & Devine, 2003.

universities, movements, or nations – that have the capacity to transform inventions into social innovations.[17] In addition to the individual dynamics (biopsychological) and the small group dynamics (psychosocial), sociocultural processes occur in larger sociocultural systems, especially political (international state system)[18] and economic (capitalist world system)[19] supersystems. Of course such sociocultural supersystems are ultimately made up of smaller systems and individuals whose interaction produces, reproduces, and alters the emergent properties characterizing such supersystems. It is usually possible to identify what the most important of these properties at the macro level are, whereas it is frequently impossible to explain how they emerged – in part because of the sheer complexity of lower level interactions, in part because of the emergence of genuine qualitative novelty at the systemic level from these lower-level interactions (Bunge, 2003). In any event, no one can seriously question the large impact such supersystems have on their constituent parts and their environments, even if (as in the case of methodological individualists) they lack an ontology and methodology for dealing with systems.

Systematically describing the "locations" of culture quickly becomes more complicated due to the complexity of the systems and processes involved. Two points are especially noteworthy. First, the multitude of existing sociocultural systems are only to some extent hierarchical and nested.[20] To some extent, they may overlap in different ways, in relationships of partial dominance and subordination, dependence and independence, horizontal association and separation. Second, cultural systems do not neatly correspond with social systems. Take the modern nation-state, a phrase itself suggesting close correspondence or even identity between a cultural system and a social system. In fact, national cultures and territorial states exist in various degrees of correspondence, their lack of a strong common identity a potential cause of serious, often violent political conflict. Other sociocultural systems located within particular states may have a relationship of partial dominance and subordination with each other (e.g. native groups in the Canadian state), or of horizontal association and partial autonomy (e.g. the province of Quebec in the Canadian federal system). The general point is that the overlap, interpenetration, and borderlessness of social systems caution against assuming too direct a degree of correspondence between a purely cultural (i.e. conceptual) system and a social system. In other words, the boundaries of sociocultural systems can be fuzzy. (In this sense, fig. 2 is somewhat of a simplification.) This complex picture leaves us with some serious methodological and theoretical challenges. While cultural systems cannot be separated from social systems, they also cannot be directly mapped onto social systems (nor conversely can social systems simply be assumed to have corresponding cultural systems). Ontologically, sociocultural systems can be messy since they are related in rather complex ways. How can we possibly hope to explain how they work?

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[17] On the invention-innovation mechanism, see Hofkirchner (2007).
[18] Meyer, Boli, Thomas, & Ramirez, 1997.
[19] Take, for example, the current debates on culture and economic globalization.
[20] Contrary to the otherwise interesting dynamic, multi-level model of culture proposed by Erez & Gati (2004).

How do cultures work?

The previous section has distinguished two major locations at which culture works: in biopsychosocial systems (i.e. individuals) and in sociocultural systems (e.g. groups, societies). The sociocultural process has no starting point or end point – in contrast to specific theories where these points are defined by the choice of explanatory framework and problem. The role of culture in an explanation of individual behaviour would be different from its role in the explanation of collective behaviour or of systemic properties. The reason is that culture seems to work in fundamentally different ways at different systemic levels. Perhaps surprisingly, the greatest degree of complexity in how culture works may be found at the individual level rather than the social level. Most individuals in the global age belong to several sociocultural systems; as individual biopsychic systems, their behaviour is subject to a broad range of biological and psychological processes that might have to enter into any satisfactory explanation. Thus the systemic approach is particularly significant at the individual level of biopsychosocial systems in which several "pure" cultures qua conceptual systems are represented in partial, fragmentary, and overlapping ways, subject to psychological and biological mechanisms that have little or nothing to do with any "cultural logics." Individuals, as Chao and Moon (2005) have suggested, can be seen as "cultural mosaics," unique collages of multiple cultural identities yielding a complex picture of the cultural influences on that person. Even if, as I would suspect, some tiles of the mosaic are dominant, culture at the individual level is a complex system with localized structures, making behaviour as a result of cultural influences therefore more indeterminate than is usually assumed from a macro perspective.

The individual level and the level of sociocultural systems are connected culturally in a direct fashion, sociocultural systems providing the social representations stored as cognitive representations in individual brains. As books and media have in the past, the internet is making conceptual systems ("pure" cultures) directly accessible to growing numbers of individuals. However, a crucial part in the social mediation and individual appropriation of cultural systems occurs in small groups (classes in schools, workplace groups, political and professional associations, families and friends, informal networks, etc.). It is in the interaction of face-to-face groups[21] that the link between brain (a biopsychic system) and cultures (conceptual systems) occurs and is collectively acted out, a psychosociocultural process described by symbolic interactionists. Small groups of this kind not only mediate the inculcation of existing cultures, they are also a major site for the emergence of cultural novelty. Whether cultural inventions never make it beyond the small groups in which they originated, or lead to sociocultural innovation at a higher systemic level (the school system, the corporation, the political party, or the "clan"), small group settings represent a major venue for cultural change. Of course not all small groups of this kind are the same. Their relative creativity, power and influence will depend in good part on their structural position in larger sociocultural systems.

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[21] Interaction in face-to-face groups can be most of the time at a distance, through telephone, email, etc. but the establishment and long-term maintenenace of such groups does seem to require occasional face-to-face contact. In contrast, the cult of celebrities is a one-sided relationship that may be imagined as direct by the celebrity consumer.

Sociocultural macro systems (as opposed to the many meso and micro level sociocultures) have formal or informal institutions specializing in the teaching and administration of knowledge systems, discourses, identities, and habiti – cultural organizations like educational institutions, the media, communications departments in modern organizations, etc. identified as the crucial agents of culture according to some approaches.[22] Sociocultural systems on the macro scale[23] have distinct cultural properties and social mechanisms affecting their individual and collective components that somehow emerge from the internal and external interaction of its components. At this macrolevel, "purely" cultural systems are easier to map, and key sociocultural mechanisms can be conjectured because some properties of sociocultural macro systems remain stable for an extended period of time – think of ethnic or national cultures. The complexity of cultures at the macro level, in addition to the emergence of qualitative novelty, is a result of the overlapping and interpenetrating nature of sociocultural systems (e.g. national culture, gender culture, class culture, organizational culture, local culture, family culture). There may be many continuities in a national culture – whether in knowledge, discourse, identity, or habitus – but many of the sociocultural systems that participate in this national culture are changing much faster, and often radically – such as transnational corporations or social movements at the macro level, scientific or artistic groups at the meso level, or individuals at the psychocultural level.

This tripartite breakdown of general sociocultural processes into individual, intermediate group, and macro system levels once again entails enormous challenges for theoretical and empirical work. Of course this ontology does not specify how cultures work, but only suggests the lines along which cultural explanation might proceed. I will conclude this section with some reflections on methods for the study of culture.

How to study culture
For certain explanatory problems, sociocultural systems and mechanisms may not be needed or are at best of secondary importance. This is the case, for example, if the level of analysis or the dimension of the problem are demonstrably not affected by cultural specificity and difference, or their effects can be "safely" ignored. Individual psyches, small group interaction, network behaviour or markets in general, however, may allow for only thin and abstract findings that will be of limited use in most explanatory problem situations. Of course, cultural specificity is often implicitly embedded in the conceptualization and analysis, as in case studies where a broad cultural background is provided or can be assumed. It is true, as Mayntz (2004) points out, that the research decision to focus on a particular level of analysis and/or dimension of the problem is always prior to the analysis itself. However, research decisions on explanatory problems are not themselves made in empty space but in given explanatory problematics, which in turn are open to philosophical, theoretical and empirical criticism. The systemic ontology advanced here is perhaps clearer in its negative implications (how not to study culture)

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[22] E.g. the production of culture approach (surveyed in Peterson & Anand, 2004) and Foucaultian power analysis.
[23] While national state-societies continue to be central, there are other important macro cultures, from transnational corporations to global religious and political movements that are neither above nor below the nation-state.

than in its positive implications. An ontology is no replacement for conceptual and empirical theorizing; it is more of a rough guide to problems and contexts. If it can raise some important criticisms and make some novel suggestions for how to proceed, this may not be a bad start. Some of these criticisms applying to existing approaches will be briefly mentioned in the next section.

With respect to methods for the study of cultures, none of the available range – formal quantitative surveys and informal qualitative ethnographies; ideology critique; discourse analysis and linguistics; hermeneutics and interpretation; action and participatory research; or armchair theorizing – should be discounted in principle. The important point to make is that arguments in favor of one method to the exclusion of others are usually based on ontological and methodological claims or assumptions that are at odds with the systemic view presented here. The same is true for different modes of analysis: statistical, ethnographic, historical, comparative, mechanismic and covering law all have specific contributions to make, though no single approach has an a priori claim to exclusiveness. Ontological presuppositions themselves, though operating at a meta-theoretical level, are not immune to or insulated from theoretical and empirical insights and discoveries, at least if we expect an ontology to be consistent with the results of modern science.

4. Some Implications of the Systemic Position: Critical and Constructive

> Metatheory is indispensable as an orienting device. It thinks out problems in a general manner and, in doing so, provides more specific, explanatory thinking with a direction to go. The challenge is to move downward on the scientific continuum, from the presuppositions of metatheory to the models and empirical generalizations upon which explanation depends (Alexander and Mast 2006, 3).

Some critical implications
The systemic metatheory of culture presented in this paper is clearly incompatible with some conceptualizations and theories of culture, yet it is compatible with others. This section can do no more than suggest in very general terms a few of these incompatibilities between a systemic ontology of culture and other sets of fundamental assumptions.

In section 3 a fundamental distinction between three systemic levels of the location of cultures was made: the individual level of biopsychosocial systems; the small-group level; and the macro level of sociocultural systems. These are three distinct systemic levels at which sociocultural processes occur: one process, three subprocesses, and three different sets of mechanisms. The implication for approaches to culture is that the entire sociocultural process must somehow be addressed, either by attempting to conceptualize and "integrate" the process into specific theories and explanations, or by adopting defensible "simplifying" assumptions.[24] The following approaches are mentioned as

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[24] Such assumptions might also include a wholesale or partial rejection of the systemic ontology presented here, which in order to be credible should however provide some metatheoretical arguments in its support.

probably incompatible with the systemic ontology of culture presented here – a claim for illustrative purposes that will however remain unsupported here.

1. Approaches focused on the *individual level* either deny or simply ignore the significance and causal efficacy of cultures. Denial is illustrated by rational choice type approaches, which presuppose a set of universal psychological "mechanisms" to explain social behaviour (e.g. Elster, 2007). Simply ignoring culture is common among cognitive psychologists, most of whom are methodological individualists presupposing that culture-independent cognitive processes account for individual behaviour. In sharp contrast, claiming centre stage for the individual mind, phenomenologically and hermeneutically oriented approaches to culture attempt to reveal the underlying symbolic systems through which the individual generates meaning. The methodological individualism these approaches hold in common make them incompatible with the position advanced here.

2. Approaches focused on the group level (families, organizations, networks, movements) emphasize the interactive processes in how cultures work. Most work in psychology and sociology at this micro and meso level is not interested in culture. The most important approach taking culture seriously at this level is symbolic interactionism. From the systemist viewpoint, this approach is promising since it takes both the conceptual ("pure" culture) and the real or material (social interaction) seriously, at least in principle. It becomes inconsistent with the position defended here to the extent that it assumes an endogenous cultural dynamic of symbolic or semiotic systems in social processes – a sophisticated cultural reductionism.[25] The "production of culture" approach (Peterson and Anand 2004), on the other hand, presupposes that what matters are the social dynamics behind cultural institutions – a sophisticated sociological reductionism typical also for the power centred Foucaultian approach. Whether on account of their symbolic or sociological reductionism, approaches of this kind appear to be inconsistent with the systemic view of culture.

3. At the macro level, cultural reductionism is usually much less sophisticated. An essentialist or "entity view of culture" (Kitayama, 2002) is widespread in both psychology and the social sciences, presupposing static and simplistic cultural forms (e.g. universal values such as individualism and collectivism) that serve as independent variables in the explanation of social facts. Approaches sharing the presupposition that maco culture reflects macro society in a functional or instrumental way are traditionally found among those with structural-functionalist or more orthodox Marxist leanings. All these crudely reductionist approaches are incompatible with cultural systemism.

A final, very brief illustration of what a systemic ontology of culture might entail conceptually is designed to underscore the point that, in addition to the critical implications hinted at, cultural systemism has a variety of constructive implications.

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[25] "The new sociologists of culture are intent on structural analyses of culture. They aim not to unearth the meaning implicit in cultural objects but the symbolic systems that undergird them." (Kaufman, 2004), 353)

Some constructive implications
The systemic ontology of culture presented here has to prove its usefulness with respect to two basic types of explanatory problem. In the first type, questions about cultures as conceptual systems are raised – structure, content, history, etc. – culture as *explanandum*. In the second type, questions about economic, political, psychological processes are raised for which culture may serve as an *explanans*. Here is a brief example of how one might approach each type of explanatory problem.

Explaining cultures. The systemic ontology views cultures ("pure" cultures) as conceptual systems. What are these conceptual systems? One promising theory in the debate views these conceptual systems as "cultural scripts"[26] – basically conceptual grids. These conceptual grids are contained and reflected in linguistic structures such as lexical and grammatical systems, phraseology, discourse structure, intonation, interjections, swear-words, and forms of address. Conceptual grids are also contained in non-linguistic forms of communication, such as culture-specific facial expressions and bodily postures, gestures, and so on." (Wierzbicka, 1999, 34) However, rather than modeling such cultural scripts from above, i.e. from the viewpoint of the observer, the theory insists on having members of particular sociocultural groups themselves articulate the culturally specific meaning of their models.

> Scripts of this kind are always formulated from the insider's point of view. [T]hey are "actors' models", not "observers models"; and they are inherently sympathetic – and empathetic – to the insider's point of view. They try to articulate the "native's" tacit knowledge rather than an outsider's objectivist and experience-distant representations of human experience and competence. At the same time, being formulated in universal human concepts, they can be intelligible to outsiders too. (Wierzbicka 1999, 272)

As Anna Wierzbicka (2005, 584) further explains:
> [T]he researcher does not bring to the description of a culture external conceptual categories such as 'individualism' or 'collectivism', as is usually done in the literature (cf. Hofstede, 1980; Schwartz, 1994). Rather, norms and values are always identified from within—that is, from the point of view of those people who are the bearers of the postulated norms and values (and in their own language). At the same time, these unique norms and values are presented in a way which makes it possible to compare them: not through identical labels applied across the board, but through identical building blocks out of which the different formulas are built. As a result, the proposed formulas are both unique and comparable: each is qualitatively different from all others, and yet each

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[26] The theory of cultural scripts is an offshoot of Natural Semantic Metalanguage (NSM) semantics. "The key idea of NSM semantics is that all meanings can be adequately portrayed in empirically established universal human concepts, with their universal grammar. The key idea of the theory of cultural scripts is that widely shared and widely known ways of thinking can be identified in terms of the same empirically established universal human concepts, with their universal grammar." (Wierzbicka 2005, 583; on NSM, see also Goddard, 2005; Goddard, 1997; Wierzbicka, 2002; Wierzbicka, 1992; Wierzbicka, 1997).

constitutes a configuration of the same elements—non-arbitrary, universal and universally understandable.

Scientific models of cultures thus have the task of "universalizing" specific cultural scripts based on the actors' own models of their sociocultural reality, rather than imposing external (often implicitly ethnocentric), pseudo-universal concepts.[27] This is a crucial theoretical move in that it bridges the ever-present division between objective and subjective, externalist and internalist approaches to culture. It resolves the false opposition of the "anthropology of the body" vs the "anthropology of the mind", or the cognitivist vs practice-based theories of culture and language (Wierzbicka, 1999, 239).

Explaining with cultures. The second type of explanatory problem is interested in explaining various social processes with the help of cultures. The systemic ontology maintains that all human social systems are sociocultural systems. We can therefore not pose simple questions about the causal relationships between cultures (qua conceptual systems) and social groups (qua real or material systems). Conceptual systems by themselves do not cause anything social or material. Only sociocultural systems can and do have causal efficacy. In other words, conceptual systems "work" (i.e. have an effect) as part of sociocultural systems which are the systems that have causal efficacy. The theory of cultural scripts just discussed therefore places such emphasis on identifying and operationalizing the real actors' models. Cultural scripts are conceptual systems, but not all conceptual systems are cultural scripts. Conceptual systems that contribute to real social processes have an effect in part through actors' models. At the level of biopsychosocial systems (i.e. the individual), cultural scripts exist as cognitive representations in individual minds/brains which produce meaning at the intersection of biological (esp. neural) processes and psychosocial processes. Thus explaining individual behaviour in a social context with the help of culture requires identifying that individual's unique configuration of cultural scripts in the context of the groups and systems to which the individual belongs and in which she acts. As noted earlier, explaining *individual* behaviour in cultural terms is fraught with special difficulty because of the potentially considerable subjective variation in the use of objective cultural scripts. As a result, at this biopsychic level sociocultural processes (much like weather systems) do not always have easily predictable outcomes. There is certainly no simple correspondence between cultural scripts and individual behaviour, as cultural psychologists point out – though individuals may have a what Mischel (2004) has called a "behavioural signature"[28] that has greater constancy if distinctions are made between different domains of individual action. This problem is especially challenging for methodological individualists who do not have systematic conceptualizations of collective and systemic levels of social reality.

In the ontology presented here, on the other hand, culture works also at group and systemic levels. At these levels, cultural scripts achieve a coherence that make for more

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[27] A similar intention lies behind attempts at "reflexive" approaches in sociology and anthropology, but there is no *method* comparable to the Natural Semantic Metalanguage (see note 26), which "objectifies" inter/subjetive meaning rather than remaining caught in a hermeneutic circle (Salzman, 2002).

[28] van Dijk (2006) speaks of "context models."

determinate relationships with social outcomes. Here we can identity specific sociocultural domains with particular scripts or variations of scripts that on the whole individuals as participants in that domain will follow. Thus the explanation of cultural effects on a particular work group in an organization can focus on the organization's cultural script without having to take into account the greater complexity of culture at the level of individual workgroup members. However, such an explanation will have to take into account the sociocultural environment of that organization, which may be a major source of the cultural scripts in action. For instance, a question frequently debated in the economic globalization literature concerns the extent to which organizational cultures of the subsidiaries of transnational corporations follow the scripts of their national culture, and with what implications for the effective management of multinational teams within one global organization (Dastmalchian, Lee, & Ng, 2000; Hofstede, 1999; Mayrhofer et al., 2004).

One of the pressing tasks suggested by a systemic ontology is a classification of cultural scripts and sociocultural systems, e.g. in terms of their depth and scope. There is no doubt that national (more accurately, ethnolinguistic) cultures will take a prominent place in such a classification as sociocultural systems that are both deep and extensive. But national cultures, which are not homogenous entities, will be set in relation to other sociocultural systems; and the extent to which the latter are nested, overlapping, or separate will have to be determined empirically. This step will be particularly relevant for the macro level of sociocultural processes long dominated by an implicit "methodological nationalism"[29] – one area in which "methodological systemism" could make a constructive contribution.

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[29] I make an argument for an explicit, but limited "methodological nationalism" in Pickel, 2004.

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