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Культура и познание: в поисках не-редукционистского подхода

doi: 10.22394/2074-0492-2020-2-104-124

Резюме:

В фокусе статьи находится анализ теорий культуры и познания в современной социологии культуры. Автор рассматривает две конкурирующие исследовательские традиции в когнитивной социологии культуры, опирающиеся на микро-индивидуалистские и коллективистские модели социологического объяснения соответственно. Сперва автор критически анализирует два теоретических подхода, существующих в рамках «микро-индивидуалистской» парадигмы: «дуально-процессную» модель культуры-в-действии Стивена Вейзи и типологию культурных форм Омара Лизардо. Автор утверждает, что оба подхода являются проработанными и теоретически глубокими, но тяготеют к неоправданному редуцированию культуры до ее микрооснований. Автор затем дает критическую оценку содержательных предпосылок так называемой «зерубавелианской» парадигмы культурной социологии, принадлежащей к «коллективистской» ветви теоретизирования, а также отдельно останавливается на серии работ по проблематике культуры и познания, представленных культурсоциологами-неодюркгеймианцами. Автор приходит к заключению, что теоретические предложения «зерубавелианцев» и неодюркгеймианцев основаны на проблематичных допущениях о способах хранения и передачи культурного знания. В статье делается вывод о том, что ни индивидуалистские, ни коллективистские теории не могут адекватно объяснить взаимосвязь культуры и познания, так как зиждутся на редукционистских онтологических основаниях. По мнению автора, для преодоления этих ограничений необходимо обратиться к онтологической доктрине «натурализованного критического реализма» Туукки Каидесойя, черпающей идеи из двух источников: системной онтологии Марио Бунге и концепций «распределенного познания» в когнитивных науках. В статье представлен предварительный черновой набросок подхода к объяснению взаимосвязи культуры и познания, основанного на концепции производства, распространения и трансформации репрезентаций в распределенных когнитивных системах.

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Ключевые слова: когнитивная социология, культура и познание, распределенное познание, натурализованный критический реализм

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Culture and Cognition: In Search of a Non-reductionist Framework

Abstract:
This paper focuses on the analysis of contemporary theories of culture and cognition in cultural sociology. It identifies two major research traditions within cognitivist cultural sociology, based on micro-individualist and collectivist modes of sociological explanation respectively. Two prominent theoretical frameworks within the "micro-individualist" tradition are then critically examined: Stephen Vaisey's dual-process models of culture in action and Omar Lizardo's typology of cultural kinds. It is argued that both frameworks, although well-defined and theoretically insightful, are prone to unwarranted microfoundationalist reductionism. The paper then proceeds to evaluate the presuppositions of the explicitly "collectivist" Zerubavelian paradigm of cultural sociology, as well as a series of recent contributions to the field by scholars representing the neo-Durkheimian "strong program". Both are argued to contain problematic assumptions about the location and means of transmission of cultural content. It is concluded that neither "micro-individualist" nor "collectivist" theories of culture and cognition can provide an adequate account of how culture and cognition interrelate since both frameworks are based on explicitly reductionist social ontologies. The article then calls for the adoption of Tuukka Kaidesoja's "naturalized critical realist" social ontology that seeks to overcome these philosophical biases. The paper examines two major sources of Kaidesoja's ontological doctrine, namely Mario Bunge's systemic materialist ontology and the "distributed cognition" perspective. The article then seeks to outline a preliminary sketch of an alternative account of culture that involves the generation, transmission, and transformation of representational states across different media within distributed cognitive systems.

Keywords: cognitive sociology, culture and cognition, distributed cognition, naturalized critical realism

1. Introduction

Importing concepts and explanatory models from other disciplines is not an uncommon strategy in sociological theory. When faced with

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a theoretical deadlock, scholars often resort to searching for solutions outside the established disciplinary boundaries, whether in the neighboring disciplines like anthropology and psychology or in the seemingly distant fields such as cybernetics and biophysics. This sort of import, however, is rarely entirely neutral in nature and may entail, in certain cases, problematic assumptions and unwarranted conceptual choices.

Thus, it is easy to see why some sociologists dismiss the promise of such ambitious integrative endeavors as "Cognitive Social Science" [Turner 2007a; Sun 2012] or the "Sociology of Culture and Cognition" [DiMaggio 2002; Cerulo 2010]. The rapid expansion of neuroscientifically informed theorizing in the social sciences is perceived by them as an imminent threat to the integrity of sociological explanation. Those who oppose this *"neuroscientific imperialism"* in sociology [Coulter 2008: 26] claim that it constitutes nothing more than another essentialist attempt to *"[re-]describe social phenomena in a redundant (cognitive) vocabulary"* [Button 2008: 89].

In my opinion, while it is fair to say that some arguments developed within the new cognitivist strands of social theory closely resemble those overly simplistic essentialist proposals of the past, there exist other elaborate and insightful theoretical frameworks that may provide novel ways of looking at the seemingly outmoded problems. Although we might not share the rampant optimism of some enthusiasts who claim that cognitive science is bound to radically transform the very definition of the social [Turner 2018: 6–9], its influence has nonetheless become too obvious to ignore. This is especially evident in cultural sociology, where discussions on culture and cognition have come a long way from being a minor topic of interest for a *"loosely bound invisible college"* [Lizardo 2014: 985] to becoming "the next big thing" that begins to dominate the agenda of the field.

The development of cultural sociology continues to be plagued by a theoretical confrontation perhaps best articulated by Sewell: namely, the one between "systemic" and "practice" concepts of culture [Sewell 2005: 161–64]. While Sewell himself adopts a dialectical "happy medium" resolution to this problem, recent developments in cognitive cultural theory suggest, as Norton rightly noted, that it may be untenable [Norton 2019: 4–5]. Cognitivist cultural sociology strives to offer new solutions to these old issues based on firm and reliable knowledge on cognition gained from neuroscientific research. However, at first glance, their progress appears to be somewhat modest: it seems that cultural theorizing, even in its latest cognitivist incarnation, is once again caught between the two extremes of reductionism — individual-level microfoundationalism (IMF) on the one hand and macro-scale "collectivism" on the other.

With this in mind, I argue that in order to develop an explicitly nonreductionist integrative account of culture and cognition based on a

coherent social ontology, we need to turn our attention to alternative, non-traditional theoretical resources both within the social sciences and cognitivism. The main objective of this article, then, is to outline a preliminary sketch of such an approach that will avoid the common fallacies and inconsistencies of mainstream cultural-cognitive theorizing.

To achieve this, one must naturally start with a critical overview of the existing approaches. In the first section of this paper, I explicate the theoretical foundations and address the shortcomings of two major traditions within the sociology of culture and cognition: the "embodied" and the "culturalist/structuralist" strands respectively. I argue that both traditions are reductionist to a certain extent and fail to provide a solid, empirically plausible account of how the "systemic" and "practical" dimensions of culture interrelate.

Drawing on this critique, in the next section I build the case for the adoption of Kaidesoja's "naturalized critical realist" social ontology [Kaidesoja 2013a] that makes heavy use of the "distributed cognition" and "extended mind" concepts borrowed from non-mainstream strands of cognitive neuroscience. I argue that looking at cultural phenomena through this lens can save culture both from being reduced to its neural underpinnings and being cast into some intangible collective ether. I also briefly address some potential controversies that this theoretical choice entails, including criticisms raised against the computational theory of mind and the problem of representational mental contents.

In the final section, I briefly summarize the main arguments made in the previous sections and propose future directions for theory-building and empirical research. I also argue for the establishment of cross-disciplinary dialogue between neuroscientists, psychologists, and sociologists who study culture and cognition.

2. The landscape of cognitive cultural sociology

The landscape of cognitive cultural sociology is becoming increasingly diverse nowadays. Back at the end of the 1990's, when the movement was still in its infancy, providing a cartography of the field was relatively easy. But today, after the explosive growth spurt of the 2010's, there is a good chance that a dozen new papers on the subject will have appeared by the time this piece is published.

In their recent discussion of the state of the field, Brekhus and Ignatow identified two major traditions within cognitive cultural sociology: a) the "culturalist/structuralist" strand that draws inspiration from social constructionism and structuralist anthropology and focuses on cultural variation in perception and attention; b) the "embodied" strand that emphasizes bodily sensory experience of individuals as a key to

understanding the relationship between culture and cognition and is largely inspired by the works of Bourdieu and Wacquant [Brekhus and Ignatow 2019: 6–11].

Although Brekhus and Ignatow's chapter is the most comprehensive overview to date, I argue that the twofold classification proposed above doesn't really capture the diversity of the field and conveys a misleading sense of its internal coherence. First of all, as I briefly mention below, there can be quite substantial disagreements on central issues even between the scholars who supposedly represent the same tradition. Secondly, ever more scholars outside the field are joining the conversation on culture and cognition [Mast 2020; Kurakin 2020; Norton 2020], and it is not entirely clear how they fit into this binary categorization. However, for the sake of explanatory convenience, the discussion below will be structured in line with the aforementioned distinction.

2.1 Stephen Vaisey's "dual-process" theory

What Brekhus and Ignatow refer to as the "embodied" strand of cognitive cultural sociology is quite a diverse collection of theoretical and empirical works that can be boiled down, perhaps somewhat superficially, to two major lines of inquiry: the so-called "dual-process" models of culture and cognition first put forward by Vaisey [Vaisey 2009] and the neo-Bourdieusian "strong practice theory" developed by Lizardo and his collaborators [Lizardo 2007; Lizardo and Strand 2010]. The two are closely interrelated and seem to share an explicit commitment toward methodological individualism and microfoundationalist social ontology, although both are increasingly demonstrating a tendency to incorporate at least some holistic social-ontological elements.

The "dual-process" theories of culture and cognition have been the subject of heated debate among scholars since their first introduction by Vaisey in his seminal 2009 article "Motivation and Justification". Building on Haidt's moral foundations theory [Haidt 2001] and Giddens' structuration theory, Vaisey proposed a distinction between two modes of culture and cognition: the "discursive" and "practical" modes respectively [Vaisey 2009: 1682–83]. He asserted that social actors are primarily driven by deeply internalized automatic processes ("practical consciousness", "the habitus", etc.), but are also capable of deliberation and justification to some extent ("discursive consciousness") [Ibid.: 1687]. This theoretical move, Vaisey claimed, reconciled the functionalist theories of culture with the "toolkit" approaches [Swidler 1986], providing a much needed solution to the "systemic-practice" divide in cultural sociology [Vaisey 2009: 1685–87].

Vaisey's initial proposal was met with visible enthusiasm and spawned a considerable body of empirical research, with topics ranging from collaboration networks in organizations [Srivastava and Banaji 2011] to religiousness and marijuana use [Hoffmann 2014]. Some scholars, however, openly challenged the basic presuppositions behind Vaisey's framework, using empirical data to back up their claims. A number of authors criticized the idea of automatic and deliberate cognition, pointing out that it is nearly impossible to draw a clear-cut distinction between the two types of processes in real-life everyday contexts, because social actors appear to be capable of switching effortlessly back and forth between both modes [McDonnell 2014; Vila-Henninger 2015; Cerulo 2018]. Moreover, as Leschziner & Brett recently noted, there may be well more than just two distinct types of cognitive processes: some scholars argue there exists a third type that serves as a mediator between automatic and deliberate cognition [Leschziner and Brett 2019; see also: Stanovich 2009; Thompson 2009]. Additionally, "dual-process" models of cognition have been heavily criticized in cognitive science itself for their conceptual fuzziness and lack of clear criteria for empirical verification [Keren and Schul 2009].

I also partially agree with Kurakin who claims that dual-process models of culture and cognition are susceptible to an epistemological fallacy he dubbed "the homology pitfall" [Kurakin 2020: 75–76]. Kurakin describes this principle as follows: "*The homology pitfall principle predicts that an existing epistemic void tends to be filled by analogy… <…> If most of what we know about A is that it is somehow interrelated with B, and we know the structure of B, we tend to think that A has the same structure*" [Ibid.: 76]. Although sometimes direct analogy does work, as Kurakin's own example with Coulomb suggests [Ibid.], there is no a priori reason why it should. Thus, a serious challenge for the proponents of Vaisey's framework is to prove that social-scientific models of culture have to mirror models of cognitive processes in neurosciences. As we will see later, however, dual-process theories are not the only ones vulnerable to this fallacy.

2.2 Omar Lizardo's cultural theory

Lizardo and his colleagues have also engaged seriously with Vaisey's ideas, although their theoretical and empirical work went in slightly different directions. As a fierce proponent of Bourdieu's practice theory, Lizardo started on his path in cognitive sociology by attempting to revitalize the old Bourdesian concepts with a shot of state-of-the-art neuroscientific knowledge [Lizardo 2004, 2007]. The foundations of Lizardo's approach were laid down in his polemical paper on the role of mirror neurons and embodied simulation in transmission of practical com-

petencies across individuals [Lizardo 2007] as well as his 2010 article, co-authored with Michael Strand, where they offered an outline of an integrative cultural-cognitive framework. In contrast to Vaisey's work, the bodily component plays a greater role in Lizardo's theoretical endeavors, hence his explicit engagement with the concept of "embodied cognition" [Lizardo 2015].

Perhaps Lizardo's most elaborate proposal to date is the analytical distinction between declarative and nondeclarative modes of personal culture [Lizardo 2017] that was in part inspired by Vaisey's dual-process model. Lizardo claims that cultural knowledge of individuals can exist in two distinct modes that correspond to memory systems in cognitive science literature [Ibid.: 91-93]. Declarative cultural knowledge is said to consist of such mental content as values, attitudes, orientations, worldviews or ideologies, i.e. the content that exists in explicit, symbolically mediated format [Ibid.: 91-92]. Whereas non-declarative cultural knowledge is comprised of skills, dispositions, schemata, prototypes and associations, i.e. the "tacit" non-symbolic content acquired via slow-learning [Ibid.: 92-93]. As a bodily theorist, Lizardo clearly emphasizes the primacy of the latter over the former, although in an inadvertent manner.

In another article, Lizardo and colleagues also develop a dual-process typology of cultural learning, storing, thinking, and acting that corresponds to the declarative/non-declarative distinction [Lizardo et al. 2016]. It is worth mentioning, in this respect, that Lizardo's theoretical assumptions are no less susceptible to the "homology pitfall" fallacy than Vaisey's dual-process model since they directly borrow the structure of explanation from cognitive scientific theories.

Although I am deeply sympathetic to both Vaisey's and Lizardo's work, I nonetheless reject the rigorous methodological individualism that guides their theory and research. I share Norton's skepticism [Norton 2020: 59] towards an undisguised tendency present in Lizardo's works to limit the boundaries of cognition to individuals' brains and skin [see: Lizardo and Strand 2010: 209]. I also concur with Kaidesoja's critique of individual-level microfoundationalism in dismissing the idea that there has to be *"a fundamental level of causally efficacious entities in social reality"* [Kaidesoja 2013b: 310], be it the "collective" or "individual" level. This microfoundationalist bias is especially evident in Lizardo's provocative dismissal of *"ontologically spurious anti-cognitive pseudo-objects"* [Lizardo 2014: 988] such as relations, networks or structures — most of which, in my humble opinion, can be defined in realistic naturalistic terms [see: Bunge 1996: 271].

To be fair, though, in recent publications Lizardo and colleagues appear to have relaxed their rigid individualist stance by engaging with the ideas of "extended cognition" [Lizardo et al. 2020: 6] and "infrain-

dividualism" à la Sperber [Ibid.: 8-9]. The implications of these choices for their cultural theory, however, are not yet clear, so it continues to be plagued by unjustified microfoundationalist short-sightedness. The systemic component of culture remains critically undertheorized: Lizardo does acknowledge the existence of "public culture" in his model, but reduces it to an arbitrary set of collective level phenomena such as "codes", "frames" or "narratives" [Lizardo 2017: 93–94] without providing a plausible theoretical justification for this choice. It follows then that, even if we find some of Lizardo's or Vaisey's theoretical advances to be useful, we still have to think of a way to supplement these insights by an account of how culture works at the "systemic" level.

2.3 The Rutgers School

The tradition of cultural theorizing that Brekhus and Ignatow refer to as "culturalist" is even less unified and internally coherent than the "embodied" brands of cognitive cultural theory. Approaches grouped under this label share a commitment to methodological holism and prefer theoretical models that emphasize the role of collective and macro-scale entities in social explanation.

The most prominent branch of this strand is sometimes referred to as the Zerubavelian paradigm or the Rutgers School [Brekhus 2007]. There appears to be no overarching (meta)theoretical framework within this paradigm, but there are discernible philosophical presuppositions and guiding principles that distinguish this approach. As Brekhus writes, the Rutgers School has its roots in three main theoretical sources:1) Simmel's notion of a web of group affiliations; 2) Fleck's idea of "thought collectives" or "thought communities" further elaborated by Mannheim; 3) Berger and Luckman's concepts of "intersubjectivity" and the social construction of reality enhanced by Goffman's frame analysis [Ibid.: 451-452]. One of the central ideas proposed by the Rutgers School representatives is that of "optical communities", i.e. the thought communities that people are born and socialized into that shape how they perceive the social world [Zerubavel 1997: 32–33]. As Brekhus puts it, *"the social mind filters awareness into socially and culturally approved normative modes, sifting out the culturally irrelevant and letting in culturally approved modes of perception"* [Brekhus 2007: 452]. According to Strydom, Zerubavelians view cultural structures as *"filters between mind and reality"* [Strydom 2007: 349].

This line of theorizing is explicitly neo-Kantian in its origin, resting on the philosophical assumptions directly imported from what Turner dubbed the "cognitive/social" family of practice theories [Turner 2014: 67–70]. To address the problems of psychological agency and continuity that these assumptions entail [Turner 1994], Zerubavelians rely on the

"shared framework" solution [Turner 2014: 69], invoking such concepts as "shared lens" or "shared world-view" [Zerubavel 1997: 33; Brekhus 2007: 452]. I agree with Lizardo's contention that "sharedness" is a weak demarcation criterion for cultural kinds [Lizardo 2019]. As Lizardo credibly argues in his recent blog post, there are three main reasons for this: a) the "sharedness" criterion conflates a property claim with a locational claim; b) it is arbitrary in nature (i.e. it is impossible to determine how many people need to share something in order for that to become "cultural"); c) determining whether something "internal" to people is actually shared is nearly impossible [Ibid.].

The latter problem has been highlighted by Turner on multiple occasions: the "shared framework" account requires that psychological contents shared among members of a community be "the same" [Turner 2014: 69–70], but there seems to be no scientifically plausible means of acquiring *"perfect reproductions of the tacit possessions of others"* [Ibid.: 69]. Individual learning is notoriously error-prone and relies on observable public behavior, not the "tacit stuff" [Turner 1994; Turner 2007]. Even Lizardo's alleged solution to this problem remains highly controversial [Lizardo 2007] since, as Turner eloquently argues, the copying mechanism provided by mirror neurons does not really ensure the fidelity of content transmission [Turner 2007]: we do not read off the goals of others, but construct them preconsciously, relying, once again, on the "externals", i.e. observable behavior of others [Turner 2014: 75–76]. I think that this problem, along with the problem of location discussed later, poses a big challenge to "culturalist" theories of culture and cognition and needs to be properly addressed by scholars working within this tradition.

2.4 The neo-Durkheimians

Finally, I would like to focus on a series of recent contributions to the field that can also be placed, perhaps somewhat inaccurately, under the label of "culturalist/structuralist" theorizing. For quite a long time followers of the so-called "strong program" of cultural sociology seemed to express no interest in the topic of culture and cognition whatsoever, but now things are slowly beginning to change. The latest special edition of the American Journal of Cultural Sociology features several articles by prominent neo-Durkheimian cultural sociologists [Kurakin 2020; Mast 2020; Ringmar 2020] where they directly tackle the issues of culture and cognition.

In perhaps the most elaborate entry, Kurakin proposes an alternative way to conceptualize the link between cultural and cognitive phenomena [Kurakin 2020]. Drawing on Durkheim's ideas of "collective representations", Kurakin claims that *"culture emerges from the substrate of cogni-*

tion" [Ibid.: 71] as a result of a special kind of synthesis — the sui generis synthesis [Ibid.: 71-74]. He argues that cognition is the substratum for culture, and, although the latter cannot exist without the former, culture constitutes a separate relatively autonomous realm whose *"principles and laws are ultimately non-deducible from the principles and laws of cognition"* [Ibid.: 71]. To give the Durkheimian sui generis synthesis a modern philosophical interpretation, Kurakin appeals to Sawyer's emergentist ideas, stating that culture should be thought of as the result of emergence: *"it (culture) depends upon its substratum, but upward causation, from cognition to culture, does not occur, whereas downward causation, from culture to cognition and individual, does"* [Ibid.: 72]. He also introduces the notion of "boundary conditions", first proposed by Polanyi, to further theorize the interrelation between culture and its "substratum" (i.e. individual cognitions) [Ibid.: 90-94].

As much as I am intrigued by the emergentist twist and the idea of "boundary conditions", I am still not convinced that the proposed model is all that different from what we've already seen in mainstream cultural sociology. In my opinion, the core of Kurakin's argument is explicitly Durkheimian-Parsonian-Alexanderian in its essence, so it naturally inherits all the problematic assumptions of this neo-Kantian framework. By claiming that culture is a *"way to see things"* [Ibid.:65] rather than a thing itself — a special autonomous realm that *"enables processes of communication and meaning-making"* [Ibid.] — Kurakin makes a dubious locational claim, casting culture into some intangible collective ether [Turner 1994: 44].

It should be noted, though, that Kurakin himself denies the importance of locational claims, questioning the applicability of "the logic of discovery" to cultural phenomena [Kurakin 2020: 74-75]. However, since I agree with Lizardo et al. that engaging in cultural cognitive theorizing implies a commitment to some form of naturalism [Lizardo et al. 2020: 5-6; Sperber 1996: 4-6], I definitely reject this position. A naturalist stance prescribes that a theorist need not invoke entities and processes that lack a grounding in the natural world or that are *"not realizable by natural physical entities"* [Lizardo et al. 2020: 6; Kaidesoja 2013a: 138-77], which, consequently, renders implausible the assumption that culture can be "stored" on some ephemeral social "cloud server". Here, we are once again faced with what Turner dubbed the problem of transmission [Turner 1994]: how do people come to possess this "shared" tacit stuff? Do they download it from a "collective object" in some unspecified, almost magical way [Ibid.: 100-16]?

These questions may seem mundane, but it is my assertion that they are absolutely crucial for the formation of a coherent theoretical model that realistically explains the interrelation of "public" and "individual" aspects of culture. The inherent duality of culture cannot be accounted

for by simply reducing it either to its individual-level microfoundations or to some shared tacit stuff that floats in the collective ether. With this in mind, I argue that one needs to employ outside-the-box, non-classical theoretical solutions to address the gaps in existing cultural cognitive theories.

3. Culture and Cognition: in search of a new framework

As I have already mentioned earlier, I fully concur with Kaidesoja's notion that there need not exist *"a fundamental level of causally efficacious entities in social reality"* [Kaidesoja 2013b: 310]. It is clear from previous discussions, however, that most theoretical frameworks in contemporary cognitive-cultural theorizing presuppose the existence of such levels. Cultural theories based on traditional models of cognition certainly tend to ascribe explanatory primacy to psychological states of individuals or, in more radical versions, to biochemical processes in the brain. On the other hand, "holistic" cultural-cognitive theories make explanatory recourse almost exclusively to collective macro-level entities. Therefore, I once again argue that we need a concept of culture rooted in a non-reductionist naturalistic social ontology that is compatible with well-confirmed theories and robust empirical findings of modern cognitive neurosciences.

In my opinion, one particularly suitable candidate for such a metatheoretical framework is Kaidesoja's naturalized critical realist social ontology [Kaidesoja 2013a; Ignatow 2014: 991]. In his 2013 book, Kaidesoja attempted to re-evaluate and redefine the (social) ontology of critical realism originally developed by Bhaskar and others [Bhaskar 1979]. To fix some conceptual shortcomings and make critical realist ontology more compatible with naturalism, Kaidesoja borrowed solutions from two major sources: Bunge's systemic materialist ontology [Bunge 1996, 1998] and the cognitive scientific perspectives of embodied, situated, and distributed cognition [Hutchins 1995; Clark 1998]. Without going into too much detail, I shall briefly introduce these two lines of thought to explain how they can be used to build an alternative account of culture and cognition.

3.1 Bunge's social systems

Central to Bunge's social ontology is the idea of concrete material systems. Bunge defines a concrete system as a *"bundle of real things held together by some bonds or forces, behaving as a unit in some respects and embedded in some environment"* [Bunge 1997: 415]. He also states that every real, material object is either a system or a component of a system [Bunge 2001: 71], which entails the view that the world is populated by interacting systems. Materiality is crucial to Bunge's ontology, although he has a

very specific understanding of it, claiming that the only criterion of the materiality of a certain object is its changeability [Kaidesoja 2013a: 140]. According to Bunge, any concrete system consists of four analytically distinct elements (the CESM scheme): 1) components, i.e. *"collection of all the parts of the system"* [Kaidesoja 2013a: 141; Bunge 2003: 35–36]; 2) environment, i.e. *"collection of items, other than those in the system, that act on or are acted upon by some or all components of the system"* [Ibid.]; 3) structure, i.e. *"collection of relations, in particular bonds, among the components of the system (endostructure), or among these and items in its environment (exostructure)"* [Ibid.]; 4] mechanisms, i.e. *"collection of processes in the system that make it behave (or act) the way it does or allow it to perform its specific functions"* [Ibid.].

Social systems are also seen as concrete material systems that are composed of people and the artifacts they use to communicate [Bunge 1998: 311]. According to Bunge, cultural artifacts count as proper components of social systems, too [Ibid.: 301]. Concrete material systems, including social systems, possess emergent properties (e.g. dispositional and causal powers) arising from interrelations and interactions between the systemic parts [Kaidesoja 2013a: 151–53]. Social systems are in a constant state of flux thanks to changes in their components as well as interactions among the components — or between the components and the system's environment [Ibid.: 151]. Important for the ensuing arguments is Bunge's contention that, although social systems are primarily analyzed in terms of interacting and interrelated humans and their artifacts, *"relatively integrated and enduring social groups and organizations may be conceived as collective agents in some explanations of social macro-phenomena"* [Ibid.:143], hence there is no need to always specify individual-level microfoundations in social explanation.

One weakness of Bunge's systemic ontology exposed by Kaidesoja — and one that is particularly relevant in the context of cultural theory — is Bunge's treatment of meaningful symbolic representations and semiosis in general. He claims that languages and other semiotic systems are neither real, concrete, nor material, but rather fictional, abstract, and immaterial systems, and therefore do not possess causal efficacy [Bunge 2003: 62; Kaidesoja 2013a: 144]. Kaidesoja explicitly disagrees with this assertion, claiming that the ideas of embodied, situated, and distributed cognition can be used to vindicate symbolically mediated communication and other cultural forms.

3.2 Alternative accounts of cognition

There is an ever growing body of works in psychology and neurosciences, now sometimes grouped under the umbrella term of "4E cognition" [Menary 2010], that deal with the limitations and shortcomings of traditional "computational" models of mind and cognition. Some authors

argue that these approaches are not so much complete theories as they are research traditions that provide guiding heuristics instead of full-fledged explanations [Miłkowski et al. 2018: 4]. Although there are substantial disagreements between advocates of different "wide" perspectives, sometimes concerning even fundamental theoretical issues, they nevertheless all share a skeptical attitude towards disembodied intracranial approaches to studying cognitive processes.

For example, "embodied cognitive science" argues that one should pay attention to the role of bodily processes and body-environment interactions in human cognition [Clark 1998]. The embodied approach can be complemented by the "situated cognition" perspective that in turn emphasizes the role of *"specific ways in which our cognition is embedded in various situations and environments, including our social relations to other people"* [Kaidesoja 2013a: 166]. Finally, the most radical, but probably the most theoretically insightful perspective is the so-called "distributed cognition" approach. It builds on the idea of the extended mind, i.e the assertion that cognitive artifacts, technologies and other environmental features may be considered constitutive of our cognitive processes [Clark and Chalmers 1998], but takes this argumentation one step further. It conceptualizes cognition in terms of distributed cognitive systems that can be comprised of multiple individual agents, sociocultural artifacts, and other sets of heterogeneous elements, producing emergent cognitive capacities by virtue of their coordinated (inter)actions [Hutchins 1995].

To argue that ascription of cognitive capacities to such systems is philosophically warranted and doesn't invoke the dubious idea of "collective consciousness", Kaidesoja adopts Theiner and O'Connor's set of demarcation criteria for cognitive systems [Kaidesoja 2013a: 170]. According to this perspective, a system can be considered as cognitive if it can: *"1) adapt its behavior to changing environments; 2) process information from its environment; 3) selectively and purposefully attend to its environment; 4) create internal representations of its environment; 5) modify its environment through the creation of artefacts; 6) be aware of itself as a cognitive agent; 7) have conscious experiences of itself and the world"* [Theiner and O'Connor 2010: 82–83]. Kaidesoja argues that distributed cognitive systems conceived of this way are perfectly compatible with Bunge's materialist ontology and can be productively analyzed using his CESM model [Kaidesoja 2013a: 171].

3.3 Culture as distributed cognition

What implications do these ideas have for culture and cognition, then? Kaidesoja argues, perhaps somewhat overenthusiastically, that adopting the perspective of distributed cognition allows social theo-

rists to overcome the old *"problematic dichotomies between cognitive and cultural processes as well as between material and symbolic meanings"* [Ibid.: 169]. Kaidesoja subscribes to Hutchins' understanding of culture, who rejects "ideational" accounts of cultural phenomena and claims that *"symbolic meanings should be grounded in our embodied social actions and coordinated practices in various material environments"* [Ibid.: 170]. He contrasts this approach with Archer's concept of cultural system heavily influenced by Popper's three world ontology. According to Archer, culture consists of ideas that can be stored in intelligibilia (i.e. in the form of artifacts) and in the form of logically related propositions [Archer 1988: 107], which allows them to achieve autonomous ontological status and exert causal influence on the social level [Kaidesoja 2013a: 175–76]. Distributed cognition theorists firmly reject such an account, insisting that externalized ideas and symbols can only be causally efficacious as long as they form parts of distributed cognitive processes, having no autonomous existence outside those processes [Ibid.: 176].

Culture, according to Kaidesoja, must then be thought of in terms of *"embodied and embedded social practices that involve processing symbolic representations of various kinds"* [Ibid.: 170]. I think, however, that Kaidesoja's focus on "symbolic representations" is partly misleading. According to Hutchins, cultural processes within the distributed cognition framework include as their essential component what he termed the *"propagation of representational states across media within a functional system"* [Hutchins 1995: 373]. Different media, as Norton correctly argues, have different properties, so movement of information through distributed cognitive systems *"necessarily involves the translation of representational states"* [Norton 2020: 54]. In this respect, it is important to emphasize that "representational states" — generated, transmitted and transformed in such systems — are given a purposefully broad definition and cannot be understood solely in terms of symbolic representations or inner states of individual agents [Zhang and Norman 1994].

I think it is fair to say that at least some of the theoretical proposals developed within the microfoundationalist "embodied" tradition can be productively integrated into this new framework. For instance, to understand how significance is bound to material form — a process that undoubtedly involves interactions between people, artifacts, and symbolic representations within distributed cognitive systems — we could appeal to Taylor, Stoltz, and McDonnell's work on cultural objects and neural binding [Taylor, Stoltz, and McDonnell 2019]. We could also borrow some insights from Lizardo's recent theoretical exercise in developing a renewed multidimensional taxonomy of cultural practices [Lizardo 2020]. In my opinion, the "wide/narrow distribution" dichotomy taken

together with the "embodiment/material scaffolding" divide [Ibid.] may prove instrumental in accounting for a wide range of cultural processes taking place in distributed cognitive systems.

Of course, the distributed approach to culture and cognition is not immune to objections on various theoretical and methodological grounds. The most obvious lines of critique are anti-computationalism and anti-representationalism: many proponents of "wide" approaches, especially radical enactivists [Hutto and Myin 2013], argue that cognitive science must dispense with representations and mental content altogether. Kurakin's heavy criticism of the "informational theory of communication" and its influence on the sociology of culture and cognition [Kurakin 2020: 74–80] is also rooted in the same line of argumentation.

I think that these objections are valid to some extent, and there is no definitive counter-argument that can refute them once and for all. We could follow Kaidesoja in adopting a sort of "explanationist realist" stance [Psillos 2005], stating that theories in social ontology should take into account *"the epistemically successful scientific practices"* [Kaidesoja 2013a: 2–3], and, since most research in modern cognitive sciences is anchored in computational models of cognition, we must subscribe to the latter, too. In my opinion, this is a weak but partly acceptable solution.

A more sound option would perhaps be to engage with a recent conceptual proposal put forward by Miłkowski et al., who claim that mechanistic modelling of cognition provides an opportunity to integrate the "wide" perspectives on cognition with traditional computational approaches [Miłkowski et al. 2018]. This option appears to be promising also due to the fact that both Bunge and Kaidesoja incorporate some elements of mechanistic explanation into their ontological conceptions [Kaidesoja 2013a: 146–50], although they certainly differ from the ones employed by psychologists and cognitive scientists. Naturally, the comparison of different approaches to mechanistic explanation falls beyond the scope of this article and remains a subject of future discussion.

4. Conclusion

The notorious vagueness in definitions of culture [Martin 2010; Patterson 2014] has plagued cultural sociology for decades. As Martin once mockingly remarked, social theorists seem to define culture as *"everything that is human that you can't touch and three-fourths of what you can"* [Martin 2010: 228]. The grand theoretical promise of cognitive cultural sociology was to resolve these uncertainties for good. A question hangs in the air, however, whether we have actually moved any closer to untangling the

Gordian knot of cultural theory. The answer is: probably not too much. The path ahead of us still looks long and thorny.

But there are reasons, I claim, to be modestly optimistic. Instead of waiting for the ultimate resolution — some grand utopian theory that will cover every single question — we can begin to draw lessons from successful theoretical endeavors and empirical studies in cognitive sociology. As I have already demonstrated, there is a lot to draw inspiration from. For instance, the dual-process framework has radically changed the way we view culture in action, proving that the border between "practical" and "discursive" aspects of culture is much more flexible than we had previously thought [Vaisey 2008, 2009]. Lizardo's works on the taxonomy of cultural kinds in turn revealed that culture can be acquired, stored and used in qualitatively distinct modes [Lizardo 2017; Lizardo et al. 2016], while also highlighting that non-declarative and embodied forms of cultural knowledge are as important as symbolically mediated, quasi-linguistic forms [Lizardo 2015, 2017]. Finally, the Zerubavelian tradition can help us better understand cultural variations in perception, attention and memory [Brekhus 2007; W. Brekhus and Ignatow 2019: 6–10], while neo-Durkheimian scholars provide interesting philosophical offerings for theorizing how different levels of reality relate to the sociocultural level [Kurakin 2019, 2020].

Surely, all these frameworks and families of concepts have their shortcomings and inconsistencies, some of which I discussed at length in the second section of this article. However, this should not overshadow their merits and strengths. The microfoundationalist and collectivist biases inherent to these theories can be overcome once we adopt a naturalist social ontology [Bunge 1998; Kaidesoja 2013a] combined with a distributed perspective on culture and cognition [Kaidesoja 2013a; Norton 2019, 2020]. In this paper, I sketched out a somewhat shallow and raw account of culture and cognition in distributed cognitive systems. Nevertheless, I think that I've managed to outline some important directions for future work in theory-building and empirical research, with a view to developing a full-blown integrative approach to culture and cognition.

In conclusion, however, I must argue that all these efforts will be in vain, unless we seriously engage in interdisciplinary dialogue and collaboration. There are at least two major research traditions in modern neuroscience and cognitive psychology that study the relation between culture and cognition: the so-called cultural neuroscience (CN) framework [Han et al. 2013] and comparative psychological research into the origins of cultural cognition lead by Michael Tomasello and associates [Tomasello et al. 2005; Herrmann et al. 2007]. Although these scholars have a very different understanding of culture and cultural phenomena compared to social scientists, I genuinely believe that not only can we

learn a lot from them, but we can also offer our theoretical contributions to integrative model-building.

I agree with Danna's assertion that there is an evident *"gap between neurobiological evidence and psychological and/or sociological conclusions"* [Danna 2014: 1004]. And, as naïve as this may sound, I think that insights from sociological, psychological, and neuroscientific perspectives can be productively combined to address these gaps. In this respect, the distributed cognition framework provides a theoretically refined way of linking together different levels of explanation.

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Рекомендация для цитирования:

Шариков Д.Д. (2020) Культура и познание: в поисках не-редукционистского подхода. *Социология власти*, 32 (2): 104-124.

For citations:

Sharikov D.D. (2020) Culture and Cognition: In Search of a Non-reductionist Framework. *Sociology of Power*, 32 (2): 104-124.

Поступила в редакцию: 12.04.2020; принята в печать: 20.05.2020

Received: 12.04.2020; Accepted for publication: 20.05.2020