Living in One World: Searle's Social Ontology and Semiotics

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ABSTRACT

Searle's social ontology concerns the question of how it is that we are to reconcile different aspects of reality but takes for granted a particular kind of naturalism based on his unexplicated "basic facts" of nature. The consequence of this approach is that Searle's ontology deals specifically with social reality and its institutions, and never directly with the basic facts upon which his position rests. Paradoxically, this naturalistic assumption alienates his theory from its connection with the basic facts because the nature of this connection is taken for granted and not explicitly shown how nature is connectable to the social world. I hope to show that Searle's project is redeemed by biosemiotic theory that makes an explicit connection between the beginnings of sociality, which is where Searle's work starts off, and the biological and physical nature of things, which is what Searle's work takes for granted but what biosemiotics explicates.

Searle's social ontology concerns the question of how it is that we are to reconcile all the different aspects of reality. The task, he says, is to "give an account of how we live in exactly one world, and how all of these different phenomena, from quarks and gravitational attraction to cocktail parties and governments, are part of that one world" (Searle 2010, 3). How, he asks, are social facts such as voting to be reconciled with physical facts such as fields of force or biological facts (let us say, of metabolism, for instance)?

Searle calls the physical facts and the facts established by evolutionary biology, inclusive of the laws of physics and chemistry, the "basic facts" of the universe (2007b, 4). These basic facts are all assumed within his theory. Thus, he takes for granted a particular kind of naturalism that is contained within his notion of the

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"basic facts." What his use of this notion of the basic facts entails is that the physical, chemical, and biological aspects of reality are to be taken for granted as if they have already been accounted for by the sciences (Searle 2007b, 4). Whatever the basic facts are that constitute the world, it is presumed that social reality is installed upon them. So it is assumed that the study of society can be made independently of an account of the basic facts of nature (see Searle 1995, 2007b, 2010). Because of the hierarchical structure of the universe, having the different orders of phenomena operating on their own rules and principles, it is possible for Searle to properly delineate society and its rules almost independently of their emergence out of the physical and biological world.

Paradoxically, this naturalistic assumption alienates his theory from its connection with the basic facts of nature by the very reason that nature is taken for granted and is not explicitly shown as to how it is connectable to the social world. What I will show in this article is that Searle's approach can be redeemed by biosemiotic theory that does make an explicit connection between the beginnings of sociality, which is where Searle's work starts off, and the biological, chemical, and physical nature of things, which is what Searle's work takes for granted. In order that we really do achieve an account of how we live in one world, making such an explicit connection between nature and society is necessary because social ontology presents only half of the story of reality in the human domain.

There is a cascade of phenomena at different ontological orders that need to be accounted for—from the microscopic and biological facts of reality to the psychological and social aspects of reality. Semiotics, in the context of being a study of how meaningful information is created, stored, and retrieved as, for instance, by abiotic as well as biotic systems, accommodates Searle's social ontology and presents, within the same logic and metaphysics through the triadic hierarchical structure of biosemiotic analysis, the connection of the cascade of phenomena from physics and the basic facts to culture.

The importance of this connection is in completing the paradigm of realism and methodological naturalism or, at least, reducing the explanatory lacuna between nature and culture by giving an account of how it is that both physical things and social things are real, and in what ways this realness manifests itself for each respective kind of thing in the world.[1]

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1. Various studies in different domains have shown how classical reductionism falls short of producing such explanations. Rather, the universe has been shown to operate on hierarchical structures in which different levels of organization produce novel classes of phenomena that are not directly reducible to physical facts by way of classical or naïve reductionism (Kelso and Tuller 1984)—an idea present and central in the semiotic tradition as is evidenced in Peirce's "cosmogonic philosophy" (Sørensen et al. 2012), which receives its analogue from traditional cosmogony. An early systematization of the hierarchical perspective under dynamical

Searle assumes that however it is that the natural world may be his system can be installed on top of those facts of reality.[2] The fact of the matter is that the world has to be structured in a hierarchical fashion for it to be the case that the theory of social reality could be installed upon the basic facts in the first place. Nevertheless, what Searle has uncovered within his own social ontology is the hierarchical structure of social institutions, noting that their establishment is based upon the establishment of prior institutions right down to the institution of language (Searle 1989, 2010). By itself, this leaves open the question whether or not this hierarchical structure continues down into the natural world. The fact that language is said to be the foundation of social institutions implicates natural history and evolutionary theory because our very employment of language has a natural basis and is a faculty that emerges out of our natural history. Knowing that language connects the social world to the natural world in some respect, the general question still needs to be asked: How does the social world connect with the natural world?

Triadic semiotics in the tradition of biosemiotics has a methodological advantage in its ability to deal with this question, both empirically and philosophically. Its advantage lies in it being a general theory of meaning and meaningfulness as a study of the creation and functioning of natural information and meaning structures (which is a notion inclusive of the agents to which things are meaningful and of what meaning is in relation to those agents). As early as the origin of the mathematical theory of communication (Shannon 1948; Shannon and Weaver 1949) and the semantic theory of truth (Tarski 1944), it had become apparent that abstract or informational structures were profuse not only in human communication (through technology and within natural language), but in nature as well. This general view of the world drove the positivists and the logical empiricists to claim that the universe has a propositional structure that can be explicated through the logic of a formal language (Russell 1910; Carnap 1956), a sentiment not too different from Galileo's claim that the book of nature is written in mathematics. This view of the propositional structure of the universe was informed and influenced by the semiotic theoretic work of Charles Morris (1946), who argued that the world is a network of signs or can, at least, be represented as a network of sign systems.

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systems analysis in the sciences, in line with the semiotic perspective, was called hierarchy theory (Pattee 1973). The general picture of the theory, though, has developed a wide sphere of influence and, in a branch of its development, is reflected in the philosophical theories of emergence (see Barham 2000).

2. The fact that sociality is founded on the basic facts revealed by evolutionary biology and that society reflects and is actively influenced by and through this inheritance is not thoroughly explored in this article. Nevertheless, the biosemiotic framework suggested in this article takes account of such facts and has them as a central part of its logic of explanation.

Charles Sanders Peirce, one of the two fathers and early pioneers of modern semiotic theory, who was also the great semiotic influence on Morris, put this matter another way. He said that the world was profuse with *signs* if it was not completely composed of them (*CP* 5.448). Thus, he also saw the entire universe in terms of meaning structures. This is an uncontroversial statement in the context of life in which the world is set in a meaningful relation to the organism (or, rather, that the organism is relationally disposed in a meaningful way to its environment). The scientific study of this field is known as biosemiotics. Biosemiotics is the study of meaning and signification in the context of life and the environment in which life exists (see Uexküll [1940] 1982). This discipline crosscuts the nature-culture dichotomy in accounting for the structures and hierarchies of meaning in life systems in general. Since the human being is submerged in its own biology and environment as much as it is submerged in his culture and technology, biosemiotics proves to have much explanatory efficacy in explicating the connection between social ontology and the basic facts through the fact that social ontology is composed of social facts that are, themselves, social meanings; and that the basic facts are composed of physical, chemical, and biological structures of information (Pattee 1973) that are meaningful to the organism in the living (Emmeche 2010; cf. Brier 2003).

In this article, I will describe central aspects of Searle's social ontology after which I will frame these aspects of his social ontology within semiotic theory. Having social ontology situated in triadic semiotics places it in relation to the rest of the tradition of the triadic semiotic edifice that includes the facts of physics, biology, and chemistry. Social ontology within semiotics describes the kind of system of meaning society is and how this meaning comes about in terms of the basic facts, making the connection between nature and society explicable. Thus, what I hope to show in this article is the connection between the natural world and the cultural world through the linking of biosemiotics with social ontology by showing the connection of John Searle's status function in his social ontology to the general notion of meaning attribution within a general semiotic framework.

Searle's Social Ontology in Relation to Some Aspects of Semiotics

Searle summarized his logic of social ontology in the constitutive rule "X counts as Y in C" (1995, 2010). Illustrated by an example, this means that a specific kind of processed metal, X, counts as money, Y, in the context of a particular economy, C. The constitutive rule or formula x counts as y in c is the general structure that all human social institutions conform to and that all possible social

institutions are structured. Social institutions are a special kind of agreement, a social convention, and this formula is the logical structure of these agreements. Underlying these agreements is language (as opposed to signaling) and intentionality. Language itself is an intentional system because it is always about something other than itself and is never about itself. More clearly, it is because of the semantic structure of language—that language is about the employment and expression of concepts corresponding to some meanings logically independent of the language itself—that makes language an intentional system. Language is said to be the first and most fundamental social institution upon which the convention x counts as y in c is engendered and afforded in the human domain because social agreements, their institutions, and facts are dependent on the linguistic conventions found in natural language (Searle 1989, 2007a).

Searle shows how social phenomena are epistemically objective although they are ontologically subjective. By this he means that their ontological existence is subject to their being realized only through the minds of individuals—that is, they are truly subjective phenomena—but within the context of those individuals, those phenomena are objective facts (Searle 2007a). So, using his most favored example, that he has money in his pocket that is a twenty dollar bill is an epistemically objective fact although it is ontologically subjective. This distinction between the epistemic and the ontological aspects of epistemological metaphysics undermines most of the traditional debate around objectivity and subjectivity by providing a more sophisticated fine-grained metaphysics under which something is shown how it can be an objective or a subjective fact depending on the context of its description (viz., epistemic or ontological subjectivity or objectivity). In terms of social facts, we know them to be epistemically objective facts, as they have validity independent of any single individual's beliefs or intentions but, in the same breath, they are ontologically subjective as their existence is dependent on this collective recognition (Searle 2007a).

Searle notes how social facts and social institutions are dependent on "functions." But not all functions, he notes, are social, as some may be "natural functions."[3] A distinction needs to be made between the functions that are a result of the basic facts of physics, chemistry, and biology and those functions established on the basis of linguistic agreements. This distinction is what sets

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3. In *The Construction of Social Reality*, Searle claims that there are not true functions in nature, as functions imply normative purpose, but in his *Making the Social World*, he makes a different statement saying that we can find functions in nature but that the *status function* can only be found in the context of social reality. That is the basis of his introduction of "proto-status functions," which are the recognition of functions in nature.

apart functions found in the natural world and the functions of the social world. Searle discusses examples of this distinction such as the function of the heart as a function that is observer relative (Searle 1995, 19–20). The *function* of the heart being to pump blood around the body, he says, is a normative statement whereas the fact that the heart *causes* blood to flow around the body has no such normative commitment. Functions assume that there is a particular manner in which things are meant to operate.

The question is left open of how these assumptions are established or justified. Where do functions, in general, arise?

The answer is that functions are the result of systemic relationships. With the case of the heart, as it would be with any other organ, it is evolutionary development that has established the systemic relationship between the heart and the body that created the function of the heart to have the purpose of pumping blood around the body by aligning its causes to the needs of the body. In the natural world, natural mechanisms are what establish functions and purposes.

What about the social world? What gives money its function as money (because money, to be money, must have a function)? Searle explains that it is through collective intentionality—people sharing similar attitudes toward a particular thing—that things such as money assume their function. One must believe that the piece of paper one has is of a particular value in relation to the society in which one lives, and the shopkeeper must accept that the piece of paper one is handing him is of a particular trading value as well. The function of money is established on an agreement, on an institutional basis.

A more basic example of this latter kind of function is the institution of language: *cat* means "cat" because we agree for it to mean cat (viz., a feline creature). The first kind of function as found in the natural world Searle sometimes calls just that—a function—but the latter kind of function found in the social world is called a "status function" because of its special property of having had to be accorded some specific status to serve a particular purpose (e.g., the status of currency for particular kinds of printed pieces of paper, sticks, or shaped metal to be money or serve the function "money").

But, what is the connection between the two kinds of functions if they are ontologically independent of one another? How are they, then, "part of the same reality"? Searle's metaphysics within the context social ontology is not explicit on this point except to suggest that the answer to this question lies in our evolutionary history. From the perspective of semiotic metaphysics, reconciling the two classes of function is not so problematic or vague. The sign has a function, and it only has a function because it belongs to a system of signs. Once the equiv-

alence between signs and functions is realized, the nature of a function becomes vividly clear.

In short, under a single metaphysics for functions and status functions, we would say that every function is the result of a systemic relationship—be it a natural system such as the human body, or a social institution such as a language or an economy using money. How these two distinct ontologies are part of one reality within semiotic theory is that sign systems are established hierarchically and that each level of the hierarchy incorporates the former level by building onto it through being a constraint on the next level (Pattee 2009). The work of biosemioticians is an explication of this point (Kull 2010).

Rather than speaking of functions as "observer relative," as Searle does, we could rather say that functions are systemic properties or that functions are "system relative." There is a true sense to the statement that the function of the heart is to pump blood because it is part of a system in which it is to serve this purpose. Without the heart there to pump blood, there would be no body. It becomes both an epistemically and ontologically necessary function that the heart serves when analyzed at this level. But that it is an epistemically objective fact that the function of the heart is to pump blood, although it is an ontologically subjective statement, can also be made more clearly apparent in the talk about systems because the function is then understood to be a result of the system in which the heart appears by definition. The objective fact is that the heart serves the function of pumping blood in the human body; this fact is ontologically subjective because this epistemic fact exists only in the context of the system of a human body. Systemity reveals the greater generality of the relationship between observer relativity, implying ontological subjectivity, and epistemic objectivity.

Both individuals and collectives can impose functions on things. A rock can serve as a paperweight in an individual's intentionality; a woman can be a president through collective intentionality. Whereas the individual is the sole determiner of the function of the rock as a paperweight, the woman receiving the status function of a president can only be the result of a collective intentionality. Although the imposition of function is an important notion in social ontology, the realization that there are different kinds of functions is just as important in order to delineate these functions from institutional facts or status functions proper.

In this connection, Searle makes the point that some animals also have the capacity to impose functions on objects and asks us to think of birds' nests and beaver dams (2007a, 13). He says that this fact leads to the point that *all* func-

tions are observer-relative. Evolutionary functions, though, differ ontologically from our social status functions, Searle points out. The former, it is argued, is established by biological and hereditary fact, whereas the latter is based on linguistic agreements. In Searle's social ontology, this claim is defended on the grounds that natural language sets humanity apart from the sociality of the animal world by the use of natural language as the foundation on which functions in human social reality are based. We create status functions, functions that contain deontic powers (Searle 2007a). They are status functions because we attribute these functions not by virtue of an object's physical affordances but through the attitudes and beliefs associated and ascribed to that object by a community of speakers.

The most popular example of this principle is the case of money. It is not the paper on which money is printed, its size, nor what is printed on it that makes it money; rather, it is what function a community attributes to particular kinds of paper of a specific size printed in a particular way, for instance. In fact, money is not even defined by its material being. Money is a status function because it is a function dependent on shared beliefs by some community about a particular class of objects or things. That is why we can have paper money, treat precious metals as money, or even digital codes on the Internet and the information on the magnetic strips of plastic cards (see Searle 2010, 20).

Biosemiotics shows that is it not just some animals that have the propensity to impose functions on things, but that this propensity is a founding principle of life itself (even though an organism's actual imposition of function on things is distributed in different degrees in the natural and social world). Searle's recognition of functions in nature is just but another way to state the general biosemiotic principle of the general subjectiveness of systems, specifically life—that organisms attribute meaning to objects, and that they can and do assign functions to things that their physical composition does not necessarily entail (although those objects must be amenable to such exploitation); that is, the physical composition of the object must afford the function to which the object is put, or the function it is attributed, even if this use or attribution of function extends beyond the thing's physical attributes.

The Case for Collective Intentionality

It has been argued by some authors that there is no real collective intentionality in social ontology and the phenomena of collective intentionality are just the collection of individual intentionalities (Tuomela and Miller 1988). I argue, alongside Searle and others (Searle 1990; Ludwig 2007), that the reality of col-

lective intentionality is a primitive and irreducible notion that is fundamental to any account of social ontology. In other words, that "the foundation of any account of social reality is an account of the nature of collective behavior, and in particular collective intentional behavior" because "social practices and social interaction of any sort involve some form of collective intentional behavior essentially" (Ludwig 2007, 49).

Searle makes the point that the challenge is in having to show "how collective intentionality can exist in the heads of individual human and animal agents," while collectiveness being irreducible to individual intentionality. Meeting this challenge is in opposition to accounts in which collective intentionality is reduced to the additive effect of individual intentionality (Searle 2007a, 12; cf. Tuomela and Miller 1988). Searle argues that there is something ontologically distinctive that takes place when individuals do something together rather than the case where each individual is acting independently. Searle uses various examples to make this point, such as an orchestra playing a symphony and a football team making a pass play (Searle 2007a).

I will also illustrate this notion of collective intentionality by way of example. Imagine that you are part of a group of ten people who have decided to walk in a straight line down a road. The pace at which you walk is informed by the pace in which others are walking in this line: if they speed up, you speed up; if they slow down to a halt, so do you. You have the single intention to walk in a straight line with others, and it is true that each of the other individuals have the same intention. This fact disguises the fact that the phenomenon of our walking in a line is as a result of all of us wanting to walk in a straight line, which is not reducible to our individual intentions. It is only a grammatical anomaly, Searle would say, that it looks to mean the same thing to say that each of us want to walk in a straight line and that all of us want to walk in a straight line. But if we actually look at the behavior of us walking in a straight line together it will be seen that it is achieved only through coordination between members, each calibrating their own strides to those of others but also compensating for the differences in stride by others and themselves. This is not two ways of saying the same thing but, rather, it is making the point that the system is dynamical with influences flowing both ways: my speed influences the speed of the group, and the speed of the group influences my speed.

Whereas singular intentionality is generally construed as a unidirectional force from the agent to the world (viz., imposing one's will on a state of affairs), collective intentionality is a bidirectional force from the point of view of any participating agent because it both guides and restricts each agent's action

while, at the same time, being bolstered and influenced by each respective agent's own actions. In this context, individual intentionality is derivative of the group or collective intentionality.

As alluded to above, there is a logical reason why collective intentionality cannot be reduced to individual intentionality even though, admittedly, all there is are individuals in these cases. This is the fact that collective intentionality relies on a symmetrical relation between the intentionality of individuals. As demonstrated by Russell and by Peirce before him, symmetrical relationships are irreducible to their constituent parts, which in itself necessitates a realism about relations (Russell 1922, 56–59; CP 1.363).

Without collective intentionality, social institutions could not exist. All social institutions are founded on a symmetrical agreement (by which I mean mutual recognition), and this entails not only that people have to hold the same intentionality but that they must hold this intentionality fundamentally *in relation* to one another's intentionality. What I mean by this is that there is no sense to collective intentionality outside its relation to, and satisfaction by, another individual's intentionality. Collective intentionality cannot be satisfied by respective individual intentionalities but has its conditions of satisfaction defined by a symmetrical relationship between intentionalities.

For instance, that Senzo is now married requires collective intentionality to be true. He cannot, alone, believe that he is wed without being mistaken; it is a communal fact, and it can only be a communal fact, that he is married. And so it is with being a member of a political party, a teacher, or money. Collective intentionality is that form of intentionality that is fundamentally relational to the intentionality of others, whereas individual intentionality is sufficient in and of itself as it relates to the world.

Not all symmetrical relationships satisfy the conditions of collective intentionality, although all instances of collective intentionality must satisfy the symmetrical relation between intentionalities.[4] An example of this is the fact that I am a biological sibling. This is a fact established by biology that, although symmetrical because to be a sibling I must have a biological sibling or siblings to whom I am a biological sibling, it does not satisfy the condition of collective

4. A reviewer pointed out that Searle argues that people are not fully aware or "fully intentional" about their role in maintaining social institutions. This means that some people act in a more intentional manner than others. The reviewer states that this argument implies that if there is a relational dependency of "we-intend" on individual intentionalities, then the degrees of intentionality are of an asymmetrical rather than symmetrical type. This comment is beside the point that collective intentionality is dependent on the individuals holding the same *kind* of intentionality irrespective of the *degree* of intentionality. So, although the degree of intention may be asymmetrical, the dependence relation itself—the kind of intentionality that must be held—is symmetrical in collective intentionality.

intentionality. It is a biological fact and not an institutional one. On the other hand, if there is a child adopted into the family, it can be recognized as a sibling by social convention in spite of the biological fact. It is an institutional fact that an adopted child becomes the sibling of its adopted parents' children. The symmetrical relation is established on the basis of an institutional fact, on the basis of a status function. Even if the adopted child did not know it was adopted, that the child is intended as a sibling establishes the symmetry of the sibling relation regardless of the biological fact—namely, it is still a fact of collective intentionality that the child is a sibling.

Collective intentionality is defined by a symmetrical relationship between individuals established on a social basis. Because the institutions of society are based on natural language, we should say that collective intentionality is a linguistically symmetrical relationship between individuals and their intentionality.

Society is dependent on the use and rules of language insofar as language facilitates the deontic aspects of social reality. The rules of the institution of language exist on the global level and constrain the behavior of individuals not because there is necessarily an understanding of grammar and syntax on the part of the individuals but because that is the convention which the coordination game of language use has settled. In other words, the rules are the result of an agreement or conformity (arrived at through the coordination game of use) and that then these rules guide the behavior of the individual as the rule sets the norm or convention that the individual follows. This is not merely the case with language, but with social institutions in general because all social institutions depend on "rule governed" behavior. The use of money does not depend on the internalization—conscious or unconscious—of the theory of money: one simply learns how to use money through imitating the behavior of others engaged with and within the institution; and it is in this way that one personally acquires the habit to act in a manner conforming to the rules of the institution of money.

In a breath: one learns how to speak English and one learns how to use money, but this does not necessarily imply, though, that one therefore understands or has internalized English grammar or monetary economics when one's behaviors "conform to the rules of the institution." In the same way as we can speak of "language games" we can speak of the game of society.

Searle argues, on the rule-governed nature of society and language, that "we should say, first (the causal level), the person behaves the way he does, because he has a structure that disposes him to behave that way; and second (the functional level), he has come to be disposed to behave that way because that's the way that conforms to the rules of the institution" (1995, 144). The point

Searle is making is that it is not the rule that is acquired first and then that the performance is made in accordance to that rule; rather, the performance is first made through imitation or whatever affordance would so dispose the individual to act in such a way (i.e., evolution), and then that this behavior is regulated by co-ordination to meet the conventions of the institution (which is the set of rules that we call the grammar and syntax of language in this instance). This allows individuals oblivious to the rules of an institution to act in accordance with those rules anyway—without having consciously or unconsciously internalized the rules. Analogous to the lesson we have learned from dynamical systems theory, we see that order, such as a grammar or a fully fledged language with rules and structure, can emerge at a global level to constrain action—the speech act—on the local level—the speech patterns of individuals (cf. Elman 1995).

This point has been made in, and is supported by, evolutionary theory and linguistics from the empirical stance (Scott-Phillips et al. 2011, 43). The general and vague sounding "dispositions" that Searle speaks of are given explicit form in this structure. What disposes one to speech acts and, in fact, enables these linguistic performances are biological and cognitive affordances: the diaphragm, the structure of the larynx, the tongue, and so on, and the information-processing structures of the brain-body complex—all of which exploit developments in the evolutionary history of man out of which signaling behavior and language have emerged (Deacon 1997; Christensen and Chater 2008). Since we are already disposed to communicate because of our evolutionary history, we will communicate; how we communicate, though, will be conditioned by the community of speakers that we are born into and interact with as speakers. For communication to be effective, a system of correspondence of meanings through the use of some convention needs to be established between the community of speakers. This order is established in the individual by the use of language in the community in which the individual is attempting to be a speaker by imitating these other users, and these users as a collective are the rule to which individual users thereby conform or attempt to conform.

It is important to understand, in this respect, that the constraining role of language is on the global level. Its rules are only established at the level of the community of speakers. The global level is only as a result of the interindividual dynamics of use, namely: the rule is only established through the development of a norm of use.

Undermining and contrary to the debate between Searle and the cognitivists (cf. Hershfield 2005) is a line of argument that views the development and existence of a language as analogous to that of an organism under selective pres-

sure. As Christensen and Chater argue, this selective pressure is our capacity for illocution that is established by evolutionary and cognitive development to which language performances must conform and for which different languages compete (Christiansen and Chater 2008)—an insight developed a decade earlier in Deacon's *The Symbolic Species* (Deacon 1997) in the semiotic tradition and further refined and developed within the biosemiotic tradition (Stjernfelt et al. 2012). We are the environment in which languages attempt to persist. What is important about this point is the justification of an obvious truth: that we are the rule makers of languages, that languages do not impose their rules from above on humanity but rather that the rules of language are created from below through a dynamical consensus by the language users themselves. It is only at the individual level that the rules of language, the rules that are the social institution of language, play a constraining role. This is just but another way of saying that there are no fixed rules in language and that the rules that we speak of are only ascertained through analysis of a specific norm of use.

This constraining role of language only has purchase because the institution of language itself is recognized by a collective—that is, languages are systems of collective intentionality. As Locke pointed out, people can use words however they please to mean whatever it is they want those words to mean. That is the extent to which individual intentionality works in relation to language: it can establish only a "private language" or a personal code. But in order that we understand one another—that we actually communicate with one another—requires that we share the same attitudes and connections to words and phrases in how they apply to the world or a game. That is, we must have a collective intentionality about speech acts.

Language, as the foundation of all social institutions and social facts, implies the presence of collective intentionality throughout the various levels and orders of society and implies its presence in the logic of social ontology. Nevertheless, the point must be proved by actual instances of the presumption that collective intentionality is already implied by the founding of society in the practices of natural language.

As we have seen, the reason why collective intentionality cannot be reduced to individual intentionality is because the "notion of a we-intention, of collective intentionality, implies the notion of *cooperation*" (Searle 2002, 95). This explains why individuals can have identical beliefs, goals, and so on—namely, individuals could have identical intentional content—but not have a collective intentionality simply because they are not "cooperating" with one another. There must be dependence between the two intentionalities for them to be a

collective intentionality. The principle here is that the intentionality of one individual must be in relation to the intentionality of another individual such that it is *their* intentionality at play. That we are dancing together is satisfied by cooperation—I can dance alone or you can dance alone, or we could even be dancing at the same time. What makes it a fact that we are dancing together is that we dance in relation to one another. As I have argued, collective intentionality has the form of a logically symmetrical relationship by the kind of intentionality being symmetrical through being dependent on the mutual (bidirectional) satisfaction of the intentionality.

There is an ambiguity in what is meant by cooperation. In ethology, the notion of cooperation is often construed as the performance of mutually beneficial behaviors among a group of organisms (Dugatkin 1997). In contrast to this, when we speak of cooperation in a cultural context, we mean that there is an agreement between particular individuals—a linguistic agreement, as Searle (1989) argues. This agreement is a "speech act," and so may also be an act symbolic of linguistic semantic content. For instance, if I stop by the side of the road and help you push your broken-down car, I need not speak to assert my intention, but my action in itself is a declaration of my intention to help you push your car. The conceptualization of natural language as the foundation of social facts needs to be extended to encompass such extralinguistic content as part of natural language, and this is exactly what Searle's theory of speech-acts aims to do. It is through such an extension that we can identify singular and collective intentionality by the presence or absence of agreements in happenings composed of extralinguistic agreements—for example, when I nod my head in response to a question when you look to me for an answer, or by me tugging at your arm to signal you to stop and take note of something without having said a word.

In the same way in which Searle established a taxonomy of illocutionary acts (Searle 1979), semiotic theory in the Peircian tradition has established a taxonomy for communication systems in general (Deacon 1997). Illocutionary acts, in the semiotic taxonomy, fall into the "symbolic" or conventional class of signs, which includes linguistic forms of meaning. Importantly, in addition to symbolic illocutionary acts, we have, for Peirce, "indexical" and "iconic" signs. To illustrate these categories: the location of a fire can be described in words, in which case I would only be using the abstractly symbolic signs of language which are those words and phrases I would use for this description; I could draw a map of where the fire is or produce a photograph of the area, in which case I would be employing iconic signs which are those pictorial representa-

tions of the fire's locality; or I could just point out the smoke emanating out of the neighbor's window to make the point, in which case I indicate the presence of the fire through the indexical sign of the smoke coming out of the window by making you follow the indexal action of me pointing in that direction. The semiotic taxonomy is useful in recognizing other avenues in which agreements can be made through these means and methods of communication (e.g., I could point out the smoke, grab your hand, and run, in which case running with me is an implicit agreement to run away). Semiotics provides a sophisticated set of tools to identify collective intentionality through all avenues of communication between individuals, encompassing the full extent of the purely linguistic and the extralinguistic modes of communication in the same spirit of Searle's speech-act theory. The advantage of semiotic analysis is the taxonomy of communication it provides over and above Searle's taxonomy of illocutionary acts.

Throughout the first three sections of this article, I have discussed central aspects of Searle's social ontology and have outlined some connections between his theory and the triadic semiotics of the Peircean tradition. In the last two sections of this article, I argue that there is actually a significant equivalence and connection in the logic of Searle's social ontology and that of semiotics. What makes this connection significant is that it reflects and reaffirms empirical truths about the social world that are revealed by both systems of analysis while bringing together independent discoveries of the perspectives. I argue for the grounding of Searle's social ontology within an explicitly semiotic framework because of the fact that the triadic semiotic metaphysics carries through its metaphysics an uninterrupted line of explanation from culture into biology and physics and back from biology and physics into culture. This is an important line of explanation to establish if we are ever to describe and explain how it is we live in one world.

The Fundamental Connection of Searle's Social Ontology with (Bio)Semiotics

In the outline of the general question, the semiotic analogue is intuitively clear. I will develop this superficial analogue before drawing the deep structure of correspondence between social ontology as construed within Searle's philosophy of society and triadic semiotics (viz., biosemiotics informed by Peircianism).

The first half of the general question, "How can we reconcile consciousness—subjective, qualitative, first-person consciousness—with the basic facts?" (Searle 2007a, 11), is the same question asked by biosemioticians about the subjective reality of the higher orders of life. Biosemiotics deals with the subjective, qual-

itative reality of natural living systems—it is "a project whose goal [is] nothing less than a scientific understanding of how the subjective experience of [the] organism [is] realized differently by each species' particular biological constitution" (Favareau 2010, 43). In other words, it is concerned with the general problem of how the subjective life-experience of an organism exists as an objective phenomenon in the domain of science. In Searle's terminology, the biosemiotic project would be the establishment of the epistemically objective science of meaning as it relates to organisms. Importantly, biosemiotics opens up a clear line of development from the origins of life to the fundamentally cultural domain of meaning.

The second half of this question—that is: How can "we reconcile rationality, language, free will, ethics and aesthetics with the basic facts?" (Searle 2007a, 11)—is a subject which has not had much explicit attention within biosemiotics partly because of the fact that rationality, language, free will, ethics, and aesthetics exist on a different ontological order than the basic facts that comprise the natural basis of existence (which is the subject of biosemiotics). But those aspects of the human being are extensively addressed within cultural semiotics that connects with the traditions of sociolinguistics, anthropology, and the humanities (Eco 1984). Notably, cultural semiotics has its foundations within the semiotic scaffolding provided by biosemiotics—that is, cultural meaning is afforded by biological systems of meaning (Hoffmeyer 1993; Pattee 2009).

Although Searle admits the hierarchical nature of this arrangement through his recognition that subjective and social phenomena are built upon and grounded within the "basic facts," there is no explanation of this hierarchical dependence on the basic facts in his social ontology. The conceptual space in which he works is relatively independent, dealing specifically with human intentionality and social institutions. Semiotic analysis in the triadic and biosemiotic tradition is explicitly founded on hierarchical structures that are ordered networks of systems. Part of general semiotics' purpose is to make these connections between different systems explicit—across cultural phenomena, into biological reality, and down into the basic physical facts of the universe (Hoffmeyer 2010, 590).

How is this possible? Let us first look at this in the context of the social world. To say that some particular thing, x, counts as something other than itself, y, in some specific context, c, is a semiotic statement describing a "codified" relationship between a sign, x, the symbolic meaning the sign engenders, y, within some system of signs, c. Searle's formula of constitutive rules as he exploits it, though, is a formulation of the relationship of signs in the social domain. From this vantage point, both semiotics and Searle's social ontology show how the

functional apprehension of some particular thing can become further layered in increasing orders of complexity. Searle gives the example that he may be born a citizen of the United States of America, become a voter on grounds of his citizenship, as a voter become a member of a political party, and hold some particular office thereafter (Searle 2007a, 15).

In general, a symbol within one context may be apprehended as a sign in another in which the symbol would take on a higher order symbolic meaning. For instance, a particular cut of the flesh of a fresh carcass (x) counts as meat (y) in the context of human society (c); that very piece of meat (x), though, counts as a steak (y) in a particular cuisine culture of human society (c). When we are at the supermarket, we do not see packets of flesh—we see cuts of meat, and our thinking and reasoning about the flesh we encounter is in terms of it as meat and only indirectly as part of a carcass if that aspect of the object is even considered at all.[5]

This is a practical manifestation of the hierarchical order of the sign system. We can generalize this notion by saying that in the social world we apprehend a sign, x, come to understand the symbolic meaning the sign engenders, y, within some system of signs or code (context), c, which is some culture or social institution. This is analogous to the upward iteration of status functions Searle describes, but, importantly, just as easily demonstrates the downward iteration of symbolic meanings.

Searle described this as the "counts as" structure that logically iterates "itself upward more or less indefinitely, and spreads laterally across many different kinds of institutions" (2007a, 15). Within the semiotic perspective, this logical iteration not only extends upward indefinitely but also extends downward below the sociological to the biological, chemical, and physical. This theoretical feat is achieved by biosemiotics through explaining how life comes about in terms of codified relationships between systems and how the complexity in meaning in the world is accompanied by the increasing complexity of forms. Furthermore, biosemiotics delineates the different kinds of meaning structures that comprise the different levels of complexity from the endosemiotic transfer of information between cells and organs through molecular exchange to the

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5. This division is so complete that the urban legend persists of individuals questioning why hunters kill for meat instead of purchasing it at a shop where it is "made." Whether this is a fabricated story or not, the point is that the sign is already taken symbolically when apprehended as a further symbol—that cuts of meat are already considered meat when apprehended regardless of the fact that meat is an offcut of muscle from animal carcasses. That connection, though, must be made through a different hierarchical level within the system of signs. The hierarchies operate independent of one another in this sense, although they may be completely dependent on one another. This is because the dependence is a contingent and epistemic one, and the independence is an ontological and logically intensional one.

ethological phenomena of signaling (Uexküll et al. [1993] 2010). Once we advance from signaling into the semiotic scaffolding of natural language, we then reach the level of complexity that is of present interest, namely: the signs of society. The system of signs of the social world retain the logical form x counts as y in c, but are ontologically distinct from the physical and biological signs out of which social signs emerge—that is, the sign systems of the basic facts are ontologically distinct from the social system of signs. Nevertheless, there is a continuum between these levels of signs demonstrated by the upward and downward iteration of sign systems. It is in this way that we know that the words of language are part of the same world as electrical or chemical signals. The journey through the basic facts to social phenomena that Searle assumes is possible can actually be made (by theoretical standards, at least) through semiotic analysis.

What is special about the compatibility of Searle's social ontology with semiotics is its establishment through the work of two different traditions that have conventionally been seen to be working at divergent purposes. The view from the doctrine of signs of this social ontology provides a deep reconciliation of the "two cultures." It connects the ethological, anthropological, sociological, and traditionally philosophical investigations of man in the context of language, art, and the whole of culture, as in Searle's ontology, to the ontology of natural reality by exploiting the metaphysical connections of the hierarchical structure of reality as revealed within semiotics. This is anthroposemiotics proper: the full conception of man as both a sociocultural being along with being, at the same time, a biological creature connected to the whole of nature out of which the human has come.

In spite of the logical equivalence of Searle's social ontology and the semiotic system of signs in relation to culture and society, it might remain important that we revert to some of the philosophical nomenclature introduced by Searle in order to highlight the ontology of the kind of signs we are dealing with when we look at reality from this resolution and focus.

What I would like to bring to attention is what Searle calls "status functions," which are the attribution of symbolic functions to objects and also to processes.[6] It is an obvious matter that we attach status functions to our own artifacts because our construction of artifacts presupposes the fact that we are making those things for some particular purpose. The meaning that they are to

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6. More generally, we can say that status functions can apply to processes as well—even if physical. For instance, cultural attitudes toward the erupting of a volcano may attribute a status function to the eruption of the volcano.

represent or do represent is the very reason for their construction and creation in the first place even if we choose to change the function of the object at some later stage (e.g., a hammer is made to hammer in nails, but it could also be given the function of a murder weapon). This extension to the notion of status function is that of our ability to attribute cultural meanings to even natural objects and processes. This is to say that status functions are just the anthroposemiotic-level manifestations of biosemiotic meaning attribution.

Such an understanding of the status function captures not only the customary issues of sociology current today (e.g., gender, race, morality, ethics), but deals with a broader class of phenomena connectable from anthropology into animal behavior from whence status functions proper, as Searle discusses them, have come (cf. Searle 2007a and Sebeok and Danesi 2000). On the anthropological level, the cultural attitudes toward a natural event attribute a status function to that particular natural event. An "act of God" could just as easily be seen, in this context, as a message from, say, the spiritual world. In such a case, a status function has been attributed to a natural phenomenon by attributing to the phenomenon a cultural significance or a social meaning. On the ethological level, we can recognize proto-status functional objects in the world of animals from their artifacts and collections of goods (cf. Sebeok and Danesi 2000, 142), or even in their ornamental traits that evolved solely for the purpose of displaying such things as the status of an organism within its group (Zahavi 1975). This does not so much blur the line between social reality as explored by the philosophy of society as it makes more explicit the evolutionary connection of human society and the meanings thereof to animal society and the meaning found there within.

As Searle points out, there is a fundamental difference between human and animal societies based upon the role and kind of sign systems employed by animals in general as opposed to human beings (e.g., Searle 2007a). Animal language is structurally dissimilar to natural language and would better be called signaling rather than language proper (Sebeok 1962). Signaling is an evolutionary-based kind of communication between organisms that is apprehended on the basis of biologically determined cognitive processes encoded into a convention by the culmination of hereditary developments and through the faculty of learning or of acquired behaviors in the development of the organism (Searcy and Nowicki 2005). Language (viz., natural language), on the other hand, is a socially based learned capacity that is not merely apprehended through the biology like most animals but must be learned to be understood through the assimilation of cultural conventions that are what informs the language user of the language in question the meaning of its expressions. It is true that in

nature some creatures learn parts of their "language" mimetically, such as with some birds that learn specific dialects of their song from their parents and other local conspecifics (Mountjoy and Lemon 1995; Sebeok and Danesi 2000, 23), or the extreme case of the great apes learning to "speak" in sign language (Patterson 1981). Nonetheless, this is significantly different to the human kind of learning of language because it is not merely the learning of a signaling dialect or the assimilation of a few abstract symbols into one's commutative repository but what sets human language apart is the learning of a thoroughly abstract representational system (Terrace et al. 1979; Sebeok and Danesi 2000, 19, 165; Pattee 2009, 299).

It is in this sense that the symbolic conventions of the natural world and the cultural world must be differentiated and delineated through this fundamental ontological difference. The term "status function" serves this purpose of unambiguously delineating cultural conventions from natural conventions, ordinary functions from status functions.

Now, it should already be clear that the status function is based on a notion of intentionality. Throughout the natural world, we encounter intentional systems. But the intentional system that is found in human society is one peculiar to the rest of the intentional systems found in nature. It is the social and mental basis of these intentions—for example, promises, beliefs, volitions, and the like—that separate this kind of intentionality from all other intentional systems. That we are able to make promises and the like is afforded by the structure of natural language, and Searle makes this point by showing that our intentionality is dependent on the speech act (Searle 1989): in short, the peculiarity of the human intentional system is dependent on our exploitation of natural language.

Society is afforded by natural language; the deontic aspect of society is a human intentional system. This is because the establishment of meaning in society is arbitrarily abstract although conventionalized. What is meant by abstract is that the symbolism is an idealization of some aspect of some particular thing and that it is arbitrary, as there is no necessary connection between the symbols of society and that which they are made to represent. It is conventional as it is an established mode of behavior or use of signs. Conceivably, the symbols used could be replaced by other symbols to serve the same meaningful functions. Nonetheless, our systems of representation are not absolutely arbitrary because their development is out of the natural conventions of signing in our evolutionary history. Many aspects of language connect with the world they are abstractly describing in quite a direct fashion by a literal mimicking of the natural signs or by iconic and indexical representation (Deacon 1997; cf. Sebeok and

Danesi 2000) making the connection between the code and its object nonarbitrary and sometimes even implicated by the rules or pattern of abstraction built into the code by the constraints of the code maker—the agent of signification or the thing to which something is meaningful, which is, in this case, the human being. As a practical matter, our symbols have developed on a gradual basis from mere signaling to their far-removed symbolic representational state that seems in its present state so arbitrary.

Once this "arbitrary" mode of abstract representation was established, a whole new manner of accessing the world developed that became the primary medium mediating between the man and the world. As such, after the basic semiotic foundations were in place—the "basic facts" of chemistry and biology— the semiotic abilities developed thereafter were disjoint from their historical and biological origins through their mode of operation. We know, for instance, that a Japanese infant, historically and biologically of a Japanese lineage, can easily be raised in rural China and become, by culture and language, Chinese. The cultural domain at its fundamental levels does not care for natural history, as it takes a particular level of semiotic sophistication for granted. Upon it, any culture may be installed. Searle recognizes this general fact, but what becomes problematic about Searle's approach is that it becomes unclear how, exactly, his ontology connects with the natural world even though it is admitted that society and its accompanying social ontology emerge out of the natural order of things.

Semiotics and the biosemiotic approach, on the other hand, although admitting the social world the same kind of autonomy, make explicit the connections between the social world and the natural world. The biosemiotician Jesper Hoffmeyer makes this point when he explains that, in man, "the natural history of intentionality seems to have reached a threshold level, where the social and cultural environment attained an autonomous kind of creativity that irreducibly interacts with, and largely—but never completely—determines the horizon inside which the personal intentionality of human beings exhibits itself" (2012, 114). He goes on to explain: "Unlike biological creativity (organic evolution) the history of cultural creativity is deeply dependent on semiotic scaffolding right from the beginning. Language itself is of course a powerful semiotic scaffolding tool, allowing for oral transmission of cultural experiences in time (from generation to generation) and space (from group to group)" (114).

Biosemiotics, in essence, serves to complete the naturalization of Searle's social ontology by establishing an explicit connection with the facts of biology. This is done through the founding of social ontology within triadic semiotics.

Triadic semiotics, as construed in the metaphysics of the biosemiotic disciplines, is hierarchical but retains the same logical form throughout its levels and orders. Biosemiotics shows how sign systems from cell communication to signaling behavior (and even language) are triadic and hierarchical (Uexküll [1993] 2010; Kull 2010; Deely 2007).

Importantly, Hoffmeyer points out the fact that language is a semiotic system. The explicit place of language in semiotics has a long history, from Locke who coined the term "Semeiotike, or the doctrine of signs" at the end of his *Essay concerning Human Understanding* ([1690] 1975) to Saussure's *Course in General Linguistics* ([1916] 1959), which is a landmark work of linguistic, anthropological, and cultural semiotics, along with the Tartu School publication of the *Theses* (Ivanov et al. 1973) and the work of Umberto Eco (1984) in cultural and linguistic semiotics. Since Searle's entire system of social ontology is founded on natural language and its use, and natural language has been shown to be a semiotic system of sign exchange, Searle's system rests on semiotics itself. The recognition of this semiotic foundation has the advantages of a direct connection, and an extensive explication of that connection, to the basic facts when developed upon a biosemiotic foundation.

Central to the argument of social ontology is the notion of "rules." For one, language is recognized as a system of rules. Speech acts, themselves, are seen as rule-governed behavior (Searle 1974, 16). Rules govern behavior not because they are the necessary cause of the behavior, but because rules are constraints on behavior and in this way are causal influences on behavior (see Juarrero 2002).[7] This is true not only in the social context in which we act in accordance with what we are allowed and not allowed to do by acting within some boundaries that are the rules of society (or even in the transgression of those rules), but also in ethology and the natural behavior of animals in which codes of behavior constrain the choices open to be acted upon. This is the broad notion of affordance—specifically of social and natural affordances in this case (Withagen et al. 2012). That these are both affordances but are of ontologically different kinds of affordance is best delineated through the concept of semiotic niche. The semiotic niche is the world as it is to the organism—the totality of action possibilities (including cognition and mental life) open to the organism—determined by the situation and construction of the organism (Hoffmeyer 2008). In the natural world, this is the ecology in which the organism finds itself inclusive of its

7. If an action will necessarily be made, whatever limits action possibilities is, itself, a causal influence by increasing the probability of what it has not limited to happening through the elimination of other possibilities.

biological propensities; in the social world, this is the society and culture one finds one's self within and the kind of capabilities (physical and mental), beliefs, attitudes, and general dispositions (intentionality) one has.

The importance of the distinction between rule-governed behavior and nonrule-governed behavior in social ontology is that in the case of social behavior a rule may be the reason for action that counts, also, as the explanation for the action by this causal relation. This is because the rules of the social world contain deontic commitments such as those within the notions of rights and responsibilities. The obligation to pay tax will result in the action of the individual paying his or her taxes, or the obligation may result in that individual being fined or put in jail for not paying taxes. On the other hand, the rule that the weaker male in a fight between two lions should or will concede and retreat is only a so-called rule because only the lions that do so are the ones that generally survive to perform this behavior to the extent that this behavior has become the norm among lions. The rule is the *reason* for the phenomena in a fundamental way in the social world, whereas the rule in the natural world is a description but not the true explanation of the action (because the explanation for such action in the natural world is an evolutionary and developmental one). In the same breath, it is argued that "we can, in principle, characterize any counterfactual supporting regularity as a case of rule following. Thus, a rock in free fall can be characterized as following the rule (computing the function) $S = (1/2)\, gt^2$, though such a characterization is clearly metaphorical" (Hershfield 2005, 273). Such regularities in nature, the laws of nature, have the same structure as rules proper but are descriptive (and can only be physically explanatory under a general theory) rather than being prescriptive (which is explanatory by being a rule). Rules, in the social context, always prescribe a course of action and so act as a constraint that causes particular behaviors to occur or not to occur (e.g., you should drive on the left-hand side of the road in South Africa or you should not kick the ball when it is outside of the line when playing soccer), whereas the "rules" of the natural world are descriptive of regularities by telling us how things generally occur, which is a state of affairs not caused by the 'rule' but rather by the mechanism that underlies the rule, making the use of the term 'rule' for natural systems metaphorical. The important point here is the ontological formation of explanation: the explanation of natural phenomena is ontologically physical and social explanations are intentionalistic.

This difference is a significant one. Searle himself recognizes this difference between human and animal societies (1989, 1995, 2002, 2007a, 2010), and I have

just extended this insight further to biotic and abiotic factors. Even so, regardless of these differences, the connection between the ontologies needs to be made in order to show how it is that they truly exist in one reality. Some of this explanatory work can be achieved by an extension of Searle's social ontology, but its limitations are that the terms of his ontology apply only to the social domain and have import only within the social ontology he created them in. Within the tradition of semiotics, the connection between physical systems, biological systems, and cultural systems—at least insofar as how physical systems can become informational systems such as in the biochemistry of life (Barbieri 2003; Emmeche et al. 2005), how molecules can become messages (Pattee 1969; Emmeche 1999; see also Pattee 2009), how life is an "autopoietic dynamical system" (Uexküll [1993] 2010), and how from life we further signify and create ethological, and build up to cultural, meaning (Hoffmeyer 1993; Sebeok and Danesi 2000; Deely 2007)—this connection has already been made.

The Immediate Significance of This Connection

Biosemiotics makes a transdisciplinary connection between physics, chemistry, biology, ethology, anthropology, and sociology through a uniting metaphysics within the domain of biosemiotics (Hoffmeyer 1993; Kull 2010). Biosemiotics has been the great metaphysical unifier of disciplines in the life sciences, creating interdisciplinary and transdisciplinarity scientific domains (Anderson et al. 1984). Saussurean semiotics has been a dominant tool of analysis in the arts, bringing the humanities together in a structuralist mode of description and explanation, but traditional philosophy continued to be favored in the social sciences. In the development of these currents, though, it has come to light, first, that Saussurean and structuralist semiotics are actually correctly construed triadically by including the constructor or reader of meaning (Peirce's interpretant) to the dyad of Saussure's signifier (expressive form) and signified (meaning); second, which is the subject of this article, I have argued that a tradition within analytic school philosophy (viz., the work of John Searle) converges with semiotic practice under a single metaphysical system.

Social institutions are a special kind of agreement, a cultural convention, and Searle's formula is the logical structure of those agreements. Affording these cultural agreements are language (as opposed to signaling) and intentionality. Language, itself, is an intentional system because it is always about something extrinsic to itself and not about itself. Because of the semantic structure of language—that language is about the employment and expression

of concepts corresponding to some meanings logically independent of the language itself—makes language an intentional system and, echoing the finding of Searle (1995), it is the first and most fundamental social institution upon which the convention x counts as y in c is engendered and afforded in the cultural domain.

The connection between semiotic theory and the philosophy of society established by Searle is made explicit by drawing out the equivalence of the elegant logic of the two metaphysical systems in the context of his social ontology. To say that some particular thing, x, counts as something other than itself, y, in some specific context, c, is a semiotic statement describing a codified relationship between an object x, the sign (i.e., meaning) that the object takes on, y, in a particular context, c. This is the most basic definition and structure of meaning and meaningfulness—the basis for the triadic semiotic representationalist framework. Barbieri (2008, 33) reiterates this definition in the context of code biology: "the following is a necessary and sufficient condition for something to be a semiosis: A establishes a *conventional correspondence* between B and C. In this relational characterization of semiosis, A is the *Adaptor* [viz., the code maker], B is some object, property, relation, event, or state of affairs that is *taken* as a *sign* and C is the *meaning* that A assigns to B."

The notion of meaning only receives its sense from there being a subject to which meaning relates—that is, something is meaningful only if it is meaningful to some other thing. That is why Barbieri states that a meaning is made up of a code, a world to which the code corresponds to, and the code maker who encodes this meaning and to which the code is meaningful to by this correspondence between the code and the "object-world" (2003, 5). So, meaning and codes presuppose a code maker—namely, meaning presupposes something to which something else is meaningful.

The term "code" may seem to create manifest contradictions in its use, but that is because the term is ambiguous and refers both to a sign within a system of signs and to a system of signs itself. For instance, *dog* is a code for a particular creature in that the term corresponds to a particular thing in the world; furthermore, the English language is also a code as a system of signs to which the sign (symbol, word) *dog* belongs. Barbieri seems to appreciate this ambiguity and its implications although he does not explicitly mention it. What he does mention, though, is more than sufficient to make this point. He says:

> Words do not, by themselves, have meanings. They are mere labels to which meanings are given in order to establish a correspondence be-

tween words and objects. Because of this, it is often said that meanings are *arbitrary*, but that is true only if they are taken individually. The words of a language may seem arbitrary if taken one by one, but together they form an integrated system and are therefore linked by community rules. Codes and meanings, in other words, are subject to collective, not individual, constraints. Codes have, in brief, three fundamental characteristics (Figure 4.1):

(1) They are rules of correspondence between two independent worlds.
(2) They give meanings to informational structures.
(3) They are collective rules which do not depend on the individual features of their structures. (Barbieri 2003, 94)

Rather than speaking of codes in general semiotics, we rather speak of signs (e.g., stimulus, coo, ballad) and systems of signs (e.g., zoo semiotics, biosemiotics, social semiotics). The explicit talk of signs does away with the confusion and ambiguity of what a code is, since when one is speaking of a sign, it is always implicit that the sign is part of a system of signs and subject to the logic of that system of signs. Nevertheless, this connection to Barbieri's "code-biology" explicates and empirically demonstrates within the metaphysics of semiotics and the empirical study of biology the continuum of chemistry to biology from which point biosemiotics takes us from biology into culture. Following Searle, one can thereafter, on this affordance, justifiably explicate the cultural domain of existence of social institutions and their facts. Within this semiotic metaphysics, we can begin to see and explain how the whole of reality, or at least life and the meanings produced thereof, truly belongs to one world.

Conclusion

Semiotics is the tool that realizes Searle's aim to reconcile all the different aspects of reality as part of one world. This is not to say that all the problems of chemistry, physics, and biology are solved—as Searle's system assumes in order to explicate the ontology of the social world—but that given all that we know about the world, we are able to show how each piece of the puzzle of reality relates with the other.

What is special about the equivalence between semiotics and Searle's social ontology is its establishment through the work of two different traditions that have been seen to be working at divergent purposes. As has been argued numerously in the literature, the view from the doctrine of signs provides a deep reconciliation of the "two cultures" (e.g., Hoffmeyer 2012; see also Brier 2003).

Making this connection between Searle's social ontology and the metaphysics of semiotics does just that. Semiotics builds up its case through naturalistic means in the biological and natural sciences in the biosemiotic domains, drawing out the different ontological orders of reality from physical reality to ethological and basic social reality—all of which are reconciled into a single world though a hierarchical metaphysical system. Searle's social ontology begins at this very juncture of nature and society—of explicating the conditions in which human reality exists upon the humus of the basic facts of the universe—the basic facts that are explicated by semiotics within the domains of biosemiotics.

In this article, I have shown how situating Searle's social ontology within semiotic—specifically, biosemiotic—metaphysics makes connectable all the disparate aspects of reality (at least, in the context of life) in accordance with the ultimate purpose of his philosophical program, which is something, I argued, that cannot be achieved on the basis of Searle's own social ontology because it takes for granted the very connection that it rests upon and which is what needs to be explained.

To this end, I have described the central aspects of Searle's social ontology and have framed his social ontology in semiotic theory. I explained how having social ontology situated in triadic semiotics places it in relation to the rest of the triadic semiotic edifice that includes the facts of physics, biology, and chemistry as exemplified in the work of Barbieri (2003). Social ontology situated within semiotics describes the kind of system of meaning society is and how this meaning comes about in terms of the basic facts, making the connection between nature and society explicable.

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