

# Schmaus's Functionalist Approach to the Explanation of Social Facts: An Assessment and Critique

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## Abstract

In this paper, I provide a critical examination of Warren Schmaus's recently systematized "functionalist" approach to the study of collective representations. I examine both the logical and the conceptual viability of Schmaus's brand of "functionalism" and the relation between his rational reconstruction and philosophical critique of Durkheim and the latter's original set of proposals. I conclude that, due to its reliance on certain problematic philosophical theses, Schmaus's functionalism ultimately falls short of providing a coherent alternative to the Durkheimian position or serving as a useful starting point from which to understand the origins of abstract categories in concrete experience.

## Keywords

Emile Durkheim, collective representations, meaning, categories, functionalism, Warren Schmaus

## 1. Introduction

In a series of recent publications, Schmaus (1999, 2000, 2004) has outlined what he refers to as a "functionalist" approach to collective representations

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in particular and the sociology of knowledge in general. Schmaus recommends this functionalist approach because it presumably provides an effective resolution to some very thorny theoretical problems that remain outstanding in the Durkheimian tradition of the sociology of knowledge. These include a more coherent approach to the conceptualization of meaning and representation, one that avoids relativism and allows us to appreciate the conditions under which the categories could be considered to have universal validity.

Schmaus's "functionalist" proposal represents a philosophically sophisticated and ambitious program in the sociology of knowledge, but to date it has not been subjected to exegetical or critical scrutiny. In this paper, I provide a critical examination of Schmaus's functionalism as it pertains to (1) the theoretical viability of his own approach and (2) the relation between his rational reconstruction of the Durkheimian tradition and Durkheim's own approach to the question of the categories and the issue of collective representations.<sup>1</sup> I conclude that Schmaus's approach falls short of providing an alternative to Durkheim's own sociology of knowledge or of serving as a useful exegetical platform from which to better understand Durkheim's own analysis of the origins of the categories in ritual experience.

I proceed as follows: in the next section, I provide an overview of Schmaus's "functionalism"; I then go on to evaluate the extent to which Schmaus's claim that his functionalism is modeled after the "machine functionalism" of artificial intelligence (AI) and cognitive science can be defended. I follow by critically engaging with what I find the problematic positions that Schmaus is forced to adopt in regard to issues of representation, meaning, and truth due to his reliance on machine functionalism (to the extent that this reliance can be defended). I argue that these philosophical theses do not provide us with an advantageous way to reconstruct the Durkheimian approach to knowledge, culture, and cognition. I follow with an in-depth assessment of Schmaus's critique of Durkheim's approach to the issue of the origin of the category of causality from the experience of "force" in ritual. I show that an approach that actually breaks with machine functionalism and embraces the insights of more recent "embodied and embedded" cognitive

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<sup>1</sup>By "rational reconstruction," I refer to an exegetical strategy in which the interpreter attempts to charitably save the coherence of a given theorist's perspective, selectively discarding aspects that are either incoherent or outdated and reconceptualizing other aspects using more contemporary resources (e.g., 20th-century analytical philosophy) when necessary.

linguistics, cognitive science, and cognitive neuroscience provides us with (1) a more empirically defensible reconstruction of Durkheimian sociology of knowledge, (2) a more effective interpretation of Durkheim's original argument, and (3) a more productive platform with which to advance the Durkheimian project forward.

## 2. Schmaus's Social Functionalism

From within his "social functionalist" approach, Schmaus defines social facts "in terms of their functional relationships to other social facts, environmental conditions, and types of actions."<sup>2</sup> Social facts are not defined either in terms of pure external indices (e.g., the behavior of members of a group) or in terms of internal, unobservable processes (e.g., individual mental states). Under this formulation, social facts are not "observer-dependent" phenomena (in Searle's 1995 sense), although they can "be instantiated in multiple types of mental states, public expressions, or even brain states, much as psychological functionalism emphasizes that the same type of mental state can be instantiated in multiple types of brain states" (Schmaus 1999, 314).

In Schmaus's social functionalism, the *meaning* of social facts should be kept distinct from their *representations*, regardless of whether these representations are (individual) mental representations—as proposed by most cognitive anthropologists (Sperber 1996; Bloch 1998; Strauss and Quinn 1997; Shore 1996)—or whether these representations are understood as externally available rituals and symbols—as proposed by cultural anthropologists, cultural historians, and cultural sociologists who depart from Geertz's call for

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<sup>2</sup>In addition to providing a "social functionalist" account of social facts, Schmaus (1998) has provided a "traditional" functionalist characterization of the Durkheimian categories as a way to point to the continuing relevance of Durkheim's original argument for contemporary sociology of knowledge. It is important to keep in mind that my argument here is not concerned with Schmaus's application of traditional functionalist explanation to account for the existence and persistence of the categories across cultures (an argument that I find enlightening and compelling). Instead my critique is focused on his more recent attempts to reformulate the Durkheimian account of social facts—and to eliminate the notion of "collective representations" as shared mental states—using a "social functionalist" mode of explanation modeled after the "machine functionalism" that comes from AI and the philosophy of mind (e.g., Schmaus 1999, 2000).

“thick descriptions” of public culture (Biernacki 2000; Geertz 1973; Sewell 2005; Alexander 2003). Schmaus thus adopts an *externalist* approach to semantics, in which meaning is fixed by nonmental facts in the world, not by features inherent in the format in which meaning is represented. Schmaus criticizes Durkheim for equivocating on this issue, in effect collapsing meaning into representation. In essence, Schmaus’s critique of Durkheim can be interpreted as rejecting the latter’s penchant for trafficking in an internalist semantics. Schmaus (2000, 139) even proposes that the Durkheimian notion of “collective representations” is a dispensable appendage (and possibly a roadblock) to successful explanation in the social sciences. This distinction between the meaning and the representations of social facts echoes (but departs in significant ways from) Schmaus’s (1998) earlier call to distinguish the specific representations of the categories in a given culture from the *functions* of the categories.

The basic mistake, according to Schmaus, is to think that a representation is collective because a given number of individuals literally share *the same* mental state. Schmaus provides two main reasons for why we should reject the notion of collective representations as shared mental states. First, he notes that there is a one-to-many (and sometimes many-to-many) mapping from the sorts of things that are usually called collective representations, such as shared rules, norms, beliefs, and the ways in which these rules, norms, and beliefs are instantiated in individual minds. The “same” rule or interdiction can have wildly variable psychological counterparts (as individual representations) in the minds of different members of the same society (or quite possibly the same member across time; Toren 1999). Second, the meaning and representation of social facts are analytically and empirically independent. The meaning of social facts does not depend on the way in which they are represented in the minds of persons (Schmaus 2000, 139). Instead, the meaning of social facts is more directly connected to “their social functions, not their representations.” This is the reason why “we should jettison the assumption that shared meanings consist of shared mental entities of some sort.” (Schmaus 2004, 138). This is a line of critique that is very similar to that first systematized by Turner (1994).

In a more recent statement, Schmaus (2004) is a bit more conciliatory, stating that he does not advocate entirely doing away with the notion of collective representation. Instead, what we need to do is to distinguish two different senses of the term *collective representation*. The first sense (which Schmaus rejects) is the definition of collective representation as a “shared mental entity.” The second one (which Schmaus accepts) refers to “such

public representations as works of art, songs, dances, spoken words, emblems, symbols, and so forth” (140). Public representations allow for the ability of persons to effectively communicate about objects and even private experiences within a given culture. He recommends that we restrict the use of the term *collective representation* to the (problematic) case in which we intend to refer to shared mental entities. We should reserve the term *cultural representations* for the latter sort of public representations (140). Schmaus believes that public representations will do the lion’s share of the explanatory work in the sociology of knowledge. The reason for this is that they have noncontroversial “referential” status (they can be used to designate real-world events and processes). They also have “social” functions; for instance, they can be used to assign personal or collective responsibility for specific actions or states of affairs brought about by other persons. Because their referential potential and social functions are “universal” (they are required in all societies), then we should be able to accurately identify which cultural representations in a given society are the “same” (e.g., correspond to the ones that serve the same functions) as the ones in another society (Schmaus 2004, 140).<sup>3</sup>

### ***2.1. Schmaus’s Social Functionalism and the Philosophy of Mind***

Schmaus claims to derive his “social functionalist” approach to the study and conceptualization of social facts and collective representations in direct analogy to “functionalism” in the philosophy of mind and AI. Schmaus is clear to dissociate his “functionalist” strategy from what usually goes by the name of functionalism in sociology and anthropology. In these disciplines, functionalism traditionally refers to a theoretical strategy in which an analyst explains the existence (or persistence) of a given set of social facts by pointing to the collective-institutional (in Radcliffe-Brown’s version) or individual-psychological (in the strict Malinowskian version) “needs” that those social facts satisfy (Turner and Maryanski 1979; Schmaus 1999).<sup>4</sup>

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<sup>3</sup>Notice that this last claim is a “traditional” functionalist claim based on societal “prerequisites,” which should be kept distinct from Schmaus’s “social functionalist” claims based on his analogy to machine functionalism.

<sup>4</sup>Malinowski allowed for both collective and individual needs, although the latter were more prominent in his account (Turner and Maryanski 1979).

In the philosophy of mind, however, being a “functionalist” entails adopting a theoretical strategy that postulates that the “proper” level of description of cognitive operations should abstract away from any specific physical system that successfully supports them. Functionalists in cognitive science propose that the proper characterization of mental states—for example, intentional states such as beliefs, desires, perceptual states—should be independent of their actual implementation in the “wetware” of the brain (Clark 2003, 26). For instance, if we assume that mental states can be exhaustively characterized in computational terms, then the brain would not be the only system that is in principle capable of supporting cognition and mental life in the broad sense, as brains and computers are just two different members of a larger class of computation-supporting cognitive systems. In functionalism, what we usually call “mind” (e.g., high-level mental capacities such as reasoning and problem solving) is thought of simply as the “software” that runs in the brain. It follows that there should exist a way to characterize all types of mental operations into a unified “language of thought” applicable to the functional description of the cognitive functions of biological and nonbiological/artificial systems alike (Fodor 1974).

Schmaus realizes that for his “social functionalist” argument to be accepted as a persuasive option, he needs to further specify how far his analogy to “machine functionalism” is to be taken. He also needs to defend machine functionalism against the set of objections that the approach has generated within the philosophy of mind and cognitive science.

First, Schmaus is adamant in noting that his social functionalism is not “reductionist” or “behaviorist.” He rightly notes that functionalism cannot be reductive, since the functionalist strategy implies (at least a mild version of) psycho-physical dualism. The whole point of machine functionalism—as noted by critics such as Churchland (1981)—is precisely that it precludes any strong imposition of reductive physicalism. Such an approach implies that theories couched in “mentalist” language and appealing to mental properties and entities can be completely *replaced* by theories stated in neurobiological language, which appeals only to physical (neural) properties and processes (Fodor 1994). Instead, most “functionalists” in the philosophy of mind propose that in some fundamental sense psychological language is in principle *irreducible* to physicalist language. In the very same way, Schmaus’s social functionalism implies that the high-level language of social facts is irreducible to “psychological” or “culturalist” language couched in terms of individual or public representations (2000, 144). This preserves the nonreductionist ontology that has been the main tenet of cultural anthropology since its inception (Bidney 1942).

## 2.2. Functionalism and the Criterion for Sameness

Functionalism in AI and cognitive science implies that the level of *description* of what constitutes the mental is independent from the level of *implementation* (e.g., neurons, circuits, silicon, biochemistry) that characterizes a given physical substrate. In this respect, physical properties do not figure in specifying the kinds of properties that make mental entities into a natural kind. This leads to the conclusion that what makes two token mental states members of the same type should have nothing to do with the specific way that they are instantiated in a given system but with the fact that they have some abstract level isomorphism describable in some formal language (e.g., predicate logic). This redefinition of “sameness” as involving functional characterization and not concrete (physical) implementation is one of main tenets of machine functionalism.

The other main claim of functionalism is that insofar as mental states are just another kind of *computational* state, then mental states should be defined not in terms of their intrinsic properties—such as “intentionality” (as in phenomenology) or their being made out of some sort of ontologically distinct “stuff” (as in Cartesian dualism)—but in terms of their *functional role* in a given agent’s (human or artificial) cognitive economy (Clark 2003). The functional role of mental states is given by the specific causal powers specified in their syntactic or formal relational properties. Mental states in a chain of reasoning that lead to a course of action are connected to behavior by virtue of the logical links that govern the lawful transition from one mental state to the next and from mental states to actions (Fodor 1975).

The first functionalist premise as stated above (regarding the functional criteria for determining the “sameness” of mental states across manifestly distinct implementations) is also the key to understanding Schmaus’s claim that his approach is analogous to machine functionalism. In the very same way in which a functionalist approach to characterizing the nature of the mental in AI purports to show that the “same” mental state can be instantiated in multiple sorts of “machine” states (where the human brain is conceptualized as just another kind of “biological machine” capable of supporting such states), “the same type of social fact can be realized in many different kinds of psychological states” (Schmaus 2000, 139-40).

As Schmaus notes,

members of a society may share moral rules, religious beliefs, and other concepts that are all the same from the point of view of their social functions. However, there is no reason to believe that all the

individual members of this society thereby have the same psychologically defined kinds of mental states. Social functions are distinct from psychological functions. Also, just as the same type of brain state may instantiate different psychological functions in different individuals, the same type of mental state can instantiate different social functions. There is a many-to-many relationship between types of social facts and types of mental states, just as there is between types of mental states and types of brain states. Hence, there seems to be little reason for the social sciences to invoke the notion of collective representations, when these are understood as shared mental states. Of course, social actors may each have individual mental representations of the meanings of their actions. However, even when the meaning of the action for the individual is the same as its social functional meaning, this social functional meaning may be represented in more than one way. Indeed, it is not even clear that the way in which a social actor understands the meaning of his or her action is mediated by mental representations. (1999, 317)

This summary of Schmaus's argument, however, reveals that the analogy between his brand of social functionalism and machine functionalism is not quite as airtight as he claims and in fact trades on a series of ambiguities regarding the terms *functionalism* and *state*. Let us examine some of these in some detail.

First, it is important to note that Schmaus is technically incorrect when he defines "psychological" functionalism as implying that "the same type of psychological state can be realized in many different kinds of brain states" (2000, 139). As I have already noted, functionalism in the philosophy of mind implies a much more radical claim: this is that the "same" mental state can be realized by a multiplicity of ways of organizing lower-level components, not of the "brain" but of the *type* of information processor that Newell (1980) refers to as a *physical symbol system* (essentially a Turing Machine) of which the brain is just an example. This is the reason why functionalism in the philosophy of mind is not easily separable from the MIND IS A COMPUTER metaphor (Lakoff and Johnson 1999, 257),<sup>5</sup> nor is it easily separable

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<sup>5</sup>Critics of functionalism in AI and cognitive science claim that the thesis for functional characterization of brain states as a species of computational state (a key thesis of functionalism) trades on a fundamental conceptual metaphor in which the brain is thought of as a computer. This then justifies the "independence" of AI and cognitive

from the “multiple realizability” thesis. In fact, it is clear that functionalism implies (some version of) multiple realizability (Richardson 1979).

It is clear that Schmaus’s characterization of “functionalism” is in fact not really a characterization of the strict functionalist position. Instead, Schmaus appears to have taken as the “source domain” for his analogy not functionalism as this is understood in cognitive science but only one of its implications: the philosophical argument for the nonreductionism of psychological natural kinds to neurobiological natural kinds in the philosophy of psychology. This argument, which is of a much narrower scope, attempts to establish the thesis that it is in principle not possible to substitute talk about the mental with talk about the neurobiological (as is the goal of eliminativists) by pointing to the fact that the same psychological state can be realized by a set of “wildly disjunctive” neurobiological states. This also implies the partial independence of psychology from neuroscience, as well as the inability to fully reduce “psychological laws” to neuroscientific laws. As Fodor explains,

there are no firm data for any but the grossest correspondence between types of psychological states and types of neurological states, and it is entirely possible that the nervous system of higher organisms characteristically achieves a given psychological end by a wide variety of neurological means. If so, then the attempt to pair neurological structures with psychological functions is foredoomed. (1975, 17)

Contrary to my claim that functionalism implies some version of the MIND IS A COMPUTER metaphor, Schmaus argues that “the multiple instantiability of functions *does not depend on . . . [the] machine analogy*. A commonplace example is that the fins of a fish, the flippers of a seal and the wings of a penguin all have the same function” (2000, 145; italics added). This last claim, however, rests on an equivocation. Here Schmaus is speaking of the multiple realizability of *functions*. But in cognitive science (as opposed to say the philosophy of biology; Dennett 1996), the key debate is not about whether “functions” are multiply realizable but whether *mental states*, when described as

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science from the cognitive neurosciences, since studying the abstract properties of formal systems becomes tantamount to studying the properties of human cognition. From the functionalist point of view, as Lakoff and Johnson note, “the mind is essentially, disembodied; it can be studied fully independently of any knowledge of the body and the brain, simply by looking at functional relations among concepts represented symbolically” (1999, 78).

being members of functional *types* (Richardson 1979, 533; as opposed to “physical types”), are multiply realizable (Sawyer 2002, 545). It is undeniable that mental states may themselves have functions—for example, to solve a problem—but this is not the primary concern (while it is possible to solve an addition problem by subvocalization or by using an abacus, nobody claims that these are two realizations of the same mental state).<sup>6</sup> In the philosophy of mind, however, the main line of argument defended by machine functionalists is that for all intents and purposes, when a computer is running a program designed to decide what is the next best legal move given a configuration of pieces on a chessboard, the computer is occupying the same *functional state* that a human chess player would be occupying in the same situation; therefore, these two states are the same (as described in a formal language).

This is a much stronger claim than the notion that the same function can be supported by wildly different underlying mechanisms. What machine functionalism implies is that there exists a higher-level language in which the set of neural states that the brain of the chess player realizes during her decision to move a piece to a certain position on the board can be re-described as *literally* the same as the “state” that the machine realizes during its own decision-making process. This claim would be meaningless without the presumption that both the brain and the computer are examples of physical symbol systems that are functionally equivalent and only differ in “implementation details” of secondary importance (Clark 2003, 28-29). This claim is also meaningless without acknowledging that there have to exist multiple levels in which the same state can be described so that states that appear as wildly different at some “lower” level of description appear as essentially identical at some higher level. This level of description should (ideally) be “independent of the particular mechanisms and structures that implement them” (Marr 1982, 19).

We can now appreciate that there is an important structural difference between the functionalist strategy in AI and Schmaus’s attempt to analogically transfer this strategy to the problem of collective representations. In the philosophy of mind, functionalism implies “multiple realizability” in the sense that the same macrolevel state can be instantiated by systems that differ wildly in terms of the nature and organization of the *lower-level* components that realize that state. In Schmaus’s formulation, “multiple realizability”

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<sup>6</sup>That “functions” (social, psychological, biological, etc.) are multiply realizable is actually a trivial statement, discussions of which hark back to the anthropological functionalism that Schmaus rejects.

refers to the situation in which the same “macrostate” is *represented* in wildly different ways by different members of a collectivity. It is *not* the claim that different collectivities may generate the same macrostate even though they are manifestly organized in wildly different ways.

This last formulation would bear a much more direct analogical relationship to arguments for multiple realizability in the philosophy of mind (Sawyer 2002). But the relation “representation” is not the same as the “instantiation” relation. In classical AI functionalism, wildly disjunctive sets of different microstates *taken as an organized ensemble* instantiate the same macrostate. In Schmaus’s analogy, different individuals—Schmaus is silent as to whether it is a requirement that these individuals be organized in some manner—produce wildly disjunctive *psychological representations* of the “same” social fact. In Schmaus’s characterization, the “sameness” of the social fact is not obtained by comparing across multiple realizations in different underlying forms of social organization, but it obtains as a logical deduction from the fact that we are speaking of a *single* social fact that is represented in different ways by different people in the same culture group. These two situations are clearly not analogous.

### 2.3. Semantic Externalism and the Meaning of Social Facts

Schmaus considers the “meaning” of social and cultural facts as separable from the way in which these facts are represented either psychologically or publicly. To establish this thesis of the separability of meaning and representation, Schmaus relies on another analogy from machine functionalism, based on the second key claim of the approach as noted above. Recall that in machine functionalism, the “meaning” of a mental state is given by its functional relations to other mental states (as dictated by its syntactic and formal properties) and, ultimately, to behavior. The modality of representation and the embodiment of representations in neural and perceptual structures do not figure in fixing the meaning of mental representations (Barsalou 1999; Johnson 1987; Lakoff and Johnson 1999). It is this objectivist, “amodal” underlying model of the relationship between meaning and representation that allows Schmaus to conclude that the meaning of social and cultural facts should therefore be defined in terms of the “functional” relationships that these social facts have with other social facts. This model also allows him to conclude that the meaning of social facts is given by the relationships that they have with environmental conditions and forms of social action and *not* by the particular ways in which they are represented in the minds of individuals (or publicly within a given culture).

In contrast to Durkheim, who “conceived [of] collective representations as a type of mental entity shared by the members of a society” (Schmaus 2000, 140), Schmaus believes that it is not necessary for members of the same society to share some definable mental state for an analyst to conclude that we are in the presence of a collective representation. Instead, it is sufficient that they be able to participate in the social functions that require the correct *application* of the public concept specified by that representation so that some sort of publicly verifiable collective agreement becomes evident:

Although social life depends on moral rules that assume that people are causally responsible for their actions, it is not necessary that everyone in the same society represent the concept of causality to themselves in the same way. What is important, however, is that they are able to agree on assignment of moral responsibility. (Schmaus 2000, 140)

Functionalism in the philosophy of mind implies a substantive theory of the format and syntax of mental entities. Because the meaning of a mental event or entity is not given by some inherent property of that mental entity but by the relationship that that mental entity has with other mental objects, a theory of the way in which mental entities combine with one another is an important component of the functionalist strategy. In the philosophy of mind, Fodor (1975)—who argues that mental representations must have the qualities and characteristics of a language—has put forth the most stringent case for this requirement. That is, mental representations must be composed of elements that can be (at least analytically) individuated and that enter into lawful *syntactic* relations with other elements (much like words combine to form sentences). The “rules” of mental syntax govern the way in which meaning-bearing mental entities enter into “relationships” with one another, so as to form an abstract, context-independent “language of thought” endowed with the properties of productivity and compositionality (Fodor 2001). However, the processes through which individual pieces of the mental lexicon gain their meaning is analytically and empirically independent from the rules that govern how these entities enter into relationships with one another. In machine functionalism, therefore, syntax is radically autonomous from semantics.

For Schmaus’s second analogical transfer to hold, we would have to consider social facts to have the same “linguistic” (or propositional) characteristics that, Fodor argues, mental states (as described in a formal “language of thought”) have. Otherwise, it is not possible to coherently describe the types of relationships that social facts enter into with one another and ultimately

how is it that social facts are implicated in action. Schmaus remains vague in this respect and stops short of drawing out the implications of his analogy. It is clear, however, that if the meaning of social facts is separable from the way in which they are represented, then they must have the characteristics of a “language” that Fodor describes. That is, they must be composed of discrete elements that enter into lawful (syntactic) combinations with one another and have a direct effect on action. Something like such a separation between the syntax and the semantics of social facts is consistent with Schmaus’s claim for the separability of meaning and representation.

What account of meaning underlies Schmaus’s proposal? Although he is not completely explicit in this respect, I argue that only a theory in which meanings are thought of as propositional and nonimagistic will be consistent with Schmaus’s proposal. The reason for this is that any presumption that the meaning of social facts is *dependent* on some sort of iconic or imagistic substrate would make their meaning dependent on the way that they are represented. This abstract, nonimagistic, amodal theory of meaning entails an objectivistic, truth-conditional semantics (Johnson 1987; Lakoff 1987; Sweetser 1990; Fauconnier 1994; Langacker 2000), and Schmaus clearly subscribes to this type of semantics. As Schmaus notes, “whether a statement is true has to do with the way the world is, not the way that the human mind works. The existence of nonrelative truth does not depend on a universal human nature” (2004, 137). It stands to reason that the “relationships” that social facts have with one another have to be analogues to “entailments” in a logical (or “functional”) sense (Archer 1996; Sorokin 1937).

In the rest of the paper, I argue that in applying his social functionalist approach to a specific case—reformulating Durkheim’s argument for the origin of the category of causality—the analytical limits of Schmaus’s social functionalism become evident. In particular, I show that Schmaus’s postulate of the separation of meaning and representation is not tenable and that a (modified) version of a “traditional” Durkheimian account (which conceives of collective representations as a shared mental entity) emerges as explanatory, superior both in an empirical sense and in terms of its relationship to Durkheim’s original argument. This account also has the added virtue of being consistent with recent empirical research in cognitive linguistics and embodied cognition.

### 3. Schmaus on the Category of Causality

Schmaus proposes a series of analytical distinctions and theoretical revisions as a way to rationally reconstruct Durkheim’s sociology of knowledge.

First, we must differentiate *the categories* from their *representations*. Second, we must keep distinct any account of the (causal) *origin* of the categories from a causal account of their current *functions*. The specific representational form of a given category may have originated in some specifiable manner traceable to social organization, but this does not mean that a category's current function (or even current representation) can be directly traceable to those origins. Second, Durkheim's account of the origins of certain categories as originating from the person's direct *experience* of "social forces" during ritual practice (and, by implication, any other sort of practice or setting) must be rejected as untenable and implausible. Finally, because categories are not equivalent to their representations, there is no need to invoke any type of shared mental entity as the reason why categories constrain collective behavior. That is the Durkheimian notion of *collective representations*, which implies that "shared mental states with the same representational content" (Schmaus 2004, 122) can be jettisoned without explanatory loss.

Schmaus is clear that his differentiation between the categories and their collective representations departs from Durkheim's sociology of knowledge. For Schmaus, Durkheim was caught between a rock and a hard place: either the categories are cross-cultural and transhistorical universals, or they vary according to time and place. Schmaus reasons that if the claim to universality is to be salvaged, then the categories cannot be identified with their representations. When confronted with this choice, Durkheim opted to argue—following the weight of the anthropological and historical evidence—for the cross-societal variability of the categories and question the claim to universality at the risk of endorsing a relativist epistemology. To avoid the relativist implications of Durkheim's sociological account of the categories, Schmaus proposes instead that the meanings of the categories lie not in their representations but in their social functions: "if two different representations from two different cultures nevertheless have similar functions or uses in their respective cultures, they are to that extent similar in meaning" (2004, 122).<sup>7</sup>

As Schmaus notes,

if the meaning of a category is identified with a collective representation, and if collective representations depend on variable social

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<sup>7</sup>This in spite of the fact that Schmaus recognizes that the functions of the categories do not completely "exhaust their meanings."

causes then people who have been exposed to different social causes would have different collective representations and thus give different meanings to the categories. In this situation, how then could we even say that two different cultures represent the same category, only with two different representations? In what sense would they be representations of the same category? How could we then distinguish there being completely different categorical frameworks from there being merely different cultural representations of one and the same universal framework? Durkheim never addressed these questions and thus left his position unclear. (2004, 122)

To support the argument for the superfluous status of the idea of collective representations as shared mental contents, Schmaus points out that the “assumption about shared meanings struck even Durkheim as wildly implausible for modern, complex highly differentiated societies” (2004, 122).<sup>8</sup> Schmaus is explicit in noting that he is departing from strict Durkheimian theory in rejecting the notion of collective representations as shared mental contents (and in making the representation/function distinction); it is therefore somewhat puzzling that he attempts to use Durkheim against himself to contradict what he admits was Durkheim’s unwavering position. We can proceed under the assumption that it is in *Schmaus’s reconstruction of Durkheim* in which the notion of collective representations is optional not in Durkheim’s original proposal. In Durkheim’s original theory—as directly reconstructed by Schmaus (1994), Stedman Jones (2001), and Rawls (2004) and essentially all contemporary Durkheim scholars—the notion of collective representations is a central part of the explanatory apparatus. Accordingly, it is possible to compare Durkheim’s account to Schmaus’s reconstruction, as these are theoretically distinct. It is

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<sup>8</sup>This claim is a bit of an exaggeration, however. Durkheim was clear, as early as *Division of Labor*, that while the total of shared mental contents (which at this point he still referred to as “the collective conscience”) is surely smaller in differentiated societies, these shared mental contents do not disappear. Instead, they become more abstract, schematic, and generalized (Giddens 1972). Consequently, Durkheim did not turn to the study of aboriginal societies because shared mental contents *did not exist* in differentiated societies but rather because it was methodologically easier to identify their origins in concrete social experiences in those societies (Rawls 2004; Schmaus 1994).

also possible to evaluate (as I do below) which of these two accounts—the Durkheimian or the Schmausian—is more consistent with the evidence.<sup>9</sup>

Schmaus begins by criticizing Durkheim's argument against empiricism with respect to the possibility of retrieving the abstract notion of power or force (and, derivatively, that of necessary connection) from observation of external experience. Durkheim proposes that rather than originating from external experience, the notion of force originates from the internal experience of the effect of collective gatherings and rituals on the individual (1912, 519-521). Schmaus interprets this argument as a variation on the theme, ruthlessly criticized by Hume, that "we can actually perceive social forces in action" (2004, 126). Schmaus finds this part of Durkheim's argument "puzzling" because "Hume's point that we do not experience powers or forces directly but only through their effects would seem to apply just as much to social as to physical or any other forces. Thus it would appear that Durkheim had missed the point of Hume's arguments" (126). Schmaus goes on to point out that this misinterpretation of Hume is due to the fact that Durkheim may not have had direct knowledge of Hume arguments but was only familiar with how these arguments had been characterized in the eclectic spiritualist tradition, in which Hume's skeptical argument appeared to have been defeated by Biran's arguments that abstract notions such as forces can be directly retrieved from internal (introspective) experience.

### 3.1. Durkheim's Argument for the Empirical Origins of the Category of Force

Is Schmaus correct in pointing to Durkheim's argument as "puzzling" and misinformed? Let us subject the relevant issues to closer examination. First,

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<sup>9</sup>Rawls's own account, rather than being a "rational" reconstruction (or a rather radical amendment like Schmaus's), is almost a direct (and, in the 2004 book, a line-by-line) reconstruction of the Durkheimian argument in *Elementary Forms*. The issues over which Schmaus and Rawls disagree are in effect those parts of the strict Durkheimian argument that Schmaus rejects (e.g., the direct introspection of social forces) and Rawls accepts. Thus, the battle is not between two different interpretations of Durkheim, both of which claim to be "loyal" to the original, but between Schmaus's interpretation (which is admittedly revisionist) and Rawls's interpretation (which is admittedly "orthodox"). What makes Rawls's almost Talmudic reconstruction novel is simply the fact that Durkheim has been one of the most misunderstood figures in social theory, so that just offering a direct, charitable reconstruction results in an innovative contribution.

in critiquing the empiricist position, Durkheim notes that the notion of a transcontextual power or force cannot come from the external senses since these can only “take in states that are realized, achieved, and external to one another, while the internal process that binds these together” elude them (1912, 520). Therefore, if the notion of force does not come from external experience or if we cannot believe that it is inborn, then “we must assume that they come to us from *internal experience*. In fact the idea of force is obviously full of spiritual elements that could only have been borrowed from our psychic life” (520; italics mine).

Durkheim’s resort to the notion of “internal experience” could easily be interpreted as a rehash of older eclectic-spiritualist arguments (Schmaus 2004). However, Durkheim clearly wants to differentiate this position from the type of account proposed by Maine de Biran that it is the *individual* internal experience of ourselves as willing, decision-making agents that serves as the model for the category of force. As Schmaus (123-24) himself has persuasively argued, Durkheim was influenced by this spiritualist argument as individualistic but ultimately rejected it. In *Elementary Forms*, Durkheim (1912) proffers two arguments against the notion that the category of power or force is modeled on the individual will. First, the “primitive” category of force (in the sense of oldest or first) was not personal but impersonal, with the personal sense deriving from the older impersonal sense. Second, the primitive category of force was general and schematic, not tied to the characteristics of any object, person, or setting. For instance, it was conceptualized as being able to pass from one object to another regardless of the internal constitution of that object.

The “I” of internal experience is doubly distinct from this category: it is personal, and its power is not communicable to other persons or objects (Durkheim 1912, 519-521). This leads to the conclusion that

as implied in the causal relation, the idea of a force must have a twofold character. First, it can come to us only from our *inward experience*; the only forces we can touch directly are of necessity *moral forces*. At the same time, however, they must also be impersonal, since the idea of impersonal power was constituted first. Now the only forces that satisfy this twofold condition are those that arise from life in common: collective forces. In actuality, they are on the one hand wholly psychic, made exclusively of objectified ideas and feelings, and on the other hand, they are by definition impersonal, since they are the product of cooperation. Being the work of all, they are the property of no one in particular. (521; italics mine).

The question of whether Durkheim had a historically or exegetically correct understanding of Hume's empiricist position is, in my view, secondary to the issue of whether Durkheim evinces an irreparable misunderstanding of what empiricism as a theory of knowledge entails. For instance, Durkheim understood his claim that the category of power or force could be derived from the *collective* experience of "social forces" as contradicting the empiricist position. In my view, the logical virtues of Durkheim's argument hinge on whether his own distinction between the epistemic properties of internal versus external experience can be defended.

It is evident that Durkheim's understanding of the Humean position took the skeptical argument to apply only to external experience (exteroception) as mediated by the "five senses." Durkheim accepted the empiricist conclusion for this experiential domain—cognitively binding categories cannot emerge from individual analysis of perceptual information. However, Durkheim denied that this conclusion applied to the *interoception* of physiological bodily states, especially as these pertain to *feelings* in particular when these are induced in the collective gathering of persons in which some sort of stereotyped, collectively binding actions (e.g., ritual) are performed. Durkheim was very clear in this respect: "religious forces are in fact only transfigured collective forces, that is, moral forces; they are made of ideas and feelings that the spectacle of society awakens in us, not of sensations that come to us from the physical world" (1912, 461).

Schmaus is correct in noting that any argument of this sort cannot simply assume what it needs to prove—that internal experience is epistemologically distinct from external experience—in particular, "we need to know what is meant by direct or immediate perception" we also need to "clarify exactly what it is that is supposedly being directly perceived" (2004, 128). Schmaus is also correct in noting that, even when talking about internal experience, Durkheim invalidly sidesteps the Humean point that the direct causal action of forces cannot be a subject of experience. Instead, forces (even internal or moral forces) can be known only by (in this case, their internal-experiential) *effects*. For instance, in attempting to differentiate between our experience of "external" (exteroceptive) and "internal" (interoceptive) forces, Durkheim attempts to establish his point via the following appeal to intuitive phenomenology:

When I run against an obstacle, I have a sensation of confinement and discomfort; however, *the force causing that sensation is not in me but in the obstacle and thus beyond the range of my perception*. We perceive its effects but not the force itself. *This is not the case with social*

*forces. Since they are part of our interior life, we not only know the results of their action but see them in action.* The force that isolates the sacred being and holds the profane ones at a distance is, in reality, not in that being; it lives in the consciousness of the faithful. Thus the faithful *feel it* at the very moment that it at the very moment it acts on their wills to prohibit certain actions and prescribe others. Because this happens *entirely within us, we capture in action* the constraining and necessitating influence that escapes us when it comes from an external thing. (1912, 522; italics mine)

Here Durkheim argues that our experience of the casual power of internal forces is qualitatively distinct from that of external forces. In contrast to our experience of the constraint exercised by external forces, which are phenomenally available only via their effects, internal forces can be experienced “in action.” That is, they can be experienced while they are producing the particular (behavioral) effect that they are supposed to produce, which in this case happens to be the generation of certain compulsory acts or our refraining from performing potentially profaning activities. Technically, this argument cannot quite answer the Humean challenge, since an empiricist could instead argue that even when experienced internally in the form of feelings and at the moment in which they are active, these feelings are still simply the consequences (or effects) of the moral forces, not the “force itself” in action. Thus, Durkheim is on shaky ground here if he means this argument as a (philosophical) response to the Humean argument against the direct perception of causal power of forces in action (separate from their effects).

However, I would argue that while these are important issues, they are partially *empirical* and not solely logical issues. By presuming that there is no difference between exteroception and interoception and that the Humean skeptical argument applies to both, it is Schmaus who begs the question as to whether Durkheim’s reliance on the distinction between two qualitatively distinct forms of experience (internal and external) is a valid distinction or not. Schmaus himself does go on to beg this question by categorically concluding that “internal reflection does not reveal forces” (in the strict Humean sense). He does this after offering an argument against the notion of “direct perception” inherited from the spiritualist tradition. According to Schmaus, this notion of direct perception entails that the agent can help himself or herself to empirical knowledge of some realm without this knowledge being “mediated by any mental representations or ideas” (2004, 128). Nevertheless, while it is true that Durkheim took the position that it is possible to directly perceive forces by the effect of certain collective settings on internal

experience and while Durkheim also thought that this knowledge was not mediated by any explicit representation, he did not think that this knowledge was completely unmediated. Instead, Durkheim was clear that this knowledge was mediated by *feelings*, which were directly retrievable from the individuals' interoception of their bodily states.

Schmaus criticizes this "orthodox" reading of Durkheim—proposed by Rawls (1996, 2004)—by noting that

what internal reflection reveals is a feeling of well-being and a connection between that feeling and participating in a religious rite. This is only an empirical and not a logical, necessary connection. Feeling good and participating in a rite are not merely two descriptions of the same thing. To affirm a necessary connection involves an act of reflection or judgment. Perception alone can reveal only how things actually are and not how they necessarily must be. Thus, the idea of a necessary connection cannot be simply derived from immediate perceptual experience, social or otherwise. Indeed . . . Durkheim distinguished the idea of a necessary connection from that of a force or power and gave a separate account of the origin of the idea of a necessary connection. (2004, 128)

Schmaus follows by pointing to three major drawbacks of this type of argument. First, he notes that "the idea of a necessary connection cannot be simply derived from immediate perceptual experience" under the impression that Durkheim (or Rawls or both) has committed a category mistake or simply misunderstood (or was misinformed about) what the empiricist argument entails. However, as we have seen, Durkheim understood the empiricist argument to apply *only* to external experience. Thus, it is Schmaus who begs the question as to whether all forms of experience are epistemically equivalent. Durkheim believed that internal experience was epistemically distinct (although, admittedly, he was vague as to what the distinction entailed; as we will see below, this vagueness is a problem but not an insurmountable problem). Durkheim was certainly misguided in thinking that the experience of internal forces revealed the force itself (in addition to its effects) as a phenomenal content to the subject of experience. However, as I argue below, a modified version of the Durkheimian argument can be defended. This version grants the Humean point that all forces are known experientially via their effects but also grants Durkheim's point that interoceptive access to the experience of "moral forces" as mediated by feelings is epistemically distinct from exteroceptive access. The reason for this is that the object upon which

the forces act and the subject that happens to experience the effects of these forces happen to coincide in the embodied (core) self.

Second, Schmaus introduces a “classical” Kantian argument to the effect that necessity can only be nonnaturalistic *logical* necessity and can only be the result of a (transcendental?) act of “judgment.” This presupposes that the notion of necessity cannot be naturalized with the implication that empirical arguments cannot bear on the origins of this notion. However, Durkheim was a thoroughgoing naturalist, and therefore we cannot accept Schmaus’s nonnaturalistic position regarding the concept of “necessity” at face value, since it once again begs the question as to whether the notion of “necessary relation” is a logical or empirical notion. Recent research in cognitive science and metaphor theory has attempted precisely to naturalize the Kantian notion of necessity in the manner that Schmaus claims is not possible (Sweetser 1990; Lakoff and Johnson 1999). As I argue in detail below, these naturalistic attempts are compatible with the Durkheimian account (at least in this narrow respect).

Third, Schmaus points to the fact that Durkheim’s argument is confused because the notion “force” is analytically separate from the notion of “power.” According to Schmaus, “the idea of a power has the sense of a potential or capacity. A potential or capacity is understood as the ability to do some specific sort of thing, such as the capacity to use language, and is thus very different from a force.” He also notes (pointing to the physical force of gravity as an example) that while it is possible to experience the “power” or “capacity” of society to produce internal feelings of well-being, it is nonsensical to talk about the direct experience of “social forces.” Anybody who claims that something like the notion of a necessary force emerges from direct perceptual experience is in fact conflating “the ideas of force, power and necessary connection under a univocal concept of causality. . . . There is nothing to recommend that we run these very different concepts together” (2004, 128-29).

Is Schmaus’s distinction between notions of power and force (and both of these from the notion of necessity) empirically plausible? Here I “beg the question” as to whether logic, mathematics, or whatever has usually been claimed to be beyond the realm of nature and psychology is in fact naturalizable; I am presuming—with Durkheim—that it is. Recent research in cognitive linguistics and metaphor theory (Talmy 1988; Sweetser 1990; Lakoff and Johnson 1980, 1999; Johnson 1987; Gärdenfors 2007) is actually very relevant in this respect.

This research shows two things. First, everyday reasoning about the notion of “power” relies on a set of underlying conceptual metaphors that are inseparable from our conceptualization of, and in fact derive from our

embodied experiences with, forces in the social and physical worlds (Gärdenfors 2007). Thus, while Schmaus is correct in noting that a philosopher could in principle distinguish between the notions of force and power, he is incorrect in presuming that this distinction has implications for a “genetic” argument (such as Durkheim’s) that proposes the hypothesis that our everyday concept of “power” derives from the more primitive notion of force. As Gärdenfors (2007, 189) argues, precisely because the first-person experience of force as causal power is experientially primary, it stands to reason that this category “should be seen as more fundamental than meanings based on third person forces.”

Second, research in cognitive semantics convincingly demonstrates that *modality* in language and conceptualization is in fact supported by a series of common metaphoric projections stemming from the both the *social* and the *natural* domains (the so-called root modals). More important, our conceptualization and understanding of the so-called epistemic modals (Sweetser 1990; Winter and Gärdenfors 1995; up to and including the notions of “logical necessity”) are in fact universally conditioned by conceptualizations associated primarily with root modals (which involve reference to physical and “social” forces, such as *letting*, *allowing*, *permitting*, *obstructing*, and *blocking*). In both of these, the abstract (but perceptually grounded) notions of *forces* play an irreducibly central role (Talmy 1988), whereby “sociophysical forces acting on the subject are taken as analogous to the logical ‘force’ of premises acting on the speaker’s reasoning processes” (Sweetser 1990, 62). Sweetser’s extension of Talmy’s analysis of root modals in terms of abstract image-schemata for forces to all epistemic modals has important implications for the way in which we understand how persons conceptualize the notions of “necessity” in the domain of logic.<sup>10</sup> As Johnson (1987, 63-64) has noted,

what stands behind our understanding of logical necessity is that the force of logic is overwhelming [in everyday conceptual reasoning]. . . . Propositions are identified with locations. The force of logic moves us from one propositional locale to another forcing us to conclusions. . . . Logical possibility is the absence of any barrier blocking the path to a given location. That is, something is logically possible if there is nothing to stop us from reaching (moving to) that conclusion. . . .

<sup>10</sup>As Sweetser (1990, 69) concludes, the reason why we apply the same modal verbs to the “real” world and to the epistemic world is that “we view the epistemic world as having a force-dynamic structure parallel to that of the real world.”

Whatever the nature of the force for a particular realm, necessity is still understood in terms of force, whether in the logical, moral or epistemic realms.

This conceptualization of epistemic necessity in terms of the necessity produced by forces in the natural and social worlds is cognitively grounded in the REASONS ARE FORCES metaphor (Lakoff and Johnson 1999, 215-16). From a cognitive-linguistic perspective, *there is no clear-cut distinction* between conceptualizing forces as powers or capacities in the social or natural realms and our conceptualization of “abstract” necessity in the epistemic or logical realms (they share image-schematic structure, and the social and physical domains are primary). Schmaus’s distinction between forces and powers, while impeccable from a traditional philosophical perspective, carries little epistemic, cognitive, or phenomenological warrant and therefore cannot do the job that he requires them to do (i.e., serve as platform to refute Durkheim’s argument that at the level of primary experience these notions are not distinct). Contra Schmaus (and consistent with Durkheim’s intuition), the idea of “force” is not cognitively meaningful in everyday cognition without presupposing that the force has the power to produce effects (unless counteracted by another force). Durkheim’s own *semantic analysis* of the notion of force show this:<sup>11</sup> “the idea of causal relation implies efficacy, effective power, or active force. . . . Cause is force before it has manifested the power that is in it” (1912, 519).<sup>12</sup>

This account is consistent with recent reconsiderations of the “image-schema” for the notion of force developed (independently) by researchers in cognitive linguistics. For instance, compare the already cited passage from *Elementary Forms*, in which Durkheim exhorts the reader to compare her phenomenological experience of external (physical) and internal forces with a recent consideration of the same issues from the point of view of cognitive semantics:

<sup>11</sup>Not to be confused with the empirical argument as to the origins of the notion in ritual practices.

<sup>12</sup>It is important to note that Durkheim rejects the philosophical analysis of concepts in favor of the empirical demonstration that this is precisely how the notion of force is “constituted . . . in ordinary thought” (1912, 519). This is consistent with the approach in cognitive linguistics and metaphor theory in which data taken from concrete linguistic utterances supersede concepts obtained from technical philosophical analyses as a basis for scientific generalization.

Analyzing the use of forces in cognitive semantics has led me to an ambiguity in the very notion of “force.” . . . When it comes to everyday human thinking, it is important to distinguish between a *first-person* (phenomenological) and a *third-person* perspective on forces. . . . From the first person perspective, it is the forces that act directly on you that are considered. These “forces” are not just physical Newtonian forces, but more importantly also the *social* or *emotional* forces that affect you. It is perhaps more appropriate to call forces seen from a first-person perspective “powers.” First person powers are experienced either as physical forces or as emotional or social pressures that make you move in a particular direction. . . . From the third-person perspective, one sees forces acting upon an object from the outside, so in this case you don’t experience the forces directly, but your perceptual mechanisms derive them. Therefore such forces are not *embodied* in the same way as in the first-person perspective. (Gärdenfors 2007, 188-89)

Schmaus is correct in noting that Durkheim rejected the empiricist argument regarding the origins and properties of the causality principle because empiricist accounts cannot provide a plausible explanation of the universality or the necessity of the principle. Schmaus is also correct in noting that “instead of deriving the idea of necessary connection from a feeling of expectation, Durkheim located the origin of this concept in the obligation of the members of a society to participate in things such as fertility rituals” (2004, 130). Notice that this statement already contradicts Schmaus’s claim that the notion of causality as necessary connection is a nonempirical *a priori*. Precisely because Durkheim derives the normative force of the principle of causality as necessary connection from ritual obligations, the general form of this principle is tied to a particular theory of the origins of religion in ritual, as it emerges as a result of an empirically specifiable process. However, we need not follow Durkheim in his more specific claim that this religion happened to be Totemism as he understood it.

According to Schmaus, Durkheim’s account of causation as necessary connection is ambiguous as to whether he is talking about natural, social (or moral), or epistemic necessity. Because of this conceptual ambiguity, Schmaus avers that Durkheim “should have provided an analysis of the different things that necessity could mean and then told us which concept of necessity he was trying to explain” (2004, 132). Schmaus then notes that if what Durkheim was after is an account of *logical necessity*, then it is possible to retain a “functional” interpretation of the argument while rejecting

Durkheim's "genetic" explanation. For Schmaus, Durkheim's "account of the social function of . . . [the concept of causation as necessary connection] makes a valid point, even if he was less than convincing with regard to the social origins or causes of the concept." He goes on to argue that it is "only the notion of necessary connection, not power or force, that is required for the idea of moral obligation" (132).

Schmaus concludes that

in agreeing with Durkheim's claims about the social, moral, or legal functions of the concept of necessary connection, we obviously need not go all the way with him and affirm that the origin of this idea was in the obligation of our ancestors to participate in totemic imitation rites. The concept of necessary connection could have had some other origin and still perform the same function. Hence, Durkheim's account of the social function of the idea of necessary connection does not depend on his theory of the origin of religion in totemism. (132)

However, this conclusion is not warranted, because Schmaus's objections regarding Durkheim's inability to distinguish among different senses of the term *necessity* presuppose a partially nonnaturalistic understanding of the notion of necessity, while Durkheim's account requires us to be open to the possibility that (the origins of the notion of) necessity can be naturalized. Here, Schmaus appears to endorse the traditional rationalist argument in which the notion of "logical" necessity is the higher-order concept that governs the other uses of the notion in other realms. But as we have seen, the naturalistic program proposed in contemporary cognitive linguistics and conceptual metaphor theory turns this presumption on its head and in fact redeems at least one of Durkheim's key insights: the social realm is the prototypical and cognitively privileged domain from which all other understandings of the notion of necessity emerge as metaphorical projections. Necessity (or modality) in the social and physical domains is conceptually structured precisely (also partially redeeming a Durkheimian insight) around the notion of "forces" (Talmy 1988), and this goes on to structure our understanding of epistemic necessity (Sweetser 1990; Gärdenfors 2007). Thus, Durkheim may be partially correct in suggesting that "phylogenetically," the notion of necessity in the social realm is a cognitive "primitive" (in the sense of being the first or prior to other senses). Contemporary developmental psychologists have shown that this is also the case ontogenetically: children's understanding of modality and causation is developed *first* in the sociophysical domain and only *later* is it extended to the epistemic domain.

This obviates Schmaus's objection that Durkheim did not "differentiate" among different senses of "necessity." He did not need to do that since he was offering the hypothesis that the (direct, emotional) experience of social and moral necessity is experientially primary and other senses (e.g., physical, logical) emerge later as directed "projections" (from the social to the natural and logical realms) of the primary sense; these projections—I claim—today are better understood using the language of conceptual metaphor theory. Schmaus's attempt to divest the Durkheimian argument of its (partial) bases on an understanding of concepts as involving structure derived from internal experiences in concrete social settings in fact throws out the most promising aspect of the Durkheimian account in favor of an arid hypothesis based on a view of concepts as classical logical categories devoid of imagistic content and rendered from their origins in concrete experience (Barsalou 1999; Lakoff 1987). In this respect, we cannot follow Schmaus in attempting to derive the notion of cultural universality as a *deduction* from his functionalist framework, in which the (imagistic) notion of the a "causal power or force" (so central to Durkheim's original account) is rejected as unnecessary.

Schmaus is correct in noting that "human society as we know it would not be possible without the idea of moral obligation" and that for this accountability to obtain, a *cognitive model* must be applied—one in which persons are "in some sense the causes of their actions." He is incorrect, however, in concluding that this particular model has to be a cultural universal. Instead, it is clear that a model in which persons are seen as endowed with some sort of internal power that "causes" their action (by exercising a force in the body) is a *Western* (folk) cultural model (D'Andrade 1987). While all societies have some sort of system to establish accountability and responsibility (and cultural models of the mind), a lot of societies place responsibilities on forces whose locus reside outside of individual persons. However, even in the West, the way that human action and responsibility are conceptualized is strictly dependent of a series of conceptual metaphors and idealized cognitive models that conceive of the mental realm as one governed by forces that are phenomenologically grasped as "powers" to perform actions or as counterpowers that prevent certain actions from being performed (Johnson 1987, 47). Thus, Schmaus is summarily incorrect when he claims that

even in everyday discourse, the concept of physical causation that is used is different from the concept of causation involved in human action. Physical causation is more closely tied to the idea of force, while human agency is bound up with the idea of a necessary connection

between intention and the act or even with a capacity or power to act. Thus, we may want to give different accounts of the historical and cultural development of collective representations of these concepts. (2004, 136)

Schmaus's claim about what is a cross-societal universal is not a particular set of representations of cause, power, and force but a set of logically derivable procedures for establishing moral responsibility.<sup>13</sup> I propose instead that collective representations that conceptualize action and responsibility using force-dynamic (imagistic and perceptually grounded; Barsalou 1999) schemata are universal across societies. Schmaus is of course correct regarding the "function" of these collective representations, but he is incorrect in denying their status as shared mental entities. The anthropological evidence shows that the deployment of some model of forces as causes of events and human action (with beliefs and desires being the ones preferred in the West) is found across cultures. The same can be said for the penchant to conceptualize consequential events (e.g., sickness, plague, misfortune) as the product of some intention (whether human or supernatural), with the intention being conceptualized as the first link in a chain of causation that leads to the event. The mechanistic nonintentional picture of the universe appears to be unique to the West, and it is essentially counterintuitive even to most Westerners (Horton 1997). The general application of the category of causality and necessity based on force dynamics remains the same in terms of its "moral regulation" function; that is, they are used to figure out how to distribute responsibility and blame (Douglas 1994).

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<sup>13</sup>To defend the contention that reasoning about physical and intentional causation relies on different sets of conceptual structures, Schmaus (2004, 147-51) points to evidence taken from developmental psychology that shows—using looking time methodology—that infants appear to be born with a capacity to notice violations of standard principles of physical causality. Schmaus then points to evidence—which he acknowledges is both controversial and equivocal—that the capacities required to impute intentions, beliefs, and desires to agents require a very different set of capacities, or a so-called Theory of Mind. I cannot fairly evaluate this particular aspect of Schmaus's argument in this limited space. I only point out that recent reconsiderations of this evidence—see in particular Hutto (2008)—point to the implausibility of the most ambitious versions of "Theory Theory." Instead, the weight of the evidence points to folk psychology being a culturally distinctive ethnopsychology, undergirded by a set of narrative practices, not a set of logical precepts designed to predict behavior.

I argue that collective models of causation in the natural and social domain (the boundaries of which are blurred in the phenomenon of witchcraft as Levy-Bruhl noted) depend on a set of collective representations with a definite *common* content (however abstract and schematic this content commonality might be). In these collective representations, causality is invariably represented as forces. In critiquing Levy-Bruhl's "primitive mentality" mentality hypothesis, Durkheim noted that so-called primitives were already applying a notion (abstract force) that has an obvious counterpart in modern science and philosophy (Horton 1997).<sup>14</sup> The Durkheimian hypothesis implies that it is a good bet that the cognitive models of causation and (deontic) necessity used in most societies will have the domain of social relationships and social obligations (letting, permitting, wishing, etc.) as their "source domain." This appears to be consistent with comparative evidence taken from linguistics and cognitive anthropology (Sweetser 1990; Winter and Gärdenfors 1995).

### 3.2. *The Feeling of What Happens*

As we have seen, Schmaus has one major objection against the account of the origins of the category of force (and, by implication, causation) during concrete ritual experience outlined in *Elementary Forms*. According to Schmaus, Durkheim's argument flounders on the proposal that (social) forces can be "directly" perceived through the apprehension of bodily states as "feelings" during acts of collective gathering. Because he rejects this argument, Schmaus rejects Durkheim's hypothesis that the collective representation of the notion of force is homologous to this sort of experience. Namely, this implies that forces are impersonal, fluid, and not restricted to any particular temporal or physical location, capable of being passed from one object to another and from a person to an object or from a person to a person. This hypothesis of the origins of the category of force from the internal experience of social forces in ritual gatherings represented a conceptual remnant from Durkheim's familiarity with the old eclectic spiritualist hypothesis of the origins of the category of force from acts of individual introspection of episodes of "willing." In effect, Durkheim's main

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<sup>14</sup>For instance, "when the Iroquois says that the life of all nature is the product of conflicts between the unequally intense *orenda* of different beings, he is expressing in his language the modern idea that the world is a system of forces that limit, contain, and equilibrate one another" (Durkheim 1912, 291).

sociopsychological mechanism in *Elementary Forms* consists of a sociologization of this spiritualist account of the origins of abstract concepts from internal experience (Schmaus 2004).

We have seen that there can be two sorts of objections to Durkheim's proposal that forces can be directly perceived as "feelings": one "logical," the other "empirical" (Schmaus proffers both). The logical objection is technically correct in pointing out that there is simply no way to get around the Humean objection that causal forces can be known only through their effects. However, this objection begs the empirical question as to whether "internal experience" is epistemologically distinct from external experience. Durkheim assumed that these two forms of perception were distinct and that while the Humean objection regarding the sterility of sense experience as an experiential window into the nature of forces applied to external experience, this did not apply to the proprioceptive grasp of internal bodily states, especially bodily states produced as the effect of participation in social rituals. So the issue becomes, is "internal" experience cognitively privileged in terms of being more tightly connected to what Durkheim had in mind when speaking to the perception of collective and "moral" forces?

I would argue that there is increasing neuroscientific evidence for the validity of both of these Durkheimian presumptions. This evidence, while not definitive, is at least suggestive enough to indicate that a variant of the (duly sociologized) "spiritualist" hypothesis that animates *Elementary Forms* cannot be dismissed on purely logical grounds. I refer to recent neuroscientific evidence regarding the distinct neurophysiological pathways that govern the interoceptive perception of internal bodily states (for recent reviews of the relevant evidence, see Craig 2002, 2003; Wiens 2005). These are manifested corporeally as emotions and phenomenologically experienced as *feelings* (Damasio 1994, 2000, 2003a, 2003b). The key point for our purposes is that this sort of "internal perception" is both analytically and neuroanatomically distinct from the information that we receive from the "external senses." Moreover, this internal perception does not consist in the registering of an inchoate, unstructured wave of affect devoid of conceptual content but in the conceptually structured, holistic perception of our own dynamically changing bodily state. As Damasio (2003b) explains,

the essential content of feelings is the mapping of a particular body state; the substrate of feelings is the set of neural patterns that map the body state and from which a mental image of the body state can emerge. A feeling in essence is an idea—an idea of the body and, even more particularly, an idea of certain aspect of the body, its interior, in

certain circumstances. A feeling of emotion is an idea of the body when it perturbed by the emoting process.

In this respect, feelings have the (epistemological) status of perceptions and should be comparable to what traditionally goes by perception in the empiricist sense (Damasio 2003b, 91); the issue then becomes whether the standard Humean argument applies to feelings given the rather unique status of its “object.” Just like (let us say visual) perceptions have as their (intentional) “content” objects in the world, so feelings “have an object at the origin of the process and the physical characteristics of the object . . . prompt a chain of signals that transit through maps of the objects inside the brain.” What makes feelings distinct as a perceptual mode is that “the objects and events at [their] origin are well inside the body rather than outside of it.” There is thus an important epistemic difference between the perceptual information provided by feelings and those provided by external perception. While external percepts are “bound” to a single set of objects, feelings are linked not only to the internal bodily states that constitute their “object” but also to the original external object that produced the emotion that led to the dynamic changes in bodily state in the first place.

Thus, when speaking of the “object” of an emotion or a feeling, “we must qualify the reference and make clear which object we mean. *The sight of a spectacular seascape is an emotionally competent object. The body state that results from beholding that seascape x is the actual object at the origin of x, which is the perceived in the feeling state*” (Damasio 2003b, 91; italics in the original). Of course, for the most part, persons *conflate* these two “objects” in their everyday experience, *attributing* to the external objects that produce emotions (and the changes in the bodily state) this feeling-generating quality (bypassing the fact that the true object of their feelings is the actual set of internally realized bodily states). Durkheim describes a similar process of pervasive “misattribution” of feelings to external objects as resulting in the sacralization of socially significant symbols and external representations associated with the collectivity (1912, 314-315).

If this account is correct, then it follows that the “constraint” of society is recurrently experienced as internally perceived force (known through its effect on our bodily state). As Durkheim argued, this constraint directly governs our perception of social obligations and moral imperatives as carrying binding authority and thus as implicated in our actions and decisions. A test implication of this proposition is that if the capacity for internal monitoring of bodily states as feelings is lost, then we should find that the ability to regularly follow collectively sanctioned moral and ethical precepts should also be compromised. As Damasio (2003b, 140-45) shows, this is precisely the case.

When the regions of the brain that have been found to be (partially) responsible for the capacity to monitor and “perceive” our internal bodily states are damaged (e.g., due to head trauma that selectively damages the relevant brain regions), a series of predictable consequences ensue: “patients lack a sense of what is socially appropriate. They disregard social conventions and may violate ethical rules” as well as display a significant decline in behavioral indicators of empathy. It appears that without these internal perceptions, the “constraint” of collective norms and obligations is lost. These findings are consistent with Durkheim’s original proposal, in which the “force” of collective obligations has to be experienced internally in the form of feelings to be socially effective, rather than with Schmaus’s functionalist reinterpretation. They also provide *prima facie* evidence for the epistemically distinct status of bodily interoception.

Schmaus’s proposal for the implication of the category of causality in moral behavior, however, does not require this feeling-mediated mechanism. Instead, his social functionalist explanation hinges on the ability of society to prescribe “obligations” (understood in the rationalist sense of universal, unconditional imperatives), where the only individual capacity that is presupposed by the analyst as sufficient to generate compliance is the *cognitive* ability to understand what a logically necessary entailment is. I propose a different hypothesis, one that salvages the Durkheimian intuition that for a category of thought to be binding, it must be directly experienced. Under this account, force is an active category because individuals receive recurrent feedback from the internal perception of their bodily states (experienced as feelings) when they are placed in specific social situations that require action and moral decision making. Our nonpropositional image-schema for “force” (which structures our conceptualization of a large set of domains) is then modeled after this recurrent experience. Even when we are not directly involved in social settings that generate feelings as internal perceptions of our embodied relation to that situation (and our bodily states are not directly affected), we can re-create those events via memory—running what Damasio refers to as an “as-if body loop” (1994). This embodied simulation produces a transient change in the neural structures in charge of monitoring our bodily state (without actual afferent feedback from the body) based on long-standing associations between the given event and previous physiological changes in the state of the body, which are then perceived as feelings. When the ability to either directly experience (as feelings) the effects of social situations or run the “as if” loop when we are not directly involved in those situations is lost (and social forces are not longer perceived internally), then the capacity of “society” to constrain behavior (from the inside) is also lost.

Following this line of reasoning, we can postulate that persons come to ontogenetically acquire the “category” of force by the recurrent experience of being *allowed* and *prevented* from executing certain actions during infancy. “Interaction rituals” (Collins 2004) involving power and authority between the child and the primary caregiver are the recurrent social “site” where the direct bodily experience of “social force” is most likely to occur for members of contemporary differentiated societies; Durkheim (1956) proposed as much in his lectures on education. This force is routinely activated during everyday episodes of ethical decision making. The neuropsychological evidence suggests that when the ability to internally perceive bodily states is compromised, ethical (and other sorts of) decision making goes by the wayside. This implies that what is perceived internally as recurrent bodily states can conceivably play the theoretical role that Durkheim thought it could (a direct perception of a constraining force “guiding” our decision toward the collectively valued end).

Notice that this entails a rather charitable (and for critics, perhaps too charitable) interpretation of Durkheim’s “genetic” argument regarding the category of force (and, by implication, “moral” force). This genetic argument should be understood not as claiming that the *only* site in which the direct experience of social forces via internal feelings is the ritual gathering in so-called aboriginal societies (otherwise, nonaboriginal societies would lack the category of force and, by implication, lack morality). Instead, the category of force is developed in *some* interpersonal context that has the minimal features of ritual. As both Goffman and Collins have argued, even dyadic interactions meet the Durkheimian requirement of “ritual” and could be possible sites for the initial set of feeling-generating experiences necessary for the category of force and causality to be consolidated as a cognitive and experiential entity. That the realm of sociophysical causation is the privileged source domain for our conceptualizations of abstract forces (as discussed above) in experience-distant realms represents convergent evidence for this reconstruction of the Durkheimian hypothesis of the social and experiential origins of the category of causality.

#### 4. Concluding Remarks

Let us take stock. In this paper, I have engaged in an extended evaluation and critique of Schmaus’s recent attempt to reconstruct Durkheim’s sociology of knowledge around a “social functionalist” line. This attempt is ambitious in scope and rather “radical” in its revision of Durkheim’s sociology of knowledge. In particular, Schmaus recommends permanently parting with the

Durkheimian definition of collective representations as shared mental entities. Schmaus also sees the Durkheimian hypothesis of the *experiential origins of the categories of the understanding in concrete social and interactional settings* as a red herring that must be avoided. For Schmaus the derivation of the categories from individual experience is both an unnecessary remnant from 19th-century spiritualist philosophy and a misguided recapitulation of a fallacious line of reasoning based on a misunderstanding of the implications of the empiricist argument. To avoid this, Schmaus proposes to reorient the sociology of knowledge away from the postulation of shared mental entities. This shifts the focus away from inherently unobservable mechanisms (sharing mental or representational states) as being responsible for social solidarity and “membership” in a given collectivity. Instead, Schmaus proposes that if persons are able to effectively participate in the required public activities of a society, then they, for all intents and purposes, partake in common cultural representations, regardless of whether they share the same mental states with others or not. In addition, Schmaus functionalism brackets diachronic questions of the origins of social facts and cultural representations in favor of synchronic questions related to their contemporaneous functions (1999, 2000).

I have taken Schmaus’s attempt to model his social functionalism upon related approaches in the philosophy of mind to task on several grounds. Most important, I argued that the isomorphism between the types of problems that have inspired the two functionalist “solutions” is not as strict as he claims. Schmaus appears to have conflated the issue of multiple mental *representations* of the same public object (whereby the same social fact—e.g., public belief, institutional practice—can be multiply instantiated in the minds of different members of a collectivity without thereby compromising its “unity”) with the issue of the multiple *realization* of the same macrostate by different classes (in terms of their physical constitution) of structurally organized microstates. I argued that this isomorphism fails because the representation relation is not the same as the realization relation.

I also argued that even if the analogy between the machine functionalist appeal to multiple realization and Schmaus’s appeal to multiple representation is granted, Schmaus’s proposal suffers from key weaknesses related to the implicit conceptualization of meaning and representation within the theory. In particular, I object to Schmaus’s quasi-Wittgenstenian attempt to separate issues of meaning from those of representation. For in separating meaning and representation, Schmaus commits himself to a series of problematic theses regarding the nature of truth and semantics. These theses, I argued, are essentially indistinguishable from the objectivist, truth-conditional approach

to meaning and representation that form the backbone of traditional logical positivism (in analytic philosophy and epistemology) and first-generation cognitivism (in philosophy of mind and AI). For instance, Schmaus retains an allegiance to problematic “correspondence” accounts to truth and meaning and must presuppose that “social facts” can enter into relations with other social facts based on propositional, syntactic relations unrelated to their representational content. This is evident when Schmaus attempts to differentiate his own brand of functionalism from “traditional” functionalism. Here it becomes clear that a functionalist approach, as Schmaus describes it, entails a nonrepresentationalist theory of meaning:

One may think that I am arguing merely for a functionalist reinterpretation of the notion of collective representations. I want to resist this interpretation. If the meaning of a social fact is just a node in a network of functional relationships among social facts, why should we consider it a representation at all? What does this node represent? How does it represent? To whom does it represent? Why then call these nodes collective representations? These questions continue to go unanswered among contemporary social scientists, who nevertheless postulate collective representations that may differ from the actual thoughts of social actors in order to give rational interpretations of what would otherwise appear to be irrational behavior. (1999, 318)

These presumptions have come under withering attack by those who favor an approach to knowledge and representation that focuses on the embodied and embedded nature of cognition (e.g., Lakoff and Johnson 1999; Varela et al. 1991; Johnson 2007; Gibbs 1994). Of course, just because a position has been attacked is not sufficient grounds to claim that it is not viable. At issue here is not simply the choice of epistemological or philosophical predilections regarding the metaphysics of truth, meaning, and mind but which philosophical approach is best suited for the task of rebuilding (or rationally reconstructing) the foundations of the Durkheimian approach to the sociology of knowledge. My argument is that any reconstruction of the sociology of knowledge (Durkheimian or not) must be compatible with contemporary approaches to cognition that take seriously the contribution of embodied approaches to language, conceptualization, and emotion (Sweetser 1990; Johnson 1987; Langacker 1987; Damasio 2003b; Ignatow 2007). Approaches to the sociology of knowledge that remain loyal to the problematic approach to language and truth inherited from the objectivist philosophical tradition, however, are to be considered nonstarters.

I believe that my analysis of Schmaus's approach to the issue of the origins and functions of the category of causality in Durkheim's religious sociology sheds light on the key issues in this respect. Here I hoped to show that only an account that allows for a broader conception of meaning, one in which meaning is *not* easily separable from representation, results in the most accurate and charitable interpretation of Durkheim's theoretical intention and the most analytically compelling reconstruction of the Durkheimian approach to knowledge and the categories. My goal here was to reopen two sets of issues that I believe Schmaus's social functionalism prematurely forecloses. The first is a perennial issue that begins with Durkheim and continues to bedevil the sociology of knowledge: the fact that any approach to "collective epistemology" must ultimately postulate some set of "shared" cognitive entities (Fleck 1979). It is true that questions related to the nature of these cognitive entities and the manner in which we should understand the notion of "sharing" continue to be highly debated (Turner 1994; Lizardo 2007). However, in so easily papering over these problems by retreating to the analysis of publicly observable functions (under the presumption of the "multiple realizability" of these functions across settings), Schmaus not only ends up providing deceptively easy answers to a hard set of questions but also ironically ends up radically limiting the relevance that the cognitive sciences may have for addressing them. We have already been down this—essentially Wittgensteinian—road and have generally found it to be not very productive.

I say this is ironic because Schmaus interprets his work as actually opening up an avenue for two-way exchange between sociology and cognitive science (2004, 140), a possibility that he believed was prematurely closed off by Durkheim. Regardless of his underlying intent, the problem here lies with Schmaus's theoretical strategy. Because he modeled his functionalism on machine functionalism, Schmaus does not appear to realize that the only reason to take recourse to a functionalist approach is precisely to claim some sort of "independence" (keyed to the notion of "levels of analysis") for the phenomena pertaining to one science over the lower-level mechanisms studied by another. The analyst can then claim the *irrelevance* of scientific issues that deal with this lower level for the theoretical problems of the higher-level science (Fodor 1994). As Richardson (1979, 538) notes, psychological functionalists are adamant in claiming that "psychology can give an acceptable characterization of the phenomena it studies without being dependent upon descriptive categories derived from the physical sciences—or, for that matter, any other science at all."

A functionalist approach to social facts would in essence claim that lower-level implementation details (dealing with cognition, emotion, and individual

experience) are irrelevant for explanation in the sociology of knowledge. This is, of course, an approach that is actually fairly common in the sociology of knowledge, as various forms of nonmentalistic arguments (usually taking Winch's interpretation of Wittgenstein as a point of departure) have been proffered by others. As I hope to have shown, not even Durkheim went as far as some of these arguments (as he drew on various cognitive and emotion-based mechanisms in *Elementary Forms*). The convergent evidence that continues to pour in from cognitive linguistics and the cognitive neuroscience of feelings and emotions speaks to the validity of (at least some of) the key mechanisms that play a key role in Durkheim's own "social epistemology." This suggests that a nonfunctionalist approach that does take seriously issues of individual cognitive mechanisms and mental representation represents a better course for the sociology of knowledge to embark on.

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### References

- Alexander, Jeffrey C. 2003. *The Meanings of Social Life: A Cultural Sociology*. New York: Oxford University Press.
- Archer, Margaret S. 1996. *Culture and Agency: The Place of Culture in Social Theory*. New York: Cambridge University Press.
- Barsalou, L. W. 1999. "Perceptual Symbol Systems." *Behavioral and Brain Sciences* 22:577-660.
- Bidney, David. 1942. "On the Philosophy of Culture in the Social Sciences." *Journal of Philosophy* 39:449-57.
- Biernacki, Richard. 2000. "Language and the Shift from Signs to Practices in Cultural Inquiry." *History and Theory* 39:289-310.

- Bloch, Maurice. 1998. "Language, Anthropology and Cognitive Science." In *How We Think They Think: Anthropological Approaches to Cognition, Memory and Literacy*, 3-21. Boulder, CO: Westview Press.
- Churchland, Paul M. 1981. "Eliminative Materialism and the Propositional Attitudes." *Journal of Philosophy* 78:67-90.
- Clark, Andy. 2003. *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*. Oxford, UK: Oxford University Press.
- Collins, Randall. 2004. *Interaction Ritual Chains*. Princeton, NJ: Princeton University Press.
- Craig, A. D. 2002. "How Do You Feel? Interoception: The Sense of the Physiological Condition of the Body." *Nature Reviews Neuroscience* 3:655-66.
- . 2003. "Interoception: The Sense of the Physiological Condition of the Body." *Current Opinion in Neurobiology* 13:500-505.
- Damasio, Antonio R. 1994. *Descartes' Error: Emotion, Reason, and the Human Brain*. New York: Putnam.
- . 2000. *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*. New York: Mariner Books.
- . 2003a. "Feelings of Emotion and the Self." *Annals of the New York Academy of Sciences* 1001:253-61.
- . 2003b. *Looking for Spinoza: Joy, Sorrow and the Feeling Brain*. Orlando, FL: Harcourt.
- D'Andrade, Roy. 1987. "A Folk Model of the Mind." In *Cultural Models in Language and Thought*, 112-48. New York: Cambridge University Press.
- Dennett, D. C. 1996. *Darwin's Dangerous Idea: Evolution and the Meanings of Life*. New York: Simon & Schuster.
- Douglas, Mary. 1994. *Risk and Blame: Essays in Cultural Theory*. London: Burns & Oates.
- Durkheim, Émile. 1912. *Les Formes Élémentaires de la Vie Religieuse. [The Elementary Forms of Religious Life]*. Paris: Alcan.
- . 1956. *Education and Sociology*. New York: Free Press.
- . 1995. *The Elementary Forms of the Religious Life*. New York: Free Press.
- Fauconnier, Gilles. 1994. *Mental Spaces: Aspects of Meaning Construction in Natural Language*. New York: Cambridge University Press.
- Fleck, L. 1979. *Genesis and Development of a Scientific Fact*. Chicago: University of Chicago Press.
- Fodor, Jerry A. 1974. "Special Sciences, or the Disunity of Science as a Working Hypothesis." *Synthese* 28:97-115.
- . 1975. *The Language of Thought*. Cambridge, MA: Harvard University Press.
- . 1994. *The Elm and the Expert*. Cambridge, MA: MIT Press.

- . 2001. "Language, Thought and Compositionality." *Mind and Language* 16:1-15.
- Gärdenfors, P. 2007. "Cognitive Semantics and Image Schemas with Embodied Forces." In *Embodiment in Cognition and Culture*, ed. Tom Ziemke, Jordan Zlatev, and Roslyn M. Frank, 167-95. Berlin: de Gruyter.
- Geertz, Clifford. 1973. *The Interpretation of Cultures*. New York: Basic Books.
- Gibbs, R. W. 1994. *The Poetics of Mind*. New York: Cambridge University Press.
- Giddens, Anthony. 1972. *Emile Durkheim: Selected Readings*. New York: Cambridge University Press.
- Horton, Robin. 1997. "Levy-Bruhl, Durkheim and the Scientific Revolution." In *Patterns of Thought in Africa and the West: Essays on Magic, Religion and Science*, 63-104. New York: Cambridge University Press.
- Hutto, Daniel D. 2008. *Folk Psychological Narratives: The Sociocultural Basis of Understanding Reasons*. Cambridge, MA: MIT Press.
- Ignatow, G. 2007. "Theories of Embodied Knowledge: New Directions for Cultural and Cognitive Sociology?" *Journal for the Theory of Social Behaviour* 37:115.
- Johnson, Mark. 1987. *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: University of Chicago Press.
- . 2007. *The Meaning of the Body: Aesthetics of Human Understanding*. Chicago: University Of Chicago Press.
- Lakoff, G. 1987. *Women, Fire, and Dangerous Things*. Chicago: University of Chicago Press.
- Lakoff, G., and M. Johnson. 1980. *Metaphors We Live By*. Chicago: Chicago University Press.
- . 1999. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar: Vol. 1. Theoretical Prerequisites*. Stanford, CA: Stanford University Press.
- . 2000. *Grammar and Conceptualization*. New York: Gruyter.
- Lizardo, O. 2007. "'Mirror Neurons,' Collective Objects and the Problem of Trans-mission: Reconsidering Stephen Turner's Critique of Practice Theory." *Journal for the Theory of Social Behaviour* 37:319-50.
- Marr, D. 1982. *Vision: A Computational Investigation into the Human Representation and Processing of Visual Information*. New York: Holt.
- Newell, A. 1980. "Physical Symbol Systems." *Cognitive Science* 4:135-83.
- Rawls, A. W. 1996. "Durkheim's Epistemology: The Neglected Argument." *American Journal of Sociology* 102:430-82.
- . 2004. *Epistemology and Practice: Durkheim's The Elementary Forms of Religious Life*. New York: Cambridge University Press.

- Richardson, R. C. 1979. "Functionalism and Reductionism." *Philosophy of Science* 45:533-58.
- Sawyer, R. Keith. 2002. "Nonreductive Individualism: Part I. Supervenience and Wild Disjunction." *Philosophy of the Social Sciences* 32:537-59.
- Schmaus, Warren. 1994. *Durkheim's Philosophy of Science and the Sociology of Knowledge: Creating an Intellectual Niche*. Chicago: University of Chicago Press.
- . 1998. "Durkheim on the Causes and Functions of the Categories." In *On Durkheim's Elementary Forms of Religious Life*, ed. W. S. F. Pickering, N. J. Allen, and W. Watts-Miller, 176-88. New York: Routledge.
- . 1999. "Functionalism and the Meaning of Social Facts." *Philosophy of Science* 66:314-23.
- . 2000. "Meaning and Representation in the Social Sciences." In *Durkheim and Representations*, ed. W. S. F. Pickering, 139-56. New York: Routledge.
- . 2004. *Rethinking Durkheim and His Tradition*. New York: Cambridge University Press.
- Searle, John R. 1995. *The Construction of Social Reality*. New York: Free Press.
- Sewell, William H. 2005. "Refiguring the 'Social' in Social Science: An Interpretivist Manifesto." In *Logics of History*, 318-72. Chicago: University of Chicago Press.
- Shore, Bradd. 1996. *Culture in Mind: Cognition, Culture, and the Problem of Meaning*. Oxford University Press.
- Sorokin, Pitirim A. 1937. *Social and Cultural Dynamics*. New York: American Book.
- Sperber, D. 1996. *Explaining Culture: A Naturalistic Approach*. New York: Wiley-Blackwell.
- Stedman Jones, Sue. 2001. *Durkheim Reconsidered*. Cambridge, UK: Polity.
- Strauss, C., and N. Quinn. 1997. *A Cognitive Theory of Cultural Meaning*. New York: Cambridge University Press.
- Sweetser, Eve. 1990. *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure*. New York: Cambridge University Press.
- Talmy, L. 1988. "Force Dynamics in Language and Cognition." *Cognitive science* 12:49-100.
- Toren, Christina. 1999. *Mind, Materiality and History: Explorations in Fijian Historiography*. London: Routledge.
- Turner, Jonathan H., and A. Maryanski. 1979. *Functionalism*. San Francisco: Benjamin-Cummings.
- Turner, Stephen P. 1994. *The Social Theory of Practices*. Chicago: University of Chicago Press.
- Varela, F. J., E. Thompson, and E. Rosch. 1991. *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: MIT Press.

- Wiens, S. 2005. "Interoception in Emotional Experience." *Current opinion in neurology* 18:442-47.
- Winter, S., and P. Gärdenfors. 1995. "Linguistic Modality as Expressions of Social Power." *Nordic Journal of Linguistics* 18:137-66.

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