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Cognitive Sociology

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Cognitive Sociology
Michael W. Raphael

Introduction

Cognitive sociology is the study of the conditions under which meaning is constituted through processes of reification. Cognitive sociology traces its origins to writings in the sociology of knowledge, sociology of culture, cognitive and cultural anthropology, and more recently, work done in cultural sociology and cognitive science. Its central questions revolve around *locating* these processes of reification since the locus of cognition is highly contentious. Researchers consider how individuality is related to notions of society (structures, institutions, systems, etc.) and notions of culture (cultural forms, cultural structures, sub-cultures, etc.). These questions further explore how these answers depend on learning processes (socialization, acculturation, etc.) which vary according to the position one takes on the role of language in cognition. It is from these positions that we *operationalize* a theory of human nature and construct a justification for the organization of the state of human affairs and the related conceptualizations of identity, self, and the subject. In this way, cognitive sociology seeks to establish the minimal model of the actor (the ontology) that underpins not only other subfields of sociology but also the human sciences in general. In this way, cognitive sociology analyzes the series of interpersonal processes that set up the conditions for phenomena to become "social objects," which subsequently shape thinking and thought. In classical cognitive sociology, the historical traditions of the sociology of knowledge and phenomenology are emphasized, with the work of Bourdieu and Goffman given special treatment, given their contributions as precursors to many of the contemporary contingencies and consequences of debates in culture and cognition. The principle organizing the more contemporary literature are the paradigmatic assumptions concerning the locus of cognition, which have been organized into five ideal-types. These elucidate the points of agreement and disagreement in the field by addressing how thematic concerns (e.g., knowledge, rationality, embodiment, practices, discourse, etc.) highlight the priority of individuality in modeling society, to illustrate what makes cognitive sociology at once interdisciplinary yet contentiously distinct in addressing the politics of "tacit knowledge."

Overviews and Methods

Cognitive sociology is a popular area of research that attracts attention from scholars in sociology, social psychology, anthropology, and cognitive science. Few texts have been written that survey this ever-growing literature since the field is still trying to figure out *what* it is. Of what has been written, these texts are authored by leading scholars and provide an overview of various strands of cognitive sociology, as in Cicourel 1973, Zerubavel 1997, and DiMaggio 1997, and how this research is conducted, as Manning 1987 and Zerubavel 2007 illustrate. Saferstein 1993 and Cerulo 2005 are two brief pieces useful for undergraduates.

Cerulo, Karen A. 2005. Cognitive sociology. In *Encyclopedia of social theory*. Edited by G. Ritzer, 107–111. Thousand Oaks, CA: SAGE.

This article introduces the strand of cognitive sociology that focuses on the sociocultural factors that shape and guide the process of human thought. Cerulo provides an overview of how these factors affect the sensation and attention to stimuli, the discrimination and classification of such input, the representation and integration of information, and the storage and retrieval of data.

Cerulo, Karen A. 2005. Cognitive sociology. In *Encyclopedia of social theory*. Edited by G. Ritzer, 107–111. Thousand Oaks, CA: SAGE.

Cicourel, Aaron Victor. 1973. *Cognitive sociology: Language and meaning in social interaction*. Harmondsworth, UK: Penguin.

This is one of the first texts to use the phrase "cognitive sociology." It is also notable because it is an account of how the problem of everyday meaning challenges the use of concepts like role and status in the analysis of social structure and stratification.

Cicourel, Aaron Victor. 1973. *Cognitive sociology: Language and meaning in social interaction*. Harmondsworth, UK: Penguin.

DiMaggio, Paul. 1997. Culture and cognition. *Annual Review of Sociology* 23:263.

Although dated, this useful review articulates the cognitive presuppositions of cultural sociology by showing the implications for the study of identity, collective memory, social classification, and logics of action. The author extends this by discussing models of schematic aggregation, cultural change, and the relationship between analogy and generalization. More recent reviews overemphasize embodiment.

DiMaggio, Paul. 1997. Culture and cognition. *Annual Review of Sociology* 23:263.

Manning, Peter K. 1987. *Semiotics and fieldwork*. Newbury Park, CA: SAGE.

This short book aims to show how reification can be demonstrated empirically. Whereas the semiotics of structuralism was plagued by binaries, this text provides an alternative since its aim is to illustrate the orders and classes of abstraction present in everyday life.

Manning, Peter K. 1987. *Semiotics and fieldwork*. Newbury Park, CA: SAGE.

Saferstein, Barry. 1993. Cognitive sociology. In *The handbook of pragmatics*. Edited by J. Verschueren, J. -O. Östman, and J. Blommaert, 140–147. Amsterdam: Benjamins.

This short piece provides a historical overview, examines the interrelation of interactional sense-making processes within social organization, and highlights key concepts in one strand of cognitive sociology focusing on the propositional content of discourse.

Saferstein, Barry. 1993. Cognitive sociology. In *The handbook of pragmatics*. Edited by J. Verschueren, J. -O. Östman, and J. Blommaert, 140–147. Amsterdam: Benjamins.

Zerubavel, Eviatar. 1997. *Social mindscapes: An invitation to cognitive sociology*. Cambridge, MA: Harvard Univ. Press.

This is one of the few texts that is accessible at an introductory level. Zerubavel illuminates how cognitive acts (perceiving, attending, classifying, assigning meaning, remembering, and reckoning the time) rely upon a concept of the individual as a social being. He shows how each of these acts require more than just certain personal cognitive idiosyncrasies and certain universal cognitive commonalities. Zerubavel introduces this typology by arguing against individual cognitivism and universal cognitivism.

Zerubavel, Eviatar. 1997. *Social mindscapes: An invitation to cognitive sociology*. Cambridge, MA: Harvard Univ. Press.

Zerubavel, Eviatar. 2007. Generally speaking: The logic and mechanics of social pattern analysis. *Sociological Forum* 22.2: 131–145.

This develops social pattern analysis as a methodology well-suited for isolating the normative features of cognitive acts. It emphasizes social geometry, multi-contextual evidence, cross-contextual similarity, and a theme-driven focus.

Zerubavel, Eviatar. 2007. Generally speaking: The logic and mechanics of social pattern analysis. *Sociological Forum* 22.2: 131–145.

Organizing the Field: The Disciplinarity of Cognition and its Challenges

The answers to the questions "what is cognition?" and "how to study it?" vary depending on the respondent. DiMaggio 2002 offers one example of cross-disciplinary discourse. This is complicated further by the ambiguities of terms like "social," "culture." and "knowledge."

As Strydom 2007 elaborates, this is why the ontology of "cognition" in academic discourse is not as simple as "this happened" then "that happened." As Krátký 2011 illustrates, too much literature "talks past each other." One direction toward clarity in communication is taking steps to understand points of contention in the purpose of analysis and what that analysis uses as its "unit" of observation and subsequent measure, and to ask to what degree is *that unit* compatible with other units of observation and measure. A sociology of cognition is not a cognitive sociology. It is the acknowledgment of whether the phenomena is pervasive or not, and therefore whether it needs to be accounted for in all the explanations the discipline offers, an argument Scheve 2011 and Lizardo 2014 takes up. This is challenged even more by the problem that there are substantive disagreements on the degree to which such observations and measures are valid. It is disagreements like these that places Pitts-Taylor 2014 in contradistinction to Ignatow 2014. Bondebjerg 2015 identifies the politics of tacit knowledge and the politics of cognition.

Bondebjerg, Ib. 2015. The embodied mind: When biology meets culture and society. *Palgrave Communications* 1:15015.

Outlining how embodiment challenges certain notions of constructivism, the author presents an interdisciplinary agenda for a "new cognitive sociology."

Bondebjerg, Ib. 2015. The embodied mind: When biology meets culture and society. *Palgrave Communications* 1:15015.

DiMaggio, Paul. 2002. Why cognitive (and cultural) sociology needs cognitive psychology. In *Culture in mind: Toward a sociology of culture and cognition*. Edited by Karen A. Cerulo, 274–281. New York: Routledge.

DiMaggio examines the differentiation of research within cognitive sociology, listing four psychological findings that are fundamentally important for cognitive sociology, arguing that grounding theory in research on social cognition is useful.

DiMaggio, Paul. 2002. Why cognitive (and cultural) sociology needs cognitive psychology. In *Culture in mind: Toward a sociology of culture and cognition*. Edited by Karen A. Cerulo, 274–281. New York: Routledge.

Ignatow, Gabe. 2014. Ontology and method in cognitive sociology. *Sociological Forum* 29:990–994.

Ignatow outlines the steps necessary for cognitive linguistics and cognitive neuroscience to contribute to the sociology of cognition.

Ignatow, Gabe. 2014. Ontology and method in cognitive sociology. *Sociological Forum* 29:990–994.

Krátký, Jan. 2011. Cognitive sociology and the study of human cognition: A critical point. *Sacra* 9.2: 40–57.

Krátký illustrates how the word "cognition" represents many scientifically addressed problems related to the essential questions of social life in relation to scientifically plausible explanations.

Krátký, Jan. 2011. Cognitive sociology and the study of human cognition: A critical point. *Sacra* 9.2: 40–57.

Lizardo, Omar. 2014. Beyond the Comtean schema: The sociology of culture and cognition versus cognitive social science. *Sociological Forum* 29.4: 983–989.

Lizardo argues for a "post-disciplinary" approach to the study of cognition while offering an overview of 20th- and 21st-century cognitive turns several disciplines made to join "cognitive science." Contrast this with Strydom 2007 and Pitts-Taylor 2014.

Lizardo, Omar. 2014. Beyond the Comtean schema: The sociology of culture and cognition versus cognitive social science. *Sociological Forum* 29.4: 983–989.

Pitts-Taylor, Victoria. 2014. Cautionary notes on navigating the neurocognitive turn. *Sociological Forum* 29:995–1000.

Pitts-Taylor raises concerns about reifying neurocognitive knowledge and diminishing awareness and appreciation of its complexities and contradictions.

Pitts-Taylor, Victoria. 2014. Cautionary notes on navigating the neurocognitive turn. *Sociological Forum* 29:995–1000.

Scheve, Christian von. 2011. Sociology of neuroscience or neurosociology? In *Sociological reflections on the neurosciences*. Edited by Martyn Pickersgill and Ira Van Keulen, 255–278. Bingley, UK: Emerald.

The author outlines how to combine the critical stance of the sociology of neuroscience with certain aims of the recent neurosociological paradigm.

Scheve, Christian von. 2011. Sociology of neuroscience or neurosociology? In *Sociological reflections on the neurosciences*. Edited by Martyn Pickersgill and Ira Van Keulen, 255–278. Bingley, UK: Emerald.

Strydom, Piet. 2007. Introduction: A cartography of contemporary cognitive social theory. *European Journal of Social Theory* 10.3: 339–356.

This text provides a gentle heuristic for sorting how the cognitive approach is present within social theory as a multidimensional enterprise. Strydom proposes, as a "meta-theory," strong cognitivism versus weak cognitivism, with a range of intermediate positions, which he terms axiomata media, that is, middle principles. These attempt to map out the mix of naturalistic and humanistic approaches to human nature.

Strydom, Piet. 2007. Introduction: A cartography of contemporary cognitive social theory. *European Journal of Social Theory* 10.3: 339–356.

Journals

There is no single academic journal that focuses on cognitive sociology. Instead, since the field is still under development, studies are scattered across many journals in sociology, anthropology, and cognitive science. One must read cautiously since the theoretical pluralism present in diversity of contemporary cognitive sociological discourse means fundamental assumptions are not shared across these studies. The debates over culture and cognition often happen at mini-conferences at larger events and later become special issues. This has happened in *European Journal of Social Theory*, *Sociological Forum*, *Symbolic Interaction*, and *Poetics*. These are useful to contrast with the *American Sociological Review* and the *Journal of Cognition and Culture*.

***American Sociological Review*. 1936–.**

The American Sociological Association (ASA) publishes the *American Sociological Review* bimonthly. The journal is the ASA's flagship journal, and the articles relate to all sub-disciplines of sociology.

American Sociological Review. 1936–.

***European Journal of Social Theory*. 1998–.**

The European Journal of Social Theory is an interdisciplinary platform for varieties of contemporary social and political thought.

European Journal of Social Theory. 1998–.

***Journal of Cognition and Culture*. 2001–.**

The *Journal of Cognition and Culture* provides an interdisciplinary forum for exploring the mental foundations of culture and the cultural foundations of mental life. It emphasizes scholarship authored in cognitive science and cognitive anthropology.

Journal of Cognition and Culture. 2001–.

***Poetics*. 1971–.**

Poetics is an interdisciplinary journal that offers theoretical and empirical research on the cognitive processing of cultural products. It emphasizes scholarship authored in sociology, psychology, media and communication studies, and economics.

Poetics. 1971–.

***Sociological Forum*. 1985–.**

Sociological Forum is the flagship journal of the Eastern Sociological Society (ESS). ESS regularly holds mini-conferences related to cognitive sociology and continues to support these sorts of inquiries.

Sociological Forum. 1985–.

***Symbolic Interaction*. 1977–.**

Symbolic Interaction is the main voice of the Society for the Study of Symbolic Interaction. It showcases empirical research and theoretical development pertinent to cognitive sociology.

Symbolic Interaction. 1977–.

Classical Cognitive Sociology: The Cognitive Turn in Social Theory from "Knowledge" to "Cognition"

Classical sociological theory, even if limited to their original contributions, is still a vast literature. To understand this transition from classical sociology to classical cognitive sociology, consider how Marx 1978 elucidates reification and Durkheim 1953 outlines the differences between individual and social representations and their relationship to morality. Freud 1989 contextualizes this tension with reference to his theory of personality. Weber 1981 examines this tension in terms of interpretive sociology while Simmel 1950 studies the extra-individual constitution of mental life. This sets up the problem for the *cognitive turn* that qualifies natural and human sciences in the second half of the 20th century with its inability to solve the mystery of meaning. In the 1950s, the cognitive sciences replaced previous paradigms trying to make sense of human interaction such as pragmatism and behaviorism. Cognitivism, *traditionally*, is about the working of the individual mind, emphasizing a kind of methodological individualism. Teubert 2010 notes how it has become a prominent scientific paradigm in many disciplines of the human and social sciences, particularly in psychology, linguistics, and philosophy, but also, interestingly, in biology and the computer sciences. Fuller 1989 represents a challenge to methodological individualism by examining the possibilities for the integration of psychology and sociology. These two texts are useful *to contextualize the cognitive turn* within the diverse strands of sociological theory, particularly in regard to the American, German, and French contributions to classical cognitive sociology whose classification of tradition is a "gentle" heuristic. These provide the backdrop *against* which Goffman's sociology developed. More recently, Chancer and Andrews 2014 offers a series of responses to the maintenance of the boundaries between sociology and the psychoanalytic thread of psychology.

Chancer, Lynn S., and John Andrews. 2014. *The unhappy divorce of sociology and psychoanalysis: Diverse perspectives on the psychosocial*. New York: Palgrave Macmillan.

This recent edited collection overviews how contemporary sociology has marginalized psychoanalytic concepts. It features twenty-one essays by well-known scholars in and outside the United States and is an excellent resource for understanding how sociology and psychoanalysts share a common unit of analysis, which has developed into cognitive sociology.

Chancer, Lynn S., and John Andrews. 2014. *The unhappy divorce of sociology and psychoanalysis: Diverse perspectives on the psychosocial*. New York: Palgrave Macmillan.

Durkheim, Émile. 1953. *Sociology and philosophy*. Glencoe, IL: Free Press.

The three pieces included in this collection, the earliest from 1898, the latest from 1911, are focused on the philosophical questions of representation and moral facts and judgment. This text is crucial for understanding how Durkheim conceptualizes individuality.

Durkheim, Émile. 1953. *Sociology and philosophy*. Glencoe, IL: Free Press.

Freud, Sigmund. 1989. *Civilization and its discontents*. New York: W. W. Norton.

This classic essay situates the theory of personality in relation to society, particularly in relation to the conditions of modernity. Its accessible and absorbing style makes suitable for undergraduates to take the tentative first step in grasping the problems of reification. Originally published in 1929.

Freud, Sigmund. 1989. *Civilization and its discontents*. New York: W. W. Norton.

Fuller, Steve. 1989. *The cognitive turn: Sociological and psychological perspectives on science*. Dordrecht, The Netherlands: Kluwer Academic.

By mapping the study of scientific cognition, this edited collection attempts to organize the discourse surrounding the theoretical discussions in philosophy and sociology of science.

Fuller, Steve. 1989. *The cognitive turn: Sociological and psychological perspectives on science*. Dordrecht, The Netherlands: Kluwer Academic.

Marx, Karl. 1978. Economic and philosophic manuscripts of 1844. In *The Marx-Engels reader*. Edited by Robert Cinnamond Tucker, 66–125. New York: Norton.

These are posthumously published notebooks that grapple with Hegel's economics and philosophy. Within the section on "Estranged Labor" (pp. 70–81), Marx contemplates reification and its relationship to alienation. Originally published in 1844.

Marx, Karl. 1978. Economic and philosophic manuscripts of 1844. In *The Marx-Engels reader*. Edited by Robert Cinnamond Tucker, 66–125. New York: Norton.

Simmel, Georg. 1950. The metropolis and mental life. In *The sociology of Georg Simmel*. Edited by Kurt H. Wolff, 409–424. Glencoe, IL: Free Press.

This classic article elucidates how cities affect cultural and social forms, particularly the development of the "blasé attitude." Originally published in 1902–1903.

Simmel, Georg. 1950. The metropolis and mental life. In *The sociology of Georg Simmel*. Edited by Kurt H. Wolff, 409–424. Glencoe, IL: Free Press.

Teubert, Wolfgang. 2010. *Meaning, discourse and society*. Cambridge, UK: Cambridge Univ. Press.

The author provides a useful overview of how individual cognitivism and universal cognitivism became dominant paradigms. It should be read critically.

Teubert, Wolfgang. 2010. *Meaning, discourse and society*. Cambridge, UK: Cambridge Univ. Press.

Weber, Max. 1981. Some categories of interpretive sociology. *Sociological Quarterly* 22:151–180.

Weber provides a detailed sketch of his method of interpretive sociology, including sections on action and institutions, and the relationship of interpretive sociology to psychology and legal dogmatics.

Weber, Max. 1981. Some categories of interpretive sociology. *Sociological Quarterly* 22:151–180.

Language and Structuralism

Central to the conditions under which meaning is constituted through processes of reification is the role of language in cognition. What language is, what language is not, and where it is cognized is still highly contentious since the answer to this question is intricately linked to the operationalization of "human nature," as Leach 1964 illustrates. Whereas linguistics was initially interested in tracing universal systems of meaning within diverse languages, Saussure's structural approach argued meaning arose from relations among essentially arbitrary linguistic elements in relation to a specific cultural framework. This made the notion of "structure" *the* universal and its arrangements the cultural variation. Culler 1976, Benveniste 1971, and Lucy 1997 offer a useful introduction to these problems. When the move is made from analyzing language's grammar *as such* to a generative grammar locating cognitive mechanisms, looking to features of the human brain rather than social structure, as in Lévi-Strauss 1987, different questions begin to arise. This French structuralism is based upon the notion that the structures of language, *and therefore structures of ideas*, have many possible analogies across the many cultural spheres (i.e., kinship, myth, ritual) which enables a deductive methodology. The way in which structures mold, constrain, and determine the actions of agents will influence the operationalization of "human nature" if the process is *understood* to be "material" or "symbolic" versus accounting for a generative grammar of cognition taken *together* with the structures of society. This results in the material process of human existence being made meaningful via culture where all material events and forces derive their specific form *from* the production of symbols and their classification, as argued by Sahlins 1976. This ostensibly leaves little room for *agency* in "human nature." However, according to Giddens 1979, revising the notion of structure in terms of enabling or constraining conditions for action, structuration accounts for agency by focusing on the *duality* of structure where structure is both the *medium* and *outcome* of action. Emphasizing three analytically distinct dimensions of structure: power, norms, and meaning/signification, Giddens suggests these structures constitute social life by molding the body and perceptions in social practices illustrated by comparing structure with language. These social practices introduce a contextual and generational relationship drawing on systems of generative rules and resources to account for the nature of social action and social systems simultaneously.

Benveniste, Émile. 1971. *Problems in general linguistics*. Coral Gables, FL: Univ. of Miami Press.

In this influential series of collected essays, Benveniste theoretically explores the nature of the signifier and the signified, among other Saussurean distinctions, in ways that spurred on the development of both structuralist and post-structuralist schools of thought.

Benveniste, Émile. 1971. *Problems in general linguistics*. Coral Gables, FL: Univ. of Miami Press.

Culler, Jonathan. 1976. *Saussure*. Hassocks, UK: Harvester.

This is a fair attempt to describe Saussure's ideas and place them in the historical context in which they emerged. Culler provides an accurate description and traces the influence of those ideas in other disciplines. Written clearly and for beginning students.

Culler, Jonathan. 1976. *Saussure*. Hassocks, UK: Harvester.

Giddens, Anthony. 1979. *Central problems in social theory: Action, structure, and contradiction in social analysis*. Berkeley: Univ. of California Press.

Presenting his solution to the *dualism* of the structure-agency debate, as formulated in functionalism, Marxism, and structuralism, Giddens's theory of structuration formulates the *duality of structure*, where structure is both the *medium* and the *outcome* of the reproduction of *practices*, thus taking agency into account and addressing the problems of power and domination, conflict and contradiction, and social transformation.

Giddens, Anthony. 1979. *Central problems in social theory: Action, structure, and contradiction in social analysis*. Berkeley: Univ. of California Press.

Leach, E. 1964. Anthropological aspects of language: Animal categories and verbal abuse. In *New directions in the study of language*. Edited by Eric H. Lenneberg, 23–63. Cambridge, MA: MIT.

Drawing on the theme of taboo and non-language, Leach argues for the need of a graduated scale in social classifications to increase the understanding of a wide variety of non-rational behavior.

Leach, E. 1964. Anthropological aspects of language: Animal categories and verbal abuse. In *New directions in the study of language*. Edited by Eric H. Lenneberg, 23–63. Cambridge, MA: MIT.

Lévi-Strauss, Claude. 1987. *Introduction to the work of Marcel Mauss*. London: Routledge & Kegan Paul.

Originally written, in French, to preface the earliest major collection of Mauss's writings, *Sociologie et Anthropologie* (1950), this English edition uses an approach combining anthropology and structural linguistics to assess Marcel Mauss's achievements and intentions. In doing so, Lévi-Strauss formulates the central tenets of structuralist thought: the belief in societies being organized on immutable and unconscious laws.

Lévi-Strauss, Claude. 1987. *Introduction to the work of Marcel Mauss*. London: Routledge & Kegan Paul.

Lucy, John A. 1997. Linguistic relativity. *Annual Review of Anthropology* 26:291–312.

Lucy provides a review focusing on the various ways in which the Whorfian question about the extent to which language shapes nonlinguistic cognition and perception was approached empirically during the 20th century. While Lucy notes the linguistic relativity proposal considers three different kinds of influence (semiotic, structural, and functional), his review focuses on whether structural differences among languages influence thinking.

Lucy, John A. 1997. Linguistic relativity. *Annual Review of Anthropology* 26:291–312.

Sahlins, Marshall. 1976. *Culture and practical reason*. Chicago: Univ. of Chicago Press.

This classic work of anthropological analysis pursues a form of methodological and epistemological relativism. Employing structural oppositions, such as the category of edible versus inedible substances, Sahlins argues for the sui generis logic of culture since the conceptual apparatus of base/superstructure foundational to Marxism is useless for analyzing tribal societies in which economy, politics, and religion are not distinct systems. Rather, he claims that Western consumer culture is not a perfection of the natural mechanism of the marketplace but a native ideology that reflects the symbolic order of Western culture.

Sahlins, Marshall. 1976. *Culture and practical reason*. Chicago: Univ. of Chicago Press.

Cognitive Traditions in the Sociology of Knowledge

As a strand of classical sociological theory in Europe (notably Germany and France) and America that lead to the development of cognitive sociology, the development of the sociology of knowledge addresses how the question of "knowledge" became the question of "cognition." While the early work of Marx sought to establish a connection between philosophies and the concrete social structures in which they emerged, it was not until the early 1920s that the term *Wissenssoziologie* (sociology of knowledge) was introduced by Max Scheler, a student of Wilhelm Dilthey and Georg Simmel. Whereas the Marxist critique of ideology sees ideologies as mystifying representations of social reality, the sociology of knowledge, in the German tradition aimed for an analysis of the regularities of those social processes and structures that pertain to intellectual life and to modes of knowing. Scheler 2012 argues there is no constant independent variable that determines the emergence of ideas; but rather, in the course of history, there occurs a sequence of "real factors" that condition thought. This can be contrasted with the work of Karl Mannheim (Mannheim 1936), who argues that knowledge refers to normative and metaphysical beliefs, ideas about the nature and right organization of society, and interpretations of history. This contrasts with Fleck 1979 which laid the foundation for the field now known as the sociology of scientific knowledge—an inquiry that has led to a reassessment of traditional assumptions about the unique rationality of scientific knowledge. Fleck's concern is specialized on "scientific facts" and how cognition is a collective activity, particularly in a "thought collective" and "thought communities" characterized by "thought styles." These German developments run parallel to French contributions. The French tradition in the sociology of knowledge,

emphasizing the fundamental categories of human thought, began a century's worth of debate with the publication of Durkheim and Fields 1995. In seeking to establish a condition of validity for the reality of society as a structure *outside* the individual, Durkheim argues that the existence of society came first *before* such reasoning faculties. American developments took an alternative route: Veblen 1919 and Mead 1925 represent ideas that directly and explicitly influenced an American sociology of knowledge. Research in the field of social roles, the sociology of science, the professions and occupations, and the sociology of communications and public opinion all contributed to the further development of the sociology of knowledge that make concepts like the "cognitive division of labor" a truly American contribution, of which Znaniecki 1986 serves as a prime example. In terms of the sociology of knowledge and method, Znaniecki argues that the cultural sciences differ from other sciences because of the "humanistic coefficient," an infusion with *culturally* defined values and meanings.

Durkheim, Emile, and Karen E. Fields. 1995. *The elementary forms of religious life*. New York: Free Press.

This is a classical text in the sociology of knowledge. Durkheim examines how the most basic categories of human thought have their origin in social experience. This edition is one of the standard translations from French. Originally published 1912.

Durkheim, Emile, and Karen E. Fields. 1995. *The elementary forms of religious life*. New York: Free Press.

Durkheim, Émile, and Marcel Mauss. 1963. *Primitive classification*. Chicago: Univ. of Chicago Press.

This is an early effort in the sociology of knowledge that is still worth reading. The argument presented was that basic categories of human thought arise from the structural facts concerning the organization of the tribal societies in which they first appeared.

Durkheim, Émile, and Marcel Mauss. 1963. *Primitive classification*. Chicago: Univ. of Chicago Press.

Fleck, Ludwik. 1979. *Genesis and development of a scientific fact*. Chicago: Univ. of Chicago Press.

Originally published in German in 1935, Fleck articulates how his theory of "thought styles" set the limits for any judgment about objective reality and therefore preconditions cognition. He clarified this in relation to the internal structure of groups and different types of membership—distinguishing between "thought collectives" (comprising the true believers) and "thought communities" (formally members of the collective but not necessarily under the constraints of the thought style).

Fleck, Ludwik. 1979. *Genesis and development of a scientific fact*. Chicago: Univ. of Chicago Press.

Mannheim, Karl. 1936. *Ideology and utopia: An introduction to the sociology of knowledge*. New York: Harvest.

This is a classic text in the sociology of knowledge originally published in German. Mannheim shows how perception is shaped by "inherited patterns of thought." He clarifies how these are, in turn, altered by the particular contexts of collective activity. Understanding these conditions is necessary for achieving objectivity in the social sciences. Originally published 1929.

Mannheim, Karl. 1936. *Ideology and utopia: An introduction to the sociology of knowledge*. New York: Harvest.

Mead, George Herbert. 1925. The genesis of the self and social control. *International Journal of Ethics* 35:251–277.

Mead insists that mind itself is a social product and is of social origin. Mead provides substantial detail on the creation and maintenance of consciousness, which he describes as the internalization of normative behavior relative to others' behavior, and explains how this internalization modifies social conduct.

Mead, George Herbert. 1925. The genesis of the self and social control. *International Journal of Ethics* 35:251–277.

Scheler, Max. 2012. *Problems of a sociology of knowledge*. Routledge Revivals. London: Routledge.

Originally published in German in 1926, translated in 1980 by Manfred S. Frings. In an analysis of "real factors" (*Realfaktoren*) to reconcile sociocultural relativity with the Platonic notion of an eternal realm of unchanging essences, Scheler examines the regularities

of those social processes and structures that condition thought in different historical periods and in various social and cultural systems.

Scheler, Max. 2012. *Problems of a sociology of knowledge*. Routledge Revivals. London: Routledge.

Veblen, Thorstein. 1919. *The place of science in modern civilisation and other essays*. New York: B. W. Huebsch.

Veblen relates styles of thought to the occupational roles and positions of their proponents, showing how individuals differentially located in the social structure and in the economic process will have different thought styles.

Veblen, Thorstein. 1919. *The place of science in modern civilisation and other essays*. New York: B. W. Huebsch.

Znaniecki, F. 1986. *The social role of the man of knowledge*. New York: Columbia Univ. Press.

Originally published in 1940, Znaniecki introduces how, in differentiated societies, thinkers are not likely to address their total society but rather only *selected* segments or publics. The thinker is related to a *social circle*; and this circle expects him to live up to certain of its demands, in exchange for which it grants him recognition and support.

Znaniecki, F. 1986. *The social role of the man of knowledge*. New York: Columbia Univ. Press.

Phenomenology, Ethnomethodology, and Sociology

Following Weber's massive repertoires on interpretive sociology, questions arose about how to relate phenomenological concepts to sociology—to uncover, describe, and analyze the essential features of the world of daily life, the common-sense reality that each individual shares with their fellows in a taken-for-granted manner. Claiming the social world is as much constituted by consciousness of predecessors and successors as it is by contemporaries and consociates, Schutz 1962 argues the structural relationships that hold all of these aspects of social order together is a theory of social action grounded in the interpretative consciousness of the actor that is *not* preordained by logic, history, or human nature. Whereas for Weber the "subjective" interpretation of meaning signified what the actor means by his action, Schutz's adaptation considered intersubjectivity as a fundamental "typification" of the common-sense world, a vast catalogue of ideal types actively achieved through social interaction. (Schutz and Luckmann 1973) Setting the stage for a phenomenological sociology, Berger and Pullberg 1965 argues the subject matter of an empirical sociology must concern itself with studying the "intersubjectivity of the real world of men" that understands the "sedimentation" of meaning described by Schutz. Departing from earlier concerns of epistemology, methodology, and ideologies, as in Marx, Engels, Nietzsche, and Mannheim, Berger and Luckmann 1966 considers everything that *passes* for knowledge in society. Berger and Luckmann argue social actors experience theoretical knowledge as a process marked by perplexity, confusion, and search where certainty and the drive for certainty are the characteristic modes of human cognition, that is, how institutions attain the character of objectivity through the process of objectivation, thus providing certainty in a tendency toward reification. Holstein and Gubrium 2008 represents a sample of the massive response to their research program while Heiskala 2011 provides a more concise assessment that situates how the sociology of "everyday" knowledge excels expressing how action is thoroughly embedded in cultural schemes. As terms like "micro" and "macro" became prominent, the search for motive and meaning in sociological discourse and the locus of cognition relative to social action raised questions whose answers brought about ethnomethodology and a hermeneutic turn in cognitive anthropology. This is well-represented by Harold Garfinkel (Garfinkel 1967), a student of Talcott Parsons, where he began this research program into how mutual intelligibility is an ongoing accomplishment achieved through the collective enactment of *observable* practices.

Berger, Peter L., and Thomas Luckmann. 1966. *The social construction of reality: A treatise in the sociology of knowledge*. Garden City, NY: Doubleday.

This work introduced the term "social construction" into the social sciences. Drawing on the work of Alfred Schütz, Berger and Luckman conceptualize the development of common-sense knowledge and its relationship to semantic fields while constructing subjectivity, intersubjectivity and objectivity. Berger and Luckmann's enormously influential argument was essential groundwork for the application of social-constructionist perspectives to the study of social problems, deviance, and crime.

Berger, Peter L., and Thomas Luckmann. 1966. *The social construction of reality: A treatise in the sociology of knowledge*. Garden City, NY: Doubleday.

Berger, Peter, and Stanley Pullberg. 1965. Reification and the sociological critique of consciousness. *History and theory* 4:196–211.

Presenting a study of reification to serve as an illustration, Berger and Pullberg argue that the necessity of sociology and philosophy working together "is not an optional entertainment"—a sociology of knowledge requires it to be a continuing clarification of everyday life.

Garfinkel, Harold. 1967. *Studies in ethnomethodology*. Englewood Cliffs, NJ: Prentice-Hall.

In this classic study, Garfinkel, through his use of breaching experiments, addressed the problems of rationality and reflexivity as they relate to order. He did this by illustrating the reflexive processes of the documentary method of interpretation and how through these processes, intelligible patterns and their constituent particulars are adjusted to each other, producing a kind of indexicality.

Heiskala, Risto. 2011. The meaning of meaning in sociology. The achievements and shortcomings of Alfred Schutz's phenomenological sociology. *Journal for the Theory of Social Behaviour* 41:231–246.

Heiskala provides an accessible assessment of the successes and shortcomings of phenomenological sociology as such contributions were taken up in the United States.

Holstein, James A., and Jaber F. Gubrium. 2008. *Handbook of constructionist research*. New York: Guilford.

The authors examines the analytic frameworks, strategies of inquiry, and methodological choices that together form the mosaic of contemporary constructionism that began with Berger and Luckmann 1966.

Schutz, Alfred. 1962. *Collected papers I: The problem of social reality*. Edited by Maurice Alexander Natanson and H. L. van Breda. The Hague: Nijhoff.

Schutz is an Austrian philosopher who came to the United States and whose ideas influenced Parsons and Garfinkel. He sought to define the natural or "common-sense" attitude of the actor, his or her intentionality, forms of consciousness, types, and the individual's role in social interaction. His foundational ideas, contained in this volume, were based on the idea that to understand actions one had to see it *as produced by* the actor (as a type, not as a person), not by a scientist with a "scientific attitude."

Schutz, Alfred, and Thomas Luckmann. 1973. *The structures of the life world*. Evanston, IL: Northwestern Univ. Press.

This contains Schutz's phenomenology, which presents "social archaeology of all knowledge." Its merit lies in showing how to *practice* phenomenology. This is informative for Berger and Luckmann 1966.

Goffman's Contribution: Metaphors and the Reification of Moments

Erving Goffman's sociology is one of the most widely cited and the most often misunderstood. Despite such vast secondary literatures on Goffman, little of it contains critical interpretation that stays close to the text *and* captures what Goffman is up to (a cognitive sociology) *without* making references to the two metaphors (such as dramaturgy and game) that are pervasive throughout Goffman's corpus. Examples of this are offered by Manning 1991. Most assessments do not recognize metaphor as the *form* of analysis and confuse the metaphors with the ontological value the metaphor *seeks to be a description of*. This is why the framework present in Goffman 1959 is *re-deployed* in Goffman 1963 and clarified in Goffman 1974. The character of the problem Goffman has is to illuminate the limitations of metaphor as well as the interactional processes that shape the contingencies of intentionality in the complex relationship between trust, the authenticity of beliefs and civility—the reflexivity of the range of conditions in which *strategy* and *calculation appear* to attributable to individuals. Goffman's point is that the roles individuals find themselves in offer such individuals strategies *as frameworks of involvement* but such frameworks can also fail in this task where individuals stumble through *appearing* to come off as "calculating" when they are *merely* dealing with conditions of uncertainty. Goffman undertakes these problems because he wants to get to the *ambiguities* around deviance, social control and its cognitive roots in social activity. Goffman 1952 serves as an excellent example of how "cooling" (the metaphor) is reified through Goffman's analysis to understand consolation (the ontological value). In light of Goffman 1959, one of his most popular works, front-stage (the metaphor) stands in for degree of involvement with others in the *structure* of the self (the ontological value). Within the encounter, individuals *qua* interactants can be more involved with some interactants than others—the contingencies of which metaphors embody. Goffman 1967 and Goffman 1969 are not as well-known, but are crucial for understanding the epistemological limits of metaphor. Readers will find the ontological value of "dramaturgy" and "game" as metaphors for analyzing the dramatic tensions present within involvement—a kind of cognition subjected to forms of social control via schemata of interpretation. This is why these metaphors are made real and lead to confusion. Goffman *cannot* be read as writing using plain language—subtlety and wit are pervasive in his analysis of moments of involvement and readers are advised to be aware of this so that his contributions to classical cognitive sociology may be fully grasped in terms of the interplay between communication, social organization, and cognition.

Goffman, Erving M. 1952. On cooling the mark out: Some aspects of adaptation to failure. *Psychiatry: Journal of Interpersonal Relations* 15:451–463.

In this early work, Goffman presents the process of "cooling" in the context of the confidence game and shows how this metaphorically expresses consolation as a social process and a form of social control.

Goffman, Erving M. 1952. On cooling the mark out: Some aspects of adaptation to failure. *Psychiatry: Journal of Interpersonal Relations* 15:451–463.

Goffman, Erving M. 1959. *The presentation of self in everyday life*. Garden City, NY: Doubleday.

Extending the metaphor book-length, drama makes everyday life comprehensible. Since the analysis is subtle, witty, and often misunderstood, readers should recognize the reality the metaphor captures is not the metaphor itself. Goffman shows who you are varies by who you interact with: how situated interaction result in social structures of the self, *not* the self itself. He is clear that strategy may be involved in which impressions are managed, but not always *calculation*.

Goffman, Erving M. 1959. *The presentation of self in everyday life*. Garden City, NY: Doubleday.

Goffman, Erving M. 1963. *Behavior in public places: Notes on the social organization of gatherings*. New York: Free Press of Glencoe.

Goffman outlines how an interaction frame of reference is related to institutional analysis but is analytically distinct from it, resulting in the emphasis on involvement obligations individuals hold to gatherings. As an early statement of plural cognitivism, Goffman shows how cognition is constrained by these involvement *obligations*. Special attention should be given to the summary of the argument presented in the conclusion.

Goffman, Erving M. 1963. *Behavior in public places: Notes on the social organization of gatherings*. New York: Free Press of Glencoe.

Goffman, Erving M. 1967. Where the action is. In *Interaction ritual: Essays on face-to-face behavior*. By Erving Goffman, 149–270. New York: Doubleday Anchor.

Based on fieldwork in Las Vegas casinos, this essay explores the notion of action as a metaphor for risk taking. Goffman illustrates how this kind of involvement relates to the social organization of interaction. Highly recommended for undergraduates.

Goffman, Erving M. 1967. Where the action is. In *Interaction ritual: Essays on face-to-face behavior.* By Erving Goffman, 149–270. New York: Doubleday Anchor.

Goffman, Erving M. 1969. Strategic interaction. In *Strategic interaction*. 83–145. Philadelphia: Univ. of Pennsylvania Press.

This essay addresses the problems of the game metaphor as a unit of analysis—offering a powerful critique of rational choice, rational action theories, and game theory. Goffman argues strategic interaction is a small and very stylized kind of interaction based in mutual, collective, and moral nature of sensible activity.

Goffman, Erving M. 1969. Strategic interaction. In *Strategic interaction*. 83–145. Philadelphia: Univ. of Pennsylvania Press.

Goffman, Erving M. 1974. Introduction. In *Frame analysis: An essay on the organization of experience*. By Erving Goffman, 1–20. New York: Harper & Row.

Addressing the organization of experience as a reformulation of the structure of the self described in Goffman 1959, Goffman comments on the epistemological limit of metaphor and the notion of reality. Readers should pay careful attention to his footnotes.

Goffman, Erving M. 1974. Introduction. In *Frame analysis: An essay on the organization of experience*. By Erving Goffman, 1–20. New York: Harper & Row.

Manning, Philip. 1991. Drama as life: The significance of Goffman's changing use of the dramaturgical metaphor. *Sociological Theory* 9:70–86.

The author provides a useful discussion of sociology and metaphor, Goffman and the theatrical metaphor, metaphor as a research method, and metaphor in Goffman's work.

Manning, Philip. 1991. Drama as life: The significance of Goffman's changing use of the dramaturgical metaphor. *Sociological Theory* 9:70–86.

Bourdieu's Contribution: The Move toward Embodiment

While French developments in the sociology of knowledge emphasized a notion of structure in the process of reification, the question of embodiment of such structures did not go unnoticed. Whereas Durkheim and his colleagues emphasized how the categories of understanding were external to the individual and Lévi-Strauss focused on locating cognitive mechanisms via a generative grammar, Mauss championed the embodiment of collective representations in a lecture delivered in 1934. Developed around observations of French and American society, Mauss 1973 describes *habitus* as an encultured bodily way of behaving. Here, Mauss provides early examples of forms of non-linguistic *practices*, hinting at how cognition does not depend solely on language but is also not a result of individual actions either—its dependence on tacit knowledge and implicit understanding. While the notion of "practices" has become to apply to a wide array of phenomena, from aspects of everyday life to highly structured activities in institutional settings, the notably French version is found in the theoretical elucidation of the concept of habitus by Pierre Bourdieu. Going beyond Mauss, Bourdieu gave a particular emphasis to how collective sets of practices and habits are rooted in cultural discourses that influence, mold, and implicate the bodily, perceptual, and appreciative dispositions of agents. Like Giddens, Bourdieu 2000 seeks to illustrate the possibility of agency within the concept of structure. Habitus, as the means of enculturation, provides the link between practices and cognition. This is clear in Bourdieu 1980 and Lizardo 2004. (Contrast this with Mische 2012.) These French developments led Ortner 1984 to propose "practice" as the central theme of anthropological theory in the 1980s—a trend still strong in the 21st century. Not all receptions, however, were positive; whereas Turner 1994 claims the broad attractiveness of the practice idiom arises from the deceptive appearance that it has resolved some fundamental recurrent problems in social theory, Turner's main critique is one concerned with the power of explanation. Turner argues the dependency upon the idea of tacit knowledge in the concept of practice limits what can be described and transmitted: how can practices be shared if they cannot be articulated? As Ignatow 2007 indicates, this is a central question developed further in contemporary cognitive sociology. (See Universal Cognitivism)

Bourdieu, Pierre. 1980. *The logic of practice*. Stanford, CA: Stanford Univ. Press.

Bourdieu presents a revised exposition of his habitus-based theory of action and its implications for research practice developed through a *dual* critique of anthropological structuralism and phenomenological individualism. He elaborates on the construction of the research object, a three-level approach to studying the field of the object of research and participant objectivation by showing how the stability of practices are a consequence of the permanent and dialectical relationship between "social structures" and "mental structures."

Bourdieu, Pierre. 1980. *The logic of practice*. Stanford, CA: Stanford Univ. Press.

Bourdieu, Pierre. 2000. *Pascalian meditations*. Stanford, CA: Stanford Univ. Press.

Based on Bourdieu's lecture courses at the Collège de France, originally published in 1997, he elaborates the conceptions of knowledge, time, power, and being. By addressing the "scholastic fallacy," the historical foundations of reason, and habitus as "knowledge by body," Bourdieu offers a reappraisal of the relation between the social sciences and politics.

Bourdieu, Pierre. 2000. *Pascalian meditations*. Stanford, CA: Stanford Univ. Press.

Ignatow, Gabriel. 2007. Theories of embodied knowledge: New directions for cultural and cognitive sociology? *Journal for the Theory of Social Behaviour* 37.2: 115–135.

The author offers an overview of the "bodily turn" and its prospects for cognitive sociology.

Ignatow, Gabriel. 2007. Theories of embodied knowledge: New directions for cultural and cognitive sociology? *Journal for the Theory of Social Behaviour* 37.2: 115–135.

Lizardo, Omar. 2004. The cognitive origins of Bourdieu's habitus. *Journal for the Theory of Social Behaviour* 34:375–401.

Lizardo retraces the intellectual lineage of Bourdieu's habitus, explicating its conceptual debt to Piaget and Levi-Strauss. Lizardo argues Bourdieu understood cognition in terms of how macrolevel arrangements of differentially valued material and symbolic resources, through processes of socialization, lead to embodied social structures that produce practices which serves to reproduce and transform these macrolevel arrangements through time.

Lizardo, Omar. 2004. The cognitive origins of Bourdieu's habitus. *Journal for the Theory of Social Behaviour* 34:375–401.

Mauss, Marcel. 1973. Techniques of the body. *Economy and Society* 2:70–88.

A lecture originally given in 1934, Mauss conveys within the techniques and work of collective and individual practical reason how one finds the social nature of *habitus*. He explains how the notion of techniques of the body are divided and vary by sex and by age.

Mauss, Marcel. 1973. Techniques of the body. *Economy and Society* 2:70–88.

Mische, Ann. 2012. Bourdieu in contention and deliberation: Response to Lamont and Lizardo. *Sociological Forum* 27.1: 245–250.

Mische discusses the contributions of Bourdieu to the prospects of a cognitive sociology.

Mische, Ann. 2012. Bourdieu in contention and deliberation: Response to Lamont and Lizardo. *Sociological Forum* 27.1: 245–250.

Ortner, Sherry B. 1984. Theory in anthropology since the sixties. *Comparative Studies in Society and History* 26.

Ortner overviews the relations between various intellectual trends from the 1960s to the 1980s. She covers symbolic anthropology, cultural ecology, structuralism, structural Marxism, and political economy to showcase how practice theory seeks to explain the genesis, reproduction, and change of form and meaning of a given social/cultural whole.

Ortner, Sherry B. 1984. Theory in anthropology since the sixties. *Comparative Studies in Society and History* 26.

Turner, Stephen P. 1994. *The social theory of practices: Tradition, tacit knowledge, and presuppositions*. Chicago: Univ. of Chicago Press.

Turner evaluates the logical and epistemological difficulties inherent in accounts which consider how society partly constituted of "practices" as both shared, tacit presuppositions that make intersubjective order possible within bounded social systems, and to forms of embodied knowledge that, through the actions and chains of reciprocal reactions they generate and give sense to, reproduce the structural conditions of their embodiment.

Turner, Stephen P. 1994. *The social theory of practices: Tradition, tacit knowledge, and presuppositions*. Chicago: Univ. of Chicago Press.

The Cultural Turn and the Rise of the Action/Practice/Cognition/Culture Debate

The domination of interpretive sociology by the cultural turn concerns a shift from the consideration of "culture" as a "dependent variable" to an "independent variable," illustrating that "culture" is not something that can be sequestered into a subfield like sociology of the family, and so on. The work of Jeffery Alexander and his colleagues, as represented by Alexander, et al. 2012, suggests the need for a "strong program" of cultural sociology in contrast to the "weak programs" offered by the Birmingham School, Bourdieu, and Foucault. The agenda of this "strong program" features the modification of Geertz's "structural hermeneutics" with three methodological parameters: the necessity of cultural autonomy, the mapping of cultural structures and the commitment to causal explanation. Patterson 2014 places these developments in the context of an integrated and interdisciplinary approach. The relationship between this turn toward culture and theorizing cognition is expressed in debates about how the locus of meaning *within* culture is connected to the development of mental schema. This has turned into a debate between the means of the external structuring of cognition, particularly into how patterns of subjectivity are produced in institutional settings tend to model the actor by emphasizing either theories of action or theories of practices. In line with the strong program, Swidler 1986 elucidates the notion of culture as a "toolkit" suggesting that strategies of action are cultural products and that it is cultural repertoires that limit the available strategies. Vaisey 2008 and Swidler 2008 debate the level of analysis necessary for understanding how culture matters for action. Reviewing the limitations of cognition described by other fields, Martin 2010 presents the boundaries for a plausible theory of culture by challenging the compatibility of the argument that culture as a complex web of meaning with the notion that culture can be inside an actor's head. Lizardo and Strand 2010 evaluates Swidler 1986 and Swidler 2001 as a cognitive theory, presenting its limitations with reference to cognitive science.

Alexander, Jeffrey C., Ronald N. Jacobs, and Philip Smith. 2012. *The Oxford handbook of cultural sociology*. New York: Oxford Univ. Press.

The authors edit a collection organizing the analytic priorities, methods, topics, epistemologies, ideologies, and modes of writing unifying the diverse contemporary applications of cultural sociology.

Alexander, Jeffrey C., Ronald N. Jacobs, and Philip Smith. 2012. *The Oxford handbook of cultural sociology*. New York: Oxford Univ. Press.

Lizardo, Omar, and Michael Strand. 2010. Skills, toolkits, contexts and institutions: Clarifying the relationship between different approaches to cognition in cultural sociology. *Poetics* 38:205–228.

Lizardo and Strand characterize the cognitive underpinnings of the practice and toolkit perspectives, clarifying and explicitly characterizing in what modal contexts taking a toolkit or practice approach makes more sense. They formulate a cognitive model of the agent by specifying linkages between embodied social structures and externalized cultural scaffolding.

Lizardo, Omar, and Michael Strand. 2010. Skills, toolkits, contexts and institutions: Clarifying the relationship between different approaches to cognition in cultural sociology. *Poetics* 38:205–228.

Martin, John Levi. 2010. Life's a beach but you're an ant, and other unwelcome news for the sociology of culture. *Poetics* **38:229–244.**

Martin argues, given cognitive limitations, culture is a set of potentials for experience. He does not present a theory or model of culture, or of how we use culture, rather, he attempts to establish a set of bounds within which any plausible theory should sit.

Martin, John Levi. 2010. Life's a beach but you're an ant, and other unwelcome news for the sociology of culture. *Poetics* 38:229–244.

Patterson, Orlando. 2014. Making sense of culture. *Annual Review of Sociology* **40:1–30.**

Patterson reviews of problems in the sociological study of culture before offering an integrated, interdisciplinary view of culture.

Patterson, Orlando. 2014. Making sense of culture. *Annual Review of Sociology* 40:1–30.

Swidler, Ann. 1986. Culture in action: Symbols and strategies. *American Sociological Review* **51:273–286.**

Presenting two models of cultural influence, distinguishing between traditions/common sense and ideology, Swidler argues culture shapes a repertoire of capacities from which varying strategies of action may be constructed.

Swidler, Ann. 1986. Culture in action: Symbols and strategies. *American Sociological Review* 51:273–286.

Swidler, Ann. 2001. *Talk of love: How culture matters*. **Chicago: Univ. of Chicago Press.**

Drawing on data from eighty-eight suburban white middle-class interviewees between the ages of twenty and sixty talking about love, Swidler examines the malleability of cultural constructs. Building on Swidler 1986, her explanatory framework shows how individuals with vastly different motivations and capacities to draw on and to use culture can still produce patterned social responses as they confront similar historical and social conditions and institutional constraints.

Swidler, Ann. 2001. *Talk of love: How culture matters*. Chicago: Univ. of Chicago Press.

Swidler, Ann. 2008. Comment on Stephen Vaisey's "Socrates, Skinner, and Aristotle: Three ways of thinking about culture in action". *Sociological Forum* **23:614–618.**

Swidler responds to Vaisey 2008, suggesting the need to "get beyond the fundamental individualism of such models," arguing instead for the development of clearer understandings about where "particular cultural logics are grounded, how they are organized, and in what contexts they are brought to bear on action."

Swidler, Ann. 2008. Comment on Stephen Vaisey's "Socrates, Skinner, and Aristotle: Three ways of thinking about culture in action". *Sociological Forum* 23:614–618.

Vaisey, Stephen. 2008. Socrates, Skinner, and Aristotle: Three ways of thinking about culture in action. *Sociological Forum* **23:603–613.**

Vaisey articulates two ideal-typical models of culture's role in action where culture is either impacting motivation or as a device for post-hoc sense making. He argues these models need to take account of two sets of dual processes: specifying more adequately the dynamic relationship between the person and the environment, and how conscious and unconscious processes are related to cultural learning, cultural judgment, and social behavior.

Vaisey, Stephen. 2008. Socrates, Skinner, and Aristotle: Three ways of thinking about culture in action. *Sociological Forum* 23:603–613.

Contemporary Cognitive Sociology and Modeling the Actor: Beyond the "Cognitive Revolution" and Debates in Culture and Cognition

Contemporary cognitive sociology still seeks to establish the minimal model of the actor. This means addressing how the social, cultural, historical, societal, and even the subcultural factors into cognition. Ostensibly, the individuality of the actor and the locus of such an actor's "cognition" seems simple—all living human beings have a brain that thinks inside one's head and all brains work the *same* way. This is the case for the cognitive scientist. Beginning with the idea that the mind is a *computer*, this inquiry is limited to the nature of the mind (mental events, mental functions, mental properties, and consciousness) and its relationship to the physical body. Albeit, this is an *extreme* version of "universal cognitivism." At the other *extreme*, one also finds an individual actor, except the *basis* of this individuality is different. Instead of starting with the brain, "individual cognitivism" reasons a kind of psychologism, found in neoclassical economics and versions of psychoanalysis, where *sufficient* explanation for all "cognitive activity" will be provided by an account of *autonomous* individual "cognitive" agents, emphasizing relativism. (Downes 1993) Given these two extremes, it is easier to understand why the question of cognition is so difficult to place within the context of sociology: what is cognitive in "universal cognitivism" is not necessarily "cognitive" in "individual cognitivism"; nor can the same be said for "plural cognitivism." Plural cognitivism moves *beyond* the traditional view of cognitivism being about the working of the individual mind, as argued in Zerubavel and Smith 2010. Utilizing a balanced approach, it examines the *social* foundations of cognition in general in an attempt to overcome the structure-agency problem illustrated by O'Donnell 2010. Recognizing that actors think with certain universal cognitive commonalities and certain personal cognitive idiosyncrasies, the plural cognitivist approach elucidates, within courses of activity, how processes of reification result in the impersonal structuring of cognition and its effects on the conditions of meaning production, as indicated in Brown 2014. Thus, what is "cognitive" in sociology is likely a *metaphor* for the processes of learning, reasoning, judgment, and decision-making that depend upon this frame of reference: the processes of socialization, societalization, and acculturation that pre-shape the *organization* of experience in everyday life. Locating this organization is contentious—as less extreme versions of universal cognitivism and individual cognitivism, while holding steadfast in their fundamental presuppositions, they have come to recognize some merit in the cultural turn—a point made visible by Cerulo 2002. This results in a wide range of ontological positions following *different* strands of sociological theory, accounting for varying degrees of social, cultural, subcultural, historical, societal factors. These varying factors are heuristically sorted into five ideal-typical actors: universal, fuzzy universal, plural, fuzzy individual, and individual cognitivism. Raphael 2015 visually illustrates how these ideal-types vary in the ontological constitution of the actor according to the two dimensions: *the priority in the kind of explanation* (a spectrum of naturalistic to humanist explanations of behavior) and the priority of individuality in modeling society (a spectrum of "agency" to "structure" in "determining" action to a "course of activity"). In a refreshing contrast, Pitts-Taylor 2016 finds the non-reductionist potential of neuroscience that Brown 2014 argues is necessary by positing "sociality" as a supra-disciplinary phenomena.

Brown, Michael E. 2014. *The concept of the social in uniting the humanities and social sciences*. Philadelphia: Temple Univ. Press.

This book is a modern classic. Brown formulates an interpretive sociology that investigates the *conditions* under which individuals can be considered the ultimate referent of moral discourse. Drawing on Rousseau, Durkheim, Goffman and Garfinkel, he captures how cognition is fundamentally *social* in the process of a phenomenological investigation. Brown elucidates how processes of reification affect the deferred production of meaning *within* courses of activity. This is recommended for graduate students.

Brown, Michael E. 2014. *The concept of the social in uniting the humanities and social sciences*. Philadelphia: Temple Univ. Press.

Cerulo, Karen A. 2002. *Culture in mind: Toward a sociology of culture and cognition*. New York: Routledge.

Cerulo edits a collection of fourteen original essays by leading cultural sociologists and sociologists of cognition organized into four sections: sensation and attention; discrimination and classification; representation and integration; and storage and retrieval. Her introduction to each section presents the key questions and findings of the cognitive science approach before moving to a discussion of the distinct contributions of sociological approaches.

Cerulo, Karen A. 2002. *Culture in mind: Toward a sociology of culture and cognition*. New York: Routledge.

Downes, Stephen M. 1993. Socializing naturalized philosophy of science. *Philosophy of Science* 60:452–468.

This article presents critiques of several prominent naturalistic approaches for adopting "cognitive individualism," which limits the study of science to an examination of the internal psychological mechanisms of scientists.

Downes, Stephen M. 1993. Socializing naturalized philosophy of science. *Philosophy of Science* 60:452–468.

O'Donnell, Mike. 2010. *Structure and agency*. 4 vols. Los Angeles: SAGE.

This edited four-volume set contains a useful editor's introduction that outlines how modernity, sociology, and the structure/agency debate relates to postmodernity, concepts of race, class, gender, identity, and the recent solutions to the problem proposed by network theory. This is recommended for graduate students.

O'Donnell, Mike. 2010. *Structure and agency*. 4 vols. Los Angeles: SAGE.

Pitts-Taylor, Victoria. 2016. *The brain's body: Neuroscience and corporeal politics*. Durham, NC: Duke Univ. Press.

Taylor addresses the ontogenetic underpinnings of universal cognitivism through the politics of plastic, biosocial brains by investigating how they are shaped by social structures as well as how those social structures shape neuroscientific knowledge.

Pitts-Taylor, Victoria. 2016. *The brain's body: Neuroscience and corporeal politics*. Durham, NC: Duke Univ. Press.

Raphael, Michael W. 2015. The loci of cognition in the model of the actor. In *On the prospect of a cognitive sociology of law: Recognizing the inequality of contract*. Presented at the Annual Meeting of the Mid-Atlantic Law and Society Association. New York: CUNY Academic Works.

Understanding the core paradigmatic question facing cognitive sociology is the ontological constitution of the actor, Raphael elucidates how the politics of tacit knowledge depends on the epistemological question of interdisciplinarity versus supra-disciplinarity in establishing a dialogue with cognitive science. This is to illustrate the problem in scientific discourse of using the "same words," but in altogether "different languages."

Raphael, Michael W. 2015. The loci of cognition in the model of the actor. In *On the prospect of a cognitive sociology of law: Recognizing the inequality of contract*. Presented at the Annual Meeting of the Mid-Atlantic Law and Society Association. New York: CUNY Academic Works.

Zerubavel, Eviatar, and Eliot R. Smith. 2010. Transcending cognitive individualism. *Social Psychology Quarterly* 73:321–325.

Zerubavel and Smith challenge the popular notion that "dazzling images of brain scans" explains cognition. The authors describe in depth two broad approaches as an alternative: a sociology of thinking and distributed cognition. This is recommended for undergraduates.

Zerubavel, Eviatar, and Eliot R. Smith. 2010. Transcending cognitive individualism. *Social Psychology Quarterly* 73:321–325.

Universal Cognitivism

Universal cognitivism seeks to articulate a model of the actor that stresses naturalistic explanations of human behavior. In this rigid ideal-type, naturalistic explanations of human behavior tend to be based on special modes of inference, testing, or experimentation in their investigation of *internal* mental processes. These include learning, memory, perception, attention, cognitive control, language, motor control, decision-making, and social cognition. Explanations of these processes tend to attribute causation to factors like brain structures, pharmacological states, and environmental differences affecting neural development—meaning the *locus* of cognition is in the *brain*. Its strongest form is found in cognitive neuroscience where the actor, modeled like a computer, is an atomized individual that does *not* account for sociality nor society. Sociality is conceived of as the *mere* embeddedness in groups, structures, contexts and environments. This leads to the interpretation of facts based on a plain theory of language. In its weaker forms, research on social cognition accounts for this kind of sociality. Universal cognitivism, in this more sociological flavor, still aligns with cognitive science, however typical computer model is de-emphasized over the parallel distributed processing paradigm as found in Turner 2002. In this parallel distributed processing paradigm, society is conceived of with the justifiable assumption that its existence can only be clarified by reference to facts having to do with cooperation (each part of a whole). The influence of cognitive anthropology on this sociological flavor is apparent in the approach of Hutchins 1995 and Shore 1996. Shore 1996 makes it clear that a dual process model of cultural cognition means understanding how cognitive architecture integrates "instituted models" as "social constructs," "mental models" as "psychological constructs," with "neural networks" as "biological constructs." This can be contrasted with Luhmann 1990 who finds the social dimension

of cognition resulting from systematic physical or mechanical processes. As an ontological position in cognitive sociology, universal cognitivism investigates cognition both as content and as a process, making use of two contemporary research programs: *neurosociology* and the culture and cognition program. Neurosociology formulates a neuro-social model of the actor seeking to understand biological basis of the interpersonal mechanisms that constitute human interaction. Franks and Turner 2013 illustrates this growing trend. While spanning across different kinds of cognitivism, under universal cognitivism, the research program in culture and cognition investigates the cultural aspects of social cognition, cultural processes of learning, the emergence of cognitive networks, and the relationship between cultural models and embodied cognition as modeled by the categorizations of socio-cognitive linguistics, as in Lizardo 2012.

Franks, David D., and Jonathan H. Turner. 2013. *Handbook of neurosociology*. New York: Springer.

Tackling large issues, like the neuro-social model of the actor, Franks and Turner edit a collection presenting the integration of social neuroscience and sociology fueled by the explosion of research in neuroscience on brain functioning and brain-environment interactions.

Franks, David D., and Jonathan H. Turner. 2013. *Handbook of neurosociology*. New York: Springer.

Hutchins, Edwin. 1995. *Cognition in the wild*. Cambridge, MA: MIT.

Hutchins questions the informativeness of laboratory studies of cognition, arguing that it socially, temporally, technologically and environmentally situated cognition *distributed* throughout society. Modeling the cognitive task of forming consensus with a neural net architecture, Hutchins argues culture determines the details of how a cognitive task is represented and implemented.

Hutchins, Edwin. 1995. *Cognition in the wild*. Cambridge, MA: MIT.

Lizardo, Omar. 2012. The conceptual bases of metaphors of dirt and cleanliness in moral and non-moral reasoning. *Cognitive Linguistics* 23:367–393.

Illustrating the configuration of a particular compound image schema, Lizardo argues dirt and cleanliness metaphors are naturally transportable to the task of categorizing moral agents because of ordered and disordered arrangements of concrete settings, which presuppose a larger cultural and experiential order.

Lizardo, Omar. 2012. The conceptual bases of metaphors of dirt and cleanliness in moral and non-moral reasoning. *Cognitive Linguistics* 23:367–393.

Luhmann, Niklas. 1990. The cognitive program of constructivism and a reality that remains unknown. In *Selforganization: Portrait of a scientific revolution*. Edited by Wolfgang Krohn, Günter Küppers, and Helga Nowotny, 64–85. Dordrecht, The Netherlands, and Boston: Kluwer Academic.

Luhmann understands constructivism as an epistemology suitable for a society with a highly differentiated system of science and relates this to how cognitive systems are structured to reproduce autopoietically to obtain a dynamic stability since they operate on the basis of events that have only a momentary presence and that already begin to disappear at the moment of their emergence.

Luhmann, Niklas. 1990. The cognitive program of constructivism and a reality that remains unknown. In *Selforganization: Portrait of a scientific revolution*. Edited by Wolfgang Krohn, Günter Küppers, and Helga Nowotny, 64–85. Dordrecht, The Netherlands, and Boston: Kluwer Academic.

Shore, Bradd. 1996. *Culture in mind: Cognition, culture, and the problem of meaning*. New York: Oxford Univ. Press.

Shore provides a typology of cultural models (culture in society) and mental models (culture in the mind) based on both structural (genres) and functional features to describe the cognitive "architecture" of cultural knowledge and its production. He argues analogical transfer is the psychological process underlying culture learning.

Shore, Bradd. 1996. *Culture in mind: Cognition, culture, and the problem of meaning*. New York: Oxford Univ. Press.

Turner, Stephen P. 2002. *Brains/practices/relativism: Social theory after cognitive science*. Chicago: Univ. of Chicago Press.

Addressing the implications of connectionism for the neo-Kantian inheritance present in social theory, Turner forges through the deep epistemological and theoretical obstacles facing the model of parallel distributed processing to argue that every single mind is a product of the individual's unique biographical situation. He emphasizes the great importance of redundancy in communication over the notion of the tacit in interpreting social and cultural phenomena.

Turner, Stephen P. 2002. *Brains/practices/relativism: Social theory after cognitive science*. Chicago: Univ. of Chicago Press.

Locating and Modeling Levels of Processing: The Question of Distributing Social, Cultural, and Societal Cognition

Unlike the classical model of cognition connectionist models of cognition distribute computational power across neural networks, as argued by Clark 1997. This model of parallel distributed processing supports the formation of cognitive architecture with neural plasticity and an unlimited storage capacity made possible by simple processing units interconnected via weighted connections. This model of anti-Cartesian cognitive science, viewing the brain as an "associative engine," provides the neurological basis for what philosophy calls the *extended mind thesis*. These debates in universal cognitivism concern how cognitive processes are composed of manipulative, exploitative, and transformative operations performed by actors on physical and sociocultural environments, which lead to the emergence of cognitive networks *among* actors, relying heavily on a cognitive and social division of labor. This offers a "plug and play" view of sociality as the network ties that enable actors access to the distributed processing units that are already "computing" and "interconnected" through existing networks distributed across members of a group—a claim studied by Giere and Moffatt 2003. In this regard, it is useful to contrast Adolphs 2009, Vaisey 2009, and Gibbs 2006 with Gapenne, et al. 2011 in terms of where the emphasis is placed on understanding cognition.

Adolphs, Ralph. 2009. The social brain: Neural basis of social knowledge. *Annual Review of Psychology* 60:693–716.

Adolphs provides a broad survey of the key abilities and processes reflected in the neural structures that underlie social information processing, and ways in which to relate these to data from cognitive neuroscience.

Adolphs, Ralph. 2009. The social brain: Neural basis of social knowledge. *Annual Review of Psychology* 60:693–716.

Clark, Andy. 1997. *Being there: Putting brain, body, and world together again*. Cambridge, MA: MIT.

Clark argues a view of consciousness as a process of constant feedback loops within a self-organizing, distributed system embracing the brain, body, and aspects of the world where control is an emergent property. These "associative engines" interact with highly structured environments to result in advanced cognition. It is an exemplar of contemporary anti-Cartesian cognitive science.

Clark, Andy. 1997. *Being there: Putting brain, body, and world together again*. Cambridge, MA: MIT.

Gapenne, Olivier, Ezequiel A. Di Paolo, and John Robert Stewart. 2011. *Enaction: Toward a new paradigm for cognitive science*. Cambridge, MA: MIT.

In this edited volume, the authors express how enaction is a paradigm that explores the relation between first-person lived experience and third-person natural science, and articulate the many domains and levels of organization in cognition and the theme of reflexivity.

Gapenne, Olivier, Ezequiel A. Di Paolo, and John Robert Stewart. 2011. *Enaction: Toward a new paradigm for cognitive science*. Cambridge, MA: MIT.

Gibbs, Raymond W. 2006. *Embodiment and cognitive science*. Cambridge, UK: Cambridge Univ. Press.

This book is becoming a modern classic. The author explores how the body engages the physical and cultural world by reviewing the evidence.

Gibbs, Raymond W. 2006. *Embodiment and cognitive science*. Cambridge, UK: Cambridge Univ. Press.

Giere, Ronald N., and Barton Moffatt. 2003. Distributed cognition: Where the cognitive and the social merge. *Social Studies of Science* 33:301–310.

Giere and Moffatt argue the importance of distributed cognitive systems is simply that they make possible the acquisition of knowledge that no single person, or a group of people without instruments, could possibly acquire. As an example, they argue we cannot say how scientists work together to complete their cognitive task without describing their social interactions.

Giere, Ronald N., and Barton Moffatt. 2003. Distributed cognition: Where the cognitive and the social merge. *Social Studies of Science* 33:301–310.

Vaisey, Stephen. 2009. Motivation and justification: A dual-process model of culture in action. *American Journal of Sociology* 114:1675–1715.

Distinguishing between "discursive" and "practical" modes of culture and cognition, Vaisey presents a new model of culture in action that integrates justificatory and motivational approaches offering a simple framework capable of generating and testing a host of research questions in a systematic way.

Vaisey, Stephen. 2009. Motivation and justification: A dual-process model of culture in action. *American Journal of Sociology* 114:1675–1715.

The Conceptual Theory of Metaphor

Like the challenge of connectionist cognitive architecture, cognitive linguistics' move beyond Chomskian generative grammar meant conceiving is no longer sentential but a matter of manipulating unconscious mental imagery, namely metaphor. Metaphors are not just a feature of language but are thought itself. Lakoff 1979 and Ortony 1979 illustrate this. "Metaphorical mappings" show how meaning is obtained through structural inference of a cross-domain map: LOVE IS A JOURNEY. These mappings represent a standing pervasive culture-wide disposition that manifests itself in many different verbal expressions like "Our relationship has hit a dead-end street . . . Look how far we've come." This is an example Lakoff and Johnson 1980 makes much use of. These metaphorical mappings are used to understand how metaphors are a "convergence zone of sorts" between "universal cognitive mechanisms of categorization" and *culturally pre-specified* configurations of meaning. More recent formulations of the theory are articulated as the "neural theory of metaphor" follows developments in "meaning as mental stimulation." To explain abstract concepts and the meanings of words, complex expressions, and grammatical constructions, the theory models what neural circuitry is activated when one imagines or perceives conceptual metaphors. This follows the Hebbian principle that "neurons that fire together wire together." The idea is that when learning occurs, neural mapping circuits link the two domains together and the metaphor is constituted by those circuits. To understand the relationship between this kind of explanation and the role of culture, one must look closer at how situations, discourse, conceptually cognitive and bodily contexts act as the sources of metaphor, as shown by Kövecses 2014. Recently, a more social psychological perspective has developed, as represented by Landau and Robinson 2014.

Kövecses, Zoltán. 2014. *Where metaphors come from: Reconsidering context in metaphor*. New York: Oxford Univ. Press.

Kovecses extends Lakoff and Johnson 1980 as a contextual theory of metaphor, expanding and refining it to account for the ways in which many verbal metaphors are tied to context.

Kövecses, Zoltán. 2014. *Where metaphors come from: Reconsidering context in metaphor*. New York: Oxford Univ. Press.

Lakoff, George. 1979. The contemporary theory of metaphor. In *Metaphor and thought*. Edited by Andrew Ortony, 202–251. Cambridge, UK: Cambridge Univ. Press.

Lakoff provides an overview of the contemporary theory of metaphor in regard to its experiential basis, structure, and aspects. He uses these characteristics to argue how its image-schematic basis is inconsistent with thought as a matter of algorithmic symbol manipulation.

Lakoff, George. 1979. The contemporary theory of metaphor. In *Metaphor and thought*. Edited by Andrew Ortony, 202–251. Cambridge, UK: Cambridge Univ. Press.

Lakoff, George, and Mark Johnson. 1980. *Metaphors we live by*. Chicago: Univ. of Chicago Press.

Lakoff and Johnson argue that metaphors are not only pervasive in language, but a fundamental mechanism of mind, meaning they are formative of our conceptual systems, values, actions, and ultimately, the very realities we inhabit.

Lakoff, George, and Mark Johnson. 1980. *Metaphors we live by*. Chicago: Univ. of Chicago Press.

Lakoff, George, and Mark Johnson. 1999. *Philosophy in the flesh: The embodied mind and its challenge to Western thought*. New York: Basic Books.

Lakoff and Johnson attempt to end more than two millennia of a priori philosophical speculation with the argument that abstract concepts are largely metaphorical. Instead, they propose, from empirical foundations, to build philosophy anew by positioning cognitive science as a resource for self-knowledge through analyzing the "metaphorical mappings" of basic concepts of the mind, time, causation, morality, and the self.

Lakoff, George, and Mark Johnson. 1999. *Philosophy in the flesh: The embodied mind and its challenge to Western thought*. New York: Basic Books.

Landau, Mark J., and Michael D. Robinson. 2014. *The power of metaphor: Examining its influence on social life*. Washington, DC: American Psychological Association.

Landau and Robinson focus on the specific form of embodiment posited by Lakoff and Johnson 1999 and review relevant experimental results in the topic of metaphor and in the cognitive underpinnings of social life.

Landau, Mark J., and Michael D. Robinson. 2014. *The power of metaphor: Examining its influence on social life*. Washington, DC: American Psychological Association.

Ortony, Andrew. 1979. *Metaphor and thought*. Cambridge, UK: Cambridge Univ. Press.

Ortony presents an edited collection addressing theories about the nature of metaphor, its relation to judgments of similarity, its values and purposes, its capacity to help us think new thoughts, and the status, eliminability, and proper analysis of the composite concepts metaphors produce and the use of metaphor in understanding social problems, in the construction of scientific theory, and in teaching.

Ortony, Andrew. 1979. *Metaphor and thought*. Cambridge, UK: Cambridge Univ. Press.

Embodiment, Cognitive Linguistics and the Frontiers of Cognitive Neuroscience in Sociology

Universal cognitivism has taken many directions. Recently the neurocognitive turn that has produced neurosociology does not have all sociologists thrilled. Coulter 2008 offers terms of caution. Others, like Lizardo 2012, could not be more excited to make use of recent developments in cognitive linguistics to further explore *sociological* issues. This move follows an ontological position know as "experiential realism" in cognitive linguistics where schemas in the form of "idealized cognitive models" (ICMs), consist of at least four structuring elements: propositional; image-schematic; metaphoric; and metonymic. Opposed to classical abstract categories, ICMs describe a method of analysis for characterizing the categorization and conceptualization of experience which is inextricably connected with linguistic knowledge. The metaphoric aspects of ICMs follow The Conceptual Theory of Metaphor whereas research into image-schemas have further explored how the cultural dimension of ideological discourse works *cognitively*—as in Dirven, et al. 2003 and Kimmel 2005. Much of the contemporary work addresses what the theory of metaphor could not: the finding that the integration of elements originating from *two* conceptual domains into *one* mental scenario led to *poly-directional* mappings between domains and

partial mappings between domains. These problems led to mental space theory and the discussion of "blending" overviewed in Coulson 2001. These mental spaces are distinguished from conceptual domains and ICMs by their partial nature in how they activate elements and structures from both. For universal cognitivism, the frontier is understanding the relationship between the grounding of cognition, blending in meaning construction and embodiment.

Coulson, Seana. 2001. *Semantic leaps: Frame-shifting and conceptual blending in meaning construction*. Cambridge, UK: Cambridge Univ. Press.

Coulson offers a survey of mental space theory. Showing the idea that reference has a dimension of structure all its own, Coulson conveys frame-shifting as the semantic reorganization that occurs when incoming information is inconsistent with an initial interpretation and how conceptual blending results from the application of cognitive operations for combining frames from different domains.

Coulson, Seana. 2001. *Semantic leaps: Frame-shifting and conceptual blending in meaning construction*. Cambridge, UK: Cambridge Univ. Press.

Coulter, Jeff. 2008. Twenty-five theses against cognitivism. *Theory, Culture & Society* 25:19–32.

Coulter surveys a range of arguments by theorists in cognitive science and cognitive neuroscience and presents counterproposals. This piece is useful to give undergraduates justifications to doubt the neurocognitive turn.

Coulter, Jeff. 2008. Twenty-five theses against cognitivism. *Theory, Culture & Society* 25:19–32.

Dirven, René, Roslyn M. Frank, and Martin Pütz. 2003. *Cognitive models in language and thought: Ideology, metaphors and meanings*. Berlin: Mouton de Gruyter.

Dirven, Frank, and Pütz show how cognitive linguistics contributes to a better and deeper understanding of sociopolitical thought, organization, and human interaction by highlighting the importance of ideology in language studies.

Dirven, René, Roslyn M. Frank, and Martin Pütz. 2003. *Cognitive models in language and thought: Ideology, metaphors and meanings*. Berlin: Mouton de Gruyter.

Kimmel, Michael. 2005. Culture regained: Situated and compound image schemas. In *From perception to meaning: Image schemas in cognitive linguistics*. Edited by Beate Hampe and Joseph E. Grady, 442–473. Berlin: Mouton de Gruyter.

Kimmel reviews a large range of evidence from cognitive anthropology supporting extended notions of embodiment in general and of image schema in particular. He suggests that image schema theory has hitherto neglected the study of situated as well as compound image schemas, both of which are tied to culture-specific, affect-laden experience defined by body practices, artifact use, and specific languages.

Kimmel, Michael. 2005. Culture regained: Situated and compound image schemas. In *From perception to meaning: Image schemas in cognitive linguistics*. Edited by Beate Hampe and Joseph E. Grady, 442–473. Berlin: Mouton de Gruyter.

Lizardo, Omar. 2012. The conceptual bases of metaphors of dirt and cleanliness in moral and non-moral reasoning. *Cognitive Linguistics* 23:367–393.

Illustrating the configuration of a particular compound image schema, Lizardo argues dirt and cleanliness metaphors are naturally transportable to the task of categorizing moral agents because of ordered and disordered arrangements of concrete settings, which presuppose a larger cultural and experiential order.

Lizardo, Omar. 2012. The conceptual bases of metaphors of dirt and cleanliness in moral and non-moral reasoning. *Cognitive Linguistics* 23:367–393.

Blending Meaning and Sociological Phenomena

While the question of cultural meaning gains insight from the cognitive linguistic elements of universal cognitivism, there may be in some reasonable doubt to its *sociological* relevance. However, recalling how the founders of sociology exerted a great deal of effort in understanding the ritualistic differences between "religious" and "magical" beliefs, there are few phenomena that could be considered "more" sociological. Offering an account of the cognitive foundations of magical action, Sørensen 2007 describes a schematic model that *integrates* cognitive linguistics to show how magic makes use of basic cognitive processes to be a "permanent force in the historical development of institutionalized religion," arguing that re-enchantment *always* follows periods of rationalization. This means cognition will, one way or another, find ways of infusing the everyday world with "magical agency." To make sense of this clearly cognitive sociological argument, it is necessary to understand the challenges that followed The Conceptual Theory of Metaphor in regard to the cognitive structures of meaning production that Sørensen bases his analysis. These are summarized by findings about force dynamics, primary metaphors, and blending in mental spaces. In cognitive semantics, force dynamics make the causal connection between ICMs and situated action in the "winnowing of attention" where both thought is fueled by analogies to "physical barriers," "blocks," and "forces"—a point clarified in Talmy 1988. Similarly, as Grady 1997 notes, "primary metaphors," in a universal cognitivist fashion, argue that actors have much of the same experiences in childhood that give rise to a vast system of the same "primary metaphorical mappings." The analysis of such primary metaphors can be tested by comparing the metaphor's English elaboration with its elaboration in other languages as in Grady 2005. Unlike the structure of metaphors, conceptual blending enables the emergence of a new structure and new meaning, not found in any of the domains and mental spaces, by modeling how multiple mappings and projections coalesce into one blended space. This is elucidated in Fauconnier and Turner 1998 and Coulson and Oakley 2001. Since magic contains a transformative aspect concerned with "changing the state or essence of persons, objects, acts and events through certain special and nontrivial kinds of actions with opaque causal mediation" (p. 32), Sørensen 2007 effectively describes how conceptual blending performs this transformative aspect of magical action. However, it is still important to note how there are alternative approaches to understand the grounding of cognition as "interface between words and physical environments" in universal cognitivism, as modeled in Roy 2005.

Coulson, S., and T. Oakley. 2001. Blending basics. *Cognitive Linguistics* 11:175.

Coulson and Oakley review recent work on blending theory from the perspective of linguistics, psychology, computer science, and neurobiology.

Coulson, S., and T. Oakley. 2001. Blending basics. *Cognitive Linguistics* 11:175.

Fauconnier, Gilles, and Mark Turner. 1998. Conceptual integration networks. *Cognitive Science* 22:133–187.

Fauconnier and Turner describe blending as a general cognitive operation on a par with analogy, recursion, mental modeling, conceptual categorization, and framing. It claims that we think of a certain slice of the world as if it were both the source and the target domain at once, like a double-exposure photograph.

Fauconnier, Gilles, and Mark Turner. 1998. Conceptual integration networks. *Cognitive Science* 22:133–187.

Grady, Joseph E. 1997. Theories are buildings revisited. *Cognitive Linguistics* 8:267–290.

Grady presents two empirical problems: unpredicted gaps and lacking basis of concrete experience that could found the metaphor. He proposes a solution by treating it as a compound motivated by two independent metaphors and explains the operation that combines the two metaphors as a "unification" in the sense of lexical-functional grammar.

Grady, Joseph E. 1997. Theories are buildings revisited. *Cognitive Linguistics* 8:267–290.

Grady, Joseph. 2005. Primary metaphors as inputs to conceptual integration. *Journal of Pragmatics* 37:1595–1614.

Grady argues primary metaphors constitute a distinctive class of counterpart connections that derive from recurring correlations between particular types of mental experiences.

Grady, Joseph. 2005. Primary metaphors as inputs to conceptual integration. *Journal of Pragmatics* 37:1595–1614.

Roy, Deb. 2005. Semiotic schemas: A framework for grounding language in action and perception. *Artificial Intelligence* **167:170–205.**

Roy presents a basis for the analysis and design of situated, multimodal communication systems that straddle symbolic and non-symbolic realms via a computational path from sensing and motor action to words and speech acts.

Roy, Deb. 2005. Semiotic schemas: A framework for grounding language in action and perception. *Artificial Intelligence* 167:170–205.

Sørensen, Jesper. 2007. *A cognitive theory of magic.* **Lanham, UK: AltaMira.**

Sørensen argues that magical beliefs manifest a particular form of conceptualization that results from the combination at higher levels of mental processing elements belonging to different basic cognitive domains.

Sørensen, Jesper. 2007. *A cognitive theory of magic.* Lanham, UK: AltaMira.

Talmy, Leonard. 1988. Force dynamics in language and cognition. *Cognitive Science* **12:49–100.**

Talmy shows a fundamental notional system that structures conceptual material pertaining to a semantic category of how entities interact with respect to force. He discusses this notion in regard to the physical, psychological, social, inferential, discourse, and mental-model domains of reference and conception.

Talmy, Leonard. 1988. Force dynamics in language and cognition. *Cognitive Science* 12:49–100.

Modeling Perception in Embodiment and Grounding

The discussion of embodiment ranges across many different research programs in cognitive sociology concerning the assumption that "bodily states" are *necessary* for cognition. That is, in situated action, certain researchers disagree about the extent to which bodily and emotional states become activated. Initially, after all, Bourdieu's theory of "habitus" *separated* bodily and cognitive dimensions—thus disassociating bodily sensory-perceptual systems from mental representations. However, recent theorizing suggests the "habitus" concept is flexible enough to incorporate developments into how "bodies, cognitive schemas and social contexts interact," explained in Ignatow 2009. This version of universal cognitivism makes use of bodily states *reflexively* as the *cause* and *effect* of social cognition, capturing how intertwined cognitive and somatic components of "habitus" are, given developments of anti-Cartesian cognitive science. These "embodiment effects" of social cognition reflect a "pattern completion inference mechanism" that supports situated action—reflected in Barsalou, et al. 2003 and Barbey, et al. 2005. To make sense of this consider how literature on the sensorimotor *experiences* of embodiment contrasts with Gallese and Lakoff 2005—recent research into "grounded cognition" that echoes how the properties of how simulations, situated action, and, bodily states are *neutrally* represented by certain connections between areas of the brain. Similarly, cognitive linguistics theories of grounded cognition suggests the syntax and semantics of natural language are "grounded" in components of experience. However, what is of more sociological interest is the relationship between perception and grounded theories of language comprehension. Possible new directions for universal cognitivist research along these lines can further explore the role of "habitus" in shaping grounded cognition. However, such research needs to proceed cautiously since even on the frontier, it is still unclear *methodologically* what is universally cognitivist, since the question of interpretation is still open—as illuminated by Huttenlocher 2002 and Uttal 2013.

Barbey, Aron, Lawrence Barsalou, W. Kyle Simmons, and Ava Santos. 2005. Embodiment in religious knowledge. *Journal of Cognition and Culture* **5:14–57.**

Barbey and colleagues argue the goal of a ritual may determine the form of its embodiment and its embodiment helps convey, entrench, and retrieve the relevant concepts, like religious ideas, in memory.

Barbey, Aron, Lawrence Barsalou, W. Kyle Simmons, and Ava Santos. 2005. Embodiment in religious knowledge. *Journal of Cognition and Culture* 5:14–57.

Barsalou, Lawrence W., Paula M. Niedenthal, Aron K. Barbey, and Jennifer A. Ruppert. 2003. Social embodiment. *The Psychology of Learning and Motivation* **43:43–92.**

Barsalou and colleagues integrate four types of embodiment effects that play central roles in social information processing, explaining them in a unified manner.

Barsalou, Lawrence W., Paula M. Niedenthal, Aron K. Barbey, and Jennifer A. Ruppert. 2003. Social embodiment. *The Psychology of Learning and Motivation* 43:43–92.

Gallese, Vittorio, and George Lakoff. 2005. The brain's concepts: The role of the sensory-motor system in conceptual knowledge. *Cognitive Neuropsychology* **22:455–479.**

Drawing on the neural theory of language, Gallese and Lakoff argue rational thought is an exploitation of the normal operations of our bodies and it is also largely unconscious.

Gallese, Vittorio, and George Lakoff. 2005. The brain's concepts: The role of the sensory-motor system in conceptual knowledge. *Cognitive Neuropsychology* 22:455–479.

Huttenlocher, Peter R. 2002. *Neural plasticity: The effects of environment on the development of the cerebral cortex*. **Cambridge, MA: Harvard Univ. Press.**

Huttenlocher describes how the brain's ability to change in response to normal developmental processes, experience, and injury provides information that helps to resolve the nature-nurture debate. He shows how the complex interactions between the two, not one or the other, determine the developmental outcome.

Huttenlocher, Peter R. 2002. *Neural plasticity: The effects of environment on the development of the cerebral cortex*. Cambridge, MA: Harvard Univ. Press.

Ignatow, Gabriel. 2009. Culture and embodied cognition: Moral discourses in internet support groups for overeaters. *Social Forces* **88:643–670.**

Ignatow argues culture's effects on social bonding can be identified more readily when culture structures are conceived as embodied cognitive structures, rather than as purely mental or behavioral patterns, that operate both within the individual habitus and at the level of small-group discourse.

Ignatow, Gabriel. 2009. Culture and embodied cognition: Moral discourses in internet support groups for overeaters. *Social Forces* 88:643–670.

Uttal, William R. 2013. *Reliability in cognitive neuroscience: A meta-meta analysis*. **Cambridge, MA: MIT.**

Given that there has been a vast change in our interpretations of what these indicators of electrophysiological activity of the brain mean in just the last decade, Uttal offers constructive criticism for why brain imaging research has not provided consistent evidence for correlation with cognition by reviewing possible sources of bias, error, and unreliability in meta-analytic research.

Uttal, William R. 2013. *Reliability in cognitive neuroscience: A meta-meta analysis*. Cambridge, MA: MIT.

Fuzzy Universal Cognitivism

Fuzzy universal cognitivism stands as a residual category—a kind of cognitivism with a model of the actor that emphasizes naturalism in the explanations, but its ontological positions are not as balanced as plural cognitivism in accounting for naturalism, social organization, and humanism. As Maturana and Varela 1980 elaborates, similar to the naturalistic explanations about the emergence of cognitive networks described by universal cognitivism, autopoetic explanations explicate the ways in which living systems involve a process of self-making or self-producing. This kind of cognitive sociology inquires into how communication operates in a social system as "a group

of living systems which are characterized by a parallelization of one or several of their cognitive states and which interact with respect to these cognitive states" (p. 70) as in Hejl 1984. The most contemporary research program based on this ontological position, Leydesdorff 2007, seeks to explain cognition at the level of the social system through the analysis of differentiation in the recursive self-organization of communication that guides "discursive knowledge." As Eder 2007 elaborates, this model is developed further in *Between Facts and Norms* where the notion of "cognitive" is expanded to describe both "competences" and "structures of consciousness." This leads to "society" conceived of as "a mode of self-organizing social relations" based in pragmatic communication. As Strydom 2015 clarifies, this means social reality is a process which is formulated and regulated by "meta-rules" which dynamically develops from and are altered by *that* process. What is *fuzzy* about this kind of explanation is how it makes reference to facts having to do with cooperation (each part of a whole) but also to facts having to do with interdependence (each dependent on all). Yet, this attempt to understand "explicit, intentional normative reasoning of deliberating or discursively-rational agents" (p. 504), as O'Mahony 2009 indicates, in regard to cognitive models of participation still ostensibly stresses cooperation more than interdependence by explaining cognition as the "basic continuity between nature and socio-cultural forms of life" (Strydom 2015, p. 287). Neo-institutional cultural cognitivism, in contrast, follows Zucker 1983 who argues institutionalization is both a "'phenomenological process by which certain social relationships and actions come to be taken for granted' and a state of affairs in which shared cognitions define 'what has meaning and what actions are possible.'" DiMaggio and Powell 1991 stresses the relationship between institutions, codes, and categories found in the cultural forms of cognition (classifications, routines, scripts, and schema) and the "cognitive basis of order" (habit, practical action).

DiMaggio, Paul, and Walter W. Powell. 1991. Introduction. In *The new institutionalism in organizational analysis*. Edited by Walter Powell and Paul DiMaggio, 1–38. Chicago: Univ. of Chicago Press.

Delineating the new institutionalism, DiMaggio and Powell argue institutions are not merely rules, procedures, organizational standards, and governance structures, but also conventions and customs. They claim scholars need to develop robust explanations of the ways in which institutions incorporate historical experiences into their rules and organizing logics.

DiMaggio, Paul, and Walter W. Powell. 1991. Introduction. In *The new institutionalism in organizational analysis*. Edited by Walter Powell and Paul DiMaggio, 1–38. Chicago: Univ. of Chicago Press.

Eder, Klaus. 2007. Cognitive sociology and the theory of communicative action: The role of communication and language in the making of the social bond. *European Journal of Social Theory* 10:389–408.

Eder examines how cognitive structures are individually anchored but socially produced through interaction to assess what kind of social actor results from society as a mode of self-organizing relations.

Eder, Klaus. 2007. Cognitive sociology and the theory of communicative action: The role of communication and language in the making of the social bond. *European Journal of Social Theory* 10:389–408.

Hejl, Peter M. 1984. Towards a theory of social systems: Self-organization and self-maintenance, self-reference and syn-reference. In *Self-organization and management of social systems*. Edited by H. Ulrich and G. J. B. Probst, 60–78. New York: Springer.

Hejl develops the notion of syn-referentiality where it refers to common constructions of reality that are medium and result of interactions between the social system and the common view of reality constructed by individuals.

Hejl, Peter M. 1984. Towards a theory of social systems: Self-organization and self-maintenance, self-reference and syn-reference. In *Self-organization and management of social systems*. Edited by H. Ulrich and G. J. B. Probst, 60–78. New York: Springer.

Leydesdorff, Loet. 2007. Scientific communication and cognitive codification: Social systems theory and the sociology of scientific knowledge. *European Journal of Social Theory* 10:375–388.

At the level of the social system, Leydesdorff argues cognition is guided by a latent code of communication manifested as discursive knowledge.

Leydesdorff, Loet. 2007. Scientific communication and cognitive codification: Social systems theory and the sociology of scientific knowledge. *European Journal of Social Theory* 10:375–388.

Maturana, H. R., and F. J. Varela. 1980. *Autopoiesis and cognition: The realization of the living*. Dordrecht, The Netherlands: D. Reidel.

Maturana and Varela see society as a collection of living systems and groups that interact and hence constitute through interaction a network of interactions and relations that influence behavior. They argue cognition is the result of autopoiesis' generation of the phenomenological domain.

Maturana, H. R., and F. J. Varela. 1980. *Autopoiesis and cognition: The realization of the living*. Dordrecht, The Netherlands: D. Reidel.

O'Mahony, Patrick. 2009. Sociological theory, discourse and the cognitive construction of participation. *Comparative Sociology* 8:490–516.

O'Mahony offers a synthetic approach for addressing how discursive processes of explicit, intentional normative reasoning of deliberating or discursively rational agents are related to self-organizing cognitive frameworks and evaluative orders in the context of citizen participation.

O'Mahony, Patrick. 2009. Sociological theory, discourse and the cognitive construction of participation. *Comparative Sociology* 8:490–516.

Strydom, Piet. 2015. The latent cognitive sociology in Habermas: Extrapolated from between facts and norms. *Philosophy & Social Criticism* 41:273–291.

Strydom conceives of cognitive sociology as a refinement of the largely implicit dimension of critical theory emphasizing the cognitively structured normative dimension of critique and the cognitive structures that operate in the construction and elaboration of sociocultural forms of life.

Strydom, Piet. 2015. The latent cognitive sociology in Habermas: Extrapolated from between facts and norms. *Philosophy & Social Criticism* 41:273–291.

Zucker, Lynne G. 1983. Organizations as institutions. *Research in the Sociology of Organizations* 2:1–47.

Zucker shows that acts and structures embedded in organizations (where the "routines" and roles are highly formalized and have continuity over time) are more readily institutionalized than those embedded in alternative informal social coordination structures. This can be read as addressing the connection between objectified cultural patterns and cognition.

Zucker, Lynne G. 1983. Organizations as institutions. *Research in the Sociology of Organizations* 2:1–47.

Plural Cognitivism: The Social Mindscapes of Cultural Structures

Plural cognitivism seeks to formulate a balanced model of the actor subjected to socio-mental control and its processes of reification. Socio-mental control describes how impersonal cognitive norms shape the thinking, learning, and courses of activity individual actors *are able to undertake* as a result of institutional reflexivity. This flexible ideal-type utilizes the kind of explanation balances naturalistic observation found in universal cognitivism with the humanism favored by individual cognitivism. While recognizing there are universal commonalities (the brain) that enable cognition and idiosyncrasies that personalize experience (the subjective aspects of mind), plural cognitivism argues the *locus* of cognition is not solely in the brain nor solely in the mind—it is of sociality mixed in with culture, history, and society. Here, society is conceived of with the justifiable assumption that its existence can only be clarified by reference to facts having to do with interdependence (each dependent on all). In this regard, Durkheim 1973 describes the tensions of a balanced model in the face of institutional reflexivity and Zerubavel 1982 can be read as a more recent attempt furthering the same thesis: how the individuality of an actor is fundamentally "social." This means addressing the tacit sociological *conditions of learning* as well as the *processes of learning* represented in Raphael 2013. Common to *all* societies, there are tacit elements actors learn *without* being taught —cognitive socialization. This is in contrast to cognitive societalization whereby actors learn the tacit and explicit elements that constitute

the conditions of membership. (Rogoff 1990 describes this kind of learning through an apprenticeship model.) This accounts for the terms specific to such an actor's *particular* society-at-large (as formally expressed in the idea of the societal contract), terms for membership in thought communities and for the implicit terms which are always in flux such as processes of closure and exclusion that vary *within* encounters. (See Goffman's Contribution: Metaphors and the Reification of Moments) Accounting for the different kinds of socio-cognitive competence (sociability versus societability) that accords with these sociological processes of learning are crucial for analyzing the politics of cognition. Luria 1976 and Simpson 1980 offer explications of this. Understanding these general features of plural cognitivism are a prerequisite for examining the mindscapes produced by these impersonal, normative, and conventional aspects of cognition found in socio-mental control. As described by Brekhus 2015, these mindscapes are composed of cultural structures that shape thinking, perception, attention, memory, classification, marking, and identity as interrelated processes. Cerulo 2006 serves as an exemplary study of plural cognitivism.

Brekhus, Wayne H. 2015. *Culture and cognition: Patterns in the social construction of reality*. Malden, MA: Polity.

This book presents the parameters and key concepts of a comparative approach to the study of cognition founded in plural cognitivism. Its methodological approach cuts across the various subfields of contemporary sociology.

Brekhus, Wayne H. 2015. *Culture and cognition: Patterns in the social construction of reality*. Malden, MA: Polity.

Cerulo, Karen A. 2006. *Never saw it coming: Cultural challenges to envisioning the worst*. Chicago: Univ. of Chicago Press.

Utilizing a cross-cultural methodology across time and space, Cerulo articulates a theory of cognitive asymmetry emphasizing how cultural practices institutionalize the marking of *positive* asymmetry, which in turn functionally limit the concepts accessed during socio-cognitive decision-making. This is how "the worst is distanced and blurred, perhaps completely blocked by images of perfection and excellence."

Cerulo, Karen A. 2006. *Never saw it coming: Cultural challenges to envisioning the worst*. Chicago: Univ. of Chicago Press.

Durkheim, Émile. 1973. The dualism of human nature and its social conditions. In *On morality and society: Selected writings*. Edited by Robert N. Bellah, 149–166. Chicago: Univ. of Chicago Press.

Originally published 1914. This article represents Durkheim's attempt to clarify misunderstandings from Durkheim and Fields 1995 (cited under Cognitive Traditions in the Sociology of Knowledge) which led to the misidentification of Durkheim as a Kantian. Rather, it is a specification of what Durkheim positively inherits from Rousseau in terms of how individuality is constituted by social facts.

Durkheim, Émile. 1973. The dualism of human nature and its social conditions. In *On morality and society: Selected writings*. Edited by Robert N. Bellah, 149–166. Chicago: Univ. of Chicago Press.

Luria, Aleksandr R. 1976. *Cognitive development: Its cultural and social foundations*. Cambridge, MA: Harvard Univ. Press.

Luria provides an empirical investigation into how the "social forms" of human life begin to "determine human mental development."

Luria, Aleksandr R. 1976. *Cognitive development: Its cultural and social foundations*. Cambridge, MA: Harvard Univ. Press.

Raphael, Michael W. 2013. Learning informal interaction: The problem of self-help literature for expression games. Boston: Northeastern Univ., Criminal Justice Master's Theses, Paper 4.

This work considers the sociological conditions and processes of learning skills for interpersonal interaction. Particularly, it analyzes the problems reification poses for learning cognitive socialization and cognitive societalization through a pilot study of self-help books.

Raphael, Michael W. 2013. Learning informal interaction: The problem of self-help literature for expression games. Boston: Northeastern Univ., Criminal Justice Master's Theses, Paper 4.

Rogoff, Barbara. 1990. *Apprenticeship in thinking: Cognitive development in social context*. New York: Oxford Univ. Press.

Rogoff examines how children learn the conditions of membership, particularly the culturally based processes by which children appropriate and extend skill and understanding from their involvement in *shared* thinking with other people.

Rogoff, Barbara. 1990. *Apprenticeship in thinking: Cognitive development in social context*. New York: Oxford Univ. Press.

Simpson, Miles. 1980. The sociology of cognitive development. *Annual Review of Sociology* 6:287–313.

Following the work of Luria 1976, Simpson evaluates preliminary work concerning the development of cognitive abilities in relation to the major cognitive variables isolated by trait psychology, macro-sociological variables, like modernity, and environmental sources of cognitive development: the family, the school, and the work place.

Simpson, Miles. 1980. The sociology of cognitive development. *Annual Review of Sociology* 6:287–313.

Zerubavel, Eviatar. 1982. Personal information and social life. *Symbolic Interaction* 5:97–109.

This early paper by Zerubavel considers the importance of socialization and how personal information is quite impersonal, normative, and conventional. This is informative for the plural cognitivism Zerubavel subsequently developed.

Zerubavel, Eviatar. 1982. Personal information and social life. *Symbolic Interaction* 5:97–109.

The Socio-Cognition of Perception, Attention, and Classification

A truly *sociological* study of perception requires moving beyond the sociology of knowledge—a critique advanced in Child 1950. Given the politics of cognition, what is of particular interest is how, *perceptually*, "typifications" combined with traditions of schemata of interpretation *pre-shape* the processes characteristically associated with dual-process models and *limit* the range of possibilities among subjectivities typically associated with individual cognitivist models of worldviews and perspectives. Perceptual norms explain such diverse phenomena as how the perception of art varies by influences of different artistic movements, the rise of perceptual deviance in the mental filtering that occurs during sexual arousal—a very personal *yet* impersonal activity (as illustrated in Davis 1983)—and the very notion of gender in Friedman 2011. This is in contrast to attentional norms, which explain how *focus* arises from the discontinuity between the structure of relevance and the structure of irrelevance that *frame* the horizons of perception. Bateson 1972 is inspirational here. Zerubavel 2015 illuminates how to explain attention in terms of temporality (in regard to continuity and discontinuity of focus) and the plurality of relevance. Such considerations offer insight into how the activities of noticing and ignoring socially structures the very constitution of dual-process models of cognition. In this way, what is mentally visible (slow, reasoned, and deliberate) and what remains invisible and hidden in plain sight (fast, instinctual, and effortless), phenomenologically, is not a matter of essence or nature, but one of awareness about convention. This builds upon Zerubavel 1991, an explication of norms of classification which requires identifying the processing of difference and similarity in the production of categories and boundaries. These categories and boundaries are reified and become "thing-like," thus cognizing "entities" into "typifications." This means studying reification as cognitive phenomena and not a metaphysical one. These socio-mental filters tend to be of three kinds: rigid, fuzzy, and flexible. Traditions of the social organization structure each of these ideal types in particular ways, varying in mental distances. For example, the rigid mind emphasizes compartmentalization, polarization, purity, and contamination whereas the fuzzy mind entails fluidity, promiscuity, and transgression. It is the flexible mind that is dynamic, making use of rigidity and fuzziness to embrace each other to process ambiguity and polysemy in novel ways. (This is in contrast to traditional studies of boundaries as described by Lamont and Molnár 2002.) Understanding classification this way, as Brekhus, et al. 2010 illustrates, foregrounds the unmarkedness in already marked categories to show how socio-mental control results from different cognitive norms coalescing into the socio-mental filter of the plural cognitivist actor.

Bateson, Gregory. 1972. A theory of play and fantasy. In *Steps to an ecology of mind: Collected essays in anthropology, psychiatry, evolution, and epistemology*. By Gregory Bateson, 177–193. New York: Ballantine.

This is a classic work in which Bateson introduces the notion of framing later developed by Goffman. This is crucial for understanding what Zerubavel 2015 describes.

Bateson, Gregory. 1972. A theory of play and fantasy. In *Steps to an ecology of mind: Collected essays in anthropology, psychiatry, evolution, and epistemology*. By Gregory Bateson, 177–193. New York: Ballantine.

Brekhus, Wayne H., David L. Brunsma, Todd Platts, and Priya Dua. 2010. On the contributions of cognitive sociology to the sociological study of race. *Sociology Compass* 4:61–76.

Brekhus and colleagues argue how sociology is ideally situated to challenge the essentialism present within conventional perceptions of the social world by breaking down the asymmetry between the marked and the unmarked. The authors then outline how cognitive sociology provides a useful *generic* framework to look at specific issues in racial classification, the social construction of race, and to racist cognitions.

Brekhus, Wayne H., David L. Brunsma, Todd Platts, and Priya Dua. 2010. On the contributions of cognitive sociology to the sociological study of race. *Sociology Compass* 4:61–76.

Child, Arthur. 1950. The sociology of perception. *The Pedagogical Seminary and Journal of Genetic Psychology* 77:293–303.

Presenting a critique of the sociology of knowledge, this early paper argues for empirical investigations into the sociological study of perception.

Child, Arthur. 1950. The sociology of perception. *The Pedagogical Seminary and Journal of Genetic Psychology* 77:293–303.

Davis, Murray S. 1983. *Smut: Erotic reality/obscene ideology*. Chicago: Univ. of Chicago Press.

Davis investigates sex socio-cognitively as a *reality-generating activity*. He provides a detailed analysis of the phenomenology of erotic experiences and their linkage to the ideological struggle over the sexual that provides the context inside of which sexual science operates and to which it contributes through the consideration of three ideal-typically polarized ideologies.

Davis, Murray S. 1983. *Smut: Erotic reality/obscene ideology*. Chicago: Univ. of Chicago Press.

Friedman, Asia. 2011. Toward a sociology of perception: Sight, sex, and gender. *Cultural Sociology* 5:187–206.

Friedman addresses five of the major concepts scholars have developed to describe the social construction of reality (frame, schema, habitus, perspective, and thought style) before describing filter analysis as a means of identifying mechanisms of socio-optical construction. Specifically, Friedman shows how cognitive norms shape perceptual filters, and therefore in turn shape what sensory information is attended to or disattended when encountering and classifying others.

Friedman, Asia. 2011. Toward a sociology of perception: Sight, sex, and gender. *Cultural Sociology* 5:187–206.

Lamont, Michèle, and Virág Molnár. 2002. The study of boundaries in the social sciences. *Annual Review of Sociology* 28:167–195.

In contrast to the literature on spatial, visual, and temporal cognitive distinctions, Lamont and Molnár examine trends in the study of relational processes marked by various typical configurations of symbolic and "social" boundaries.

Lamont, Michèle, and Virág Molnár. 2002. The study of boundaries in the social sciences. *Annual Review of Sociology* 28:167–195.

Zerubavel, Eviatar. 1991. *The fine line: Making distinctions in everyday life*. New York: Free Press.

As a crucial text of plural cognitivism employing a cross-cultural methodology, Zerubavel investigates how boundaries, made up of chunks of information, found in space, time, identity, and in frames, are created through two socio-cognitive processes: lumping and splitting. Presenting three tendencies of mind—rigid, fuzzy, and flexible—he explores how different kinds of social organization, with its impersonal, normative, and conventional aspects, tends to affect how mental entities are processed in the context of ambiguity and anomaly.

Zerubavel, Eviatar. 1991. *The fine line: Making distinctions in everyday life*. New York: Free Press.

Zerubavel, Eviatar. 2015. *Hidden in plain sight: The social structure of irrelevance*. New York: Oxford Univ. Press.

Highlighting the attentional aspects of socio-mental control, Zerubavel outlines the features of social organization that structure cognitive norms of focusing. He illustrates how attention, inattention, disattention, relevance, and irrelevance are not just nuances in human life but fundamental aspects of cognition. His footnotes provide excellent evidence, and serve as a valuable resource, into how these phenomena vary across cultures and throughout history.

Zerubavel, Eviatar. 2015. *Hidden in plain sight: The social structure of irrelevance*. New York: Oxford Univ. Press.

Identity in the Plural Cognitivist Actor

The study of identity is the core justification for a plural cognitivist model of the actor. Whereas studies of perception, attention, memory, classification, signification, and marking are becoming recognized as fundamentally *social* cognitive phenomena, identity is well recognized as a social phenomena but not as well developed as a social *cognitive* phenomena as Brekhus 2008 indicates. While studies of identity go back millennia (concerning self, role, status, etc.), it is only recently that a plural cognitivist model is under development. In contrast to demographic representations, in the plural cognitivist model of the actor, social identity is not *just* the mosaic of one's group memberships (race, class, gender, sexuality etc.), rather, who an actor is, phenomenologically, is dynamic within a range of possibilities of attribution. (Carr 1999 explicates this with regard to gender.) Identity corresponds to the ontology of the moment *relative* to the locality of the social situation. For example, what is stigmatized in one locality can be a "badge of pride" in another as Brekhus 2003 shows. However, it also includes what is consistent over long periods of time, as the idea of "narrative" DeGloma 2014 illustrates. Rydgren 2007 offers another example. In this way, the plural cognitivist model accounts for identity in terms of both temporal continuity and discontinuity. (Force 2010 offers an analysis of this.) This means integrating the role of identity in organizing experience (as observed over the course of a qualitative analysis) with how identity formation results from the "formal" multidimensionality of marked categories (race, class, gender, sexuality, etc.) typically examined under the notion of "intersectionality." Mullaney 1999 elaborates this with regard to when "doing" is not "being." Understanding identity formation in the plural cognitivist model recognizes the humanity of individuals *without* reducing individuality to individuals. Identity formation as a social and cognitive process results in individuality, meaning society as the organization of differences is the characterization of the politics of inclusion and exclusion *reified cognitively* as a form of socio-mental control as Zerubavel 2012 details. In this way, the key to social problems like inequality, lies in addressing the processes of identity formation and adjusting institutions accordingly to the plural cognitivist model of the actor.

Brekhus, Wayne H. 2003. *Peacocks, chameleons, centaurs: Gay suburbia and the grammar of social identity*. Chicago: Univ. of Chicago Press.

Discerning how people manage a stigmatized identity in an *unmarked* social space, based on ethnographic interviews of thirty gay suburbanites, Brekhus elaborates three ideal-typical approaches to gay identity, each comprising understandings about the appropriate duration, density, and dominance of any particular identity in a person's life.

Brekhus, Wayne H. 2003. *Peacocks, chameleons, centaurs: Gay suburbia and the grammar of social identity*. Chicago: Univ. of Chicago Press.

Brekhus, Wayne H. 2008. Trends in the qualitative study of social identities. *Sociology Compass* 2:1059–1078.

Brekhus makes the multidimensionality of social identities accessible through an overview of markedness/unmarkedness attributes; authenticity; and mobility. This is useful for undergraduates.

Brekhus, Wayne H. 2008. Trends in the qualitative study of social identities. *Sociology Compass* 2:1059–1078.

Carr, C. Lynn. 1999. Cognitive scripting and sexual identification: Essentialism, anarchism, and constructionism. *Symbolic Interaction* 22:1–24.

Exploring individuals' interpersonal and intrapsychic negotiations of competing cognitive paradigms, Carr outlines a "cognitive scripting" model of identity, exemplifying three ideal typical cultural scenarios of sexual identification.

Carr, C. Lynn. 1999. Cognitive scripting and sexual identification: Essentialism, anarchism, and constructionism. *Symbolic Interaction* 22:1–24.

DeGloma, Thomas. 2014. *Seeing the light: The social logic of personal discovery*. Chicago: Univ. of Chicago Press.

As a study in plural cognitivism, this interdisciplinary investigation draws on cultural sociology, anthropology, moral philosophy, and semiotics to elucidate the "social logic" structuring autobiographical accounts. This common narrative structure, traced through nearly three thousand years of history, shows how impersonal "personal awakenings" tend to lead individuals to ally with a new community at the time of discovery. This text is excellent for undergraduates.

DeGloma, Thomas. 2014. *Seeing the light: The social logic of personal discovery*. Chicago: Univ. of Chicago Press.

Force, William Ryan. 2010. The code of Harry: Performing normativity in Dexter. *Crime, Media, Culture* 6:329–345.

Based on the hit series *Dexter*, drawing on Goffman and Brekhus, Force offers a useful case study into the relationship between unmarkedness and notions of deviance.

Force, William Ryan. 2010. The code of Harry: Performing normativity in Dexter. *Crime, Media, Culture* 6:329–345.

Mullaney, Jamie L. 1999. Making it "count": Mental weighing and identity attribution. *Symbolic Interaction* 22:269–283.

Drawing on Zerubavel's distinctions between fuzzy, rigid, and flexible minds, Mullaney considers how the mental weighing process, as evaluations made concerning attributions, is affected by behavior according to its presence or absence, markedness, frequency, context, and the manner in which it is performed.

Mullaney, Jamie L. 1999. Making it "count": Mental weighing and identity attribution. *Symbolic Interaction* 22:269–283.

Rydgren, Jens. 2007. The power of the past: A contribution to a cognitive sociology of ethnic conflict. *Sociological Theory* 25:225–244.

Rydgren presents a socio-cognitive approach to explain why a history of prior conflict is likely to increase the likelihood that new conflicts will erupt. He outlines the role of memory biases inherent in analogical reasoning and the process of narrativization as they relate to ethinic conflict.

Rydgren, Jens. 2007. The power of the past: A contribution to a cognitive sociology of ethnic conflict. *Sociological Theory* 25:225–244.

Zerubavel, Eviatar. 2012. *Ancestors and relatives: Genealogy, identity, and community*. New York: Oxford Univ. Press.

Zerubavel offers a social logic of relatedness, showing how genealogical narratives, as representative of the politics of ancestry and descent, bear on the structuring of cognitive norms, identity, and the politics of inclusion and exclusion.

Zerubavel, Eviatar. 2012. *Ancestors and relatives: Genealogy, identity, and community*. New York: Oxford Univ. Press.

Fuzzy Individual Cognitivism

Fuzzy individual cognitivism stands as a residual category—a kind of cognitivism with a model of the actor that emphasizes humanism in the explanations, but its ontological positions are not as balanced as plural cognitivism in accounting for naturalism, social organization, and humanism. In this way, these four different models of the fuzzy individual cognitivist actor attempt to *locate* cognition in a way that does not exclusively focus on the "human agent" nor on their "social being." Cicourel 1981 explores how the interpretative procedures used in sense-making of social structure distorts and truncates the way in which normative accounts presuppose an "unstated reliance"

on thought processes. Its ontological position stresses interdependence (each dependent on all) over cooperation (each part of a whole) in analyzing the problem of cognitive overload. This research program is further developed by Cicourel's student, Barry Saferstein. Saferstein contributes to a *fuzzy individual* cognitivist model. Like plural cognitivist models, there is a concern for the "reflexive relationship between interaction, organizational constraints, discourse frameworks, and understanding"—a concern studied in Saferstein 2007 (p. 425) and followed up by Saferstein 2014. Arguments articulated in Boltanski and Thévenot 2000 show by seeking to model attempts to produce "fragile local agreements" in the "participation of common matters" actors are seen as justifying their arguments with particular "orders of worth" based in the "relative values" of the beings engaged in the dispute. What is "cognitive" about this? In contradistinction to universal and fuzzy universal cognitivist models, where such models do not "commonize on the basis of highly personal, local experience of the world," engagements stress the actor's dependence on the environment in which cognitive formats "characterize the actor's access to reality," which varies accordingly—a claim substantiated in Thévenot 2007. Recognizing the automatic aspects of disambiguation described by Sperber and Wilson 1986, argumentativist methodological individualism considers the cognitive dimension of social facts. By this element of social facts, the scientist analyzes the "deformation of the meaning of arguments," contributing to a *fuzzy individual* cognitivist model of the actor. In contrast to the notion of "cognitive rationality" suggested by individual cognitivism, where the referent is to the assumption that it is possible to have "true knowledge" on ethical problems, this kind of research program seeks to grasp how "organized interactive argumentations" change the beliefs of interlocutors. Cognition, in this sense, accounts for psychological processes in which the "real content" of the reasons—as expressed and understood in discourse—are made accessible *and* for the "cognitive operations" that these arguments require. This means studying the *formal* structure of categories and how these categories are "transformed by a sequence of arguments," as Bouvier 2007 claims. Modeling the actor this way emphasizes cooperation (each part of a whole) over interdependence (each dependent on all) in how communication articulates justifications. Despite this, such a model, to an extent, ostensibly still holds to a plain theory of language in the context of "methodological pluralism." This means methodological claims do not affect the corresponding ontological position reflected in Bouvier 2002. Seeking to eschew holism in explanations of cognitive rhetoric, given the premise of explaining *formal* structures of categories, this fuzziness surprises. This, then, is not fuzzy because it contributes to a residual category between plural cognitivism and individual cognitivism, but because it aims to justify the humanistic explanations of cognition found in individual cognitivism (a rigid category) supported by a kind of naturalism.

Boltanski, Luc, and Laurent Thévenot. 2000. The reality of moral expectations: A sociology of situated judgement. *Philosophical Explorations* 3:208–231.

Accounting for a plurality of legitimate forms of evaluation, Boltanski and Thévenot contributed to the "pragmatic turn" in post-Bourdieu sociology by offering a modeling of the sense of justice as it is displayed in ordinary situated disputes in relation to competing theories of justice, and models of social action and interaction.

Boltanski, Luc, and Laurent Thévenot. 2000. The reality of moral expectations: A sociology of situated judgement. *Philosophical Explorations* 3:208–231.

Bouvier, Alban. 2002. An epistemological plea for methodological individualism and rational choice theory in cognitive rhetoric. *Philosophy of the Social Sciences* 32:51–70.

Evaluating Sperber and Wilson 1986, Bouvier argues for the need of cognitive rhetoric in the explanation of social facts. Viewing epistemological paradigms as bundles of methodological rules, this kind of individualistic explanation studies effective reasons, with the external and cultural constraints into account as well as the internal and cognitive constraints relative to the role and the nature of intentionality in the process of communication.

Bouvier, Alban. 2002. An epistemological plea for methodological individualism and rational choice theory in cognitive rhetoric. *Philosophy of the Social Sciences* 32:51–70.

Bouvier, Alban. 2007. An argumentativist point of view in cognitive sociology. *European Journal of Social Theory* 10:465–480.

Outlining an argumentativist program of cognitive sociology, Bouvier explicates how organized interactive argumentations that change the beliefs of interlocutors, as the effective linguistic and cognitive dimension of social interactions in the same sense as psychologists, while still taking collective beliefs into account.

Bouvier, Alban. 2007. An argumentativist point of view in cognitive sociology. *European Journal of Social Theory* 10:465–480.

Cicourel, Aaron V. 1981. The role of cognitive-linguistic concepts in understanding everyday social interactions. *Annual Review of Sociology* **7:87–106.**

Cicourel reviews the relationship between language development, the acquisition of communicative and interactional competence in systems of social stratification, how cognitive and linguistic mechanisms and processes permeate manifestations of social structure, and how such mechanisms and processes constrain the analysis of social reality.

Cicourel, Aaron V. 1981. The role of cognitive-linguistic concepts in understanding everyday social interactions. *Annual Review of Sociology* 7:87–106.

Saferstein, Barry. 2007. Process narratives, grey boxes, and discourse frameworks: Cognition, interaction, and constraint in understanding genetics and medicine. *European Journal of Social Theory* **10:424–447.**

Saferstein develops a model of understanding based on the concept of process narratives as short information chains that connect objects, actions, and events via fuzzy relationships while still expressing sequential, causal, or temporal relationships.

Saferstein, Barry. 2007. Process narratives, grey boxes, and discourse frameworks: Cognition, interaction, and constraint in understanding genetics and medicine. *European Journal of Social Theory* 10:424–447.

Saferstein, Barry. 2014. Reasoning with and without reasons: The effects of professional culture and information access in educational and clinical settings. *Journal of Cognition and Neuroethics* **2:105–125.**

Challenging the traditional philosophical concept of "reason," Saferstein explains the interpretation activities that constitute a cognitive system of reason, reasons, and reasoning rely upon environmental information resources and cultural conventions.

Saferstein, Barry. 2014. Reasoning with and without reasons: The effects of professional culture and information access in educational and clinical settings. *Journal of Cognition and Neuroethics* 2:105–125.

Thévenot, Laurent. 2007. The plurality of cognitive formats and engagements: Moving between the familiar and the public. *European Journal of Social Theory* **10:409–423.**

Thévenot outlines a political and moral sociological approach committed to issues of fairness and the procedural requirements for public space considering a plurality of cognitive and evaluative formats that can be abstracted from situated things and people, generalized and circulated. He links the diversity of ways of forming information to different possibilities of coordination and a set of regimes of engagement with the world that are identified in terms of the dependency between the human agent and her environment.

Thévenot, Laurent. 2007. The plurality of cognitive formats and engagements: Moving between the familiar and the public. *European Journal of Social Theory* 10:409–423.

Sperber, Dan, and Deirdre Wilson. 1986. *Relevance: Communication and cognition.* **Cambridge, MA: Harvard University Press.**

Explaining how the deductive mechanism in communication can work in the context of ambiguous utterances, the identification of implications, and the effects of presuppositions, Sperber and Wilson present relevance as the automatic process of disambiguation that allows hearers to figure out what speakers must be saying where the greatest effect can also be retrieved with the least cognitive effort.

Sperber, Dan, and Deirdre Wilson. 1986. *Relevance: Communication and cognition*. Cambridge, MA: Harvard University Press.

Individual Cognitivism

As a position in cognitive sociology, individual cognitivism investigates the inner determinants of action with respect to the practical, cognitive, and moral properties of social facts. Rejecting the mechanical effect of social forces, this includes action that is not self-

interested and not even instrumental, as indicated by Boudon 1996 and Boudon 2010. This makes use of the contemporary rational choice approach as a research program. Esser 2009 and Kroneberg and Kalter 2012 offer two recent statements. Along similar lines, methodological cognitivism examines the cognitive foundation of the theory of social action based on a causal model of the mind-action relationship (Viale 2012, Viale 2013). Following a more moral realistic flavor, Pharo 2007 stresses how cultural and social constructions depend on the intrinsic and objective properties of action, cognition, and morality. Ostensibly, recent developments that have arisen under the label "analytical sociology" tend to follow a plain theory of language in their epistemological and methodological principles. Analytical sociology seeks to present a reconstruction of what valid explanations must look like—as explained by Demeulenaere 2011. The problem this poses for cognitive sociology is the very methodological assumption of how cognition works—while it is clear there is little agreement on that matter.

Boudon, Raymond. 1996. The "cognitivist model": A generalized rational-choice model. *Rationality and Society* 8:123–150.

Seeking to explain collective beliefs in the context of individuals that have strong and convergent convictions, Boudon introduces the notion of cognitive rationality where beliefs are assumed to be derived from reasons, though reasons which *cannot* be reduced to mere calculation of costs and benefits.

Boudon, Raymond. 1996. The "cognitivist model": A generalized rational-choice model. *Rationality and Society* 8:123–150.

Boudon, Raymond. 2010. The cognitive approach to morality. In *Handbook of the sociology of morality*. Edited by Steven Hitlin and Stephen Vaisey, 15–33. New York: Springer.

Boudon elucidates how a cognitive theory of values constituted by moral, prescriptive, and axiological feelings is implicit in Weber's theorization of value-rationality.

Boudon, Raymond. 2010. The cognitive approach to morality. In *Handbook of the sociology of morality*. Edited by Steven Hitlin and Stephen Vaisey, 15–33. New York: Springer.

Demeulenaere, Pierre. 2011. *Analytical sociology and social mechanisms*. Cambridge, UK: Cambridge Univ. Press.

Explaining the move from methodological individualism to analytical sociology, Demeulenaere outlines how social mechanisms renews attention to psychological and cognitive constraints, particularly in relation to aspects of the theory of action (rationality, emotions, beliefs) that are important for sociological explanations. These points are elaborated in regard to questions of causality and agent-based modeling.

Demeulenaere, Pierre. 2011. *Analytical sociology and social mechanisms*. Cambridge, UK: Cambridge Univ. Press.

Esser, Hartmut. 2009. Rationality and commitment: The model of frame selection and the explanation of normative action. In Vol. 2, *Raymond Boudon: A life in sociology*. Edited by Mohamed Cherkaoui and Peter Hamilton, 207–230. Oxford: Bardwell.

Esser attempts to integrate the notion of frames into a theory of action that attends to normative and cultural dimensions of behavior while retaining the explanatory power of rational choice theory.

Esser, Hartmut. 2009. Rationality and commitment: The model of frame selection and the explanation of normative action. In Vol. 2, *Raymond Boudon: A life in sociology*. Edited by Mohamed Cherkaoui and Peter Hamilton, 207–230. Oxford: Bardwell.

Kroneberg, Clemens, and Frank Kalter. 2012. Rational choice theory and empirical research: Methodological and theoretical contributions in Europe. *Annual Review of Sociology* 38:73–92.

While offering a survey of key methodological and theoretical contributions useful for undergraduates, Kroneberg and Kalter examine the role of framing in the application of rational choice theory.

Kroneberg, Clemens, and Frank Kalter. 2012. Rational choice theory and empirical research: Methodological and theoretical contributions in Europe. *Annual Review of Sociology* 38:73–92.

Pharo, Patrick. 2007. How is sociological realism possible?: Sociology after cognitive science. *European Journal of Social Theory* **10:481–496.**

Pharo investigates the intrinsic and objective properties of action, cognition, and morality.

Pharo, Patrick. 2007. How is sociological realism possible?: Sociology after cognitive science. *European Journal of Social Theory* 10:481–496.

Viale, Riccardo. 2012. *Methodological cognitivism*. **Vol. 1,** *Mind, rationality, and society*. **Berlin: Springer.**

Considering all the psychological mechanisms responsible for action, the creative and innovative aspects of thought, above all in problem-solving, inductive reasoning, and conceptual learning, Viale presents the philosophical justification of methodological cognitivism, how such an approach applies to the theory of economic action and outlines the cognitive dimension of culture and its epistemological implications.

Viale, Riccardo. 2012. *Methodological cognitivism*. Vol. 1, *Mind, rationality, and society*. Berlin: Springer.

Viale, Riccardo. 2013. *Methodological cognitivism*. **Vol. 2,** *Cognition, science, and innovation*. **Berlin: Springer.**

Vaile considers the cognitive structures that are responsible for accounts of causality, the cognitive basis of scientific rationality, cognitive realism, social epistemology and science policy, and knowledge transfer and innovation policy.

Viale, Riccardo. 2013. *Methodological cognitivism*. Vol. 2, *Cognition, science, and innovation*. Berlin: Springer.