

The Social Nature of the Functional Nature of Language

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I. INTRODUCTION

The *notion* of representation is common to all domains of cognitive study. I wish to argue that there is a standard conception of the *nature* of representation that is common to all these domains, that that conception is radically flawed, and that the consequences of that error ramify throughout psychology—and philosophy. In standard conceptualizations, perception encodes information from the environment, cognition transforms and draws inferences from those encodings (i.e., normatively generates new encodings), and language encodes such mental contents into speech for transmission to, and decoding in, other minds. I will argue that this entire encoding framework is wrong, indicate an alternative, and discuss some implications of this alternative, primarily with respect to the later Wittgenstein.

The discussion of this alternative will focus primarily on language, although it has rather extensive implications throughout the whole range of psychological processes (e.g., Bickhard & Richie, 1983). Roughly, I wish to propose that language is a social resource for the creation, maintenance, and transformation of social realities. That language is social in nature is not a novel observation, nor is it novel that utterances affect social realities. My contribution will be to present a detailed explication of those commonplace facts, and, most radically, to propose that not only can language be *used* to transform social realities but that such socially operative power is

the quiddity of language. This is the focal point of contrast with the standard conception of language as the expression—the encoding—of mental contents. A chapter of this sort can only be an overview rather than a thorough presentation, but I hope to indicate that there *is* an alternative to standard approaches and to at least limn the nature of that alternative.

II. AN INCOHERENCE IN THE ENCODING APPROACH

The argument against encodings is *not* that encodings do not exist. They clearly do exist and are ubiquitous, for example, in contemporary information technology. The argument, rather, is that encodings are an intrinsically derivative and subordinate form of representation and, thus, cannot be the essence of, or even an independent form of, representation.

Essentially, encodings are representational “stand-ins.” To say that “*X*” encodes *Y* is, more precisely, to say that the encoding “*X*” is to be taken as representing the same thing as the representation “*Y*.” There is no problem with such a definition so long as the representation “*Y*” is itself well defined. If “*Y*” is in turn an encoding, then it too must be defined in terms of some other representation(s), and if these too are encodings, then they must be defined, and so on, until some base level of representations is reached in terms of which all encodings are defined. The issue is whether such basic, nonderivative representations can be encodings.

These basic representations cannot be defined in terms of any other representations, encodings or otherwise, for then they would not be basic. Their status as encodings, as representations, must be logically independent of any other representations. If it is presumed that they are encodings, then the only way they can be defined is in terms of themselves: to define them in any other way is to render them logically dependent. However, this leaves us with the following definition of any presumed basic encoding “*X*”: “‘*X*’ represents whatever it is that ‘*X*’ represents.” This is incoherent as a definition of an encoding—it has the appropriate form, but it is totally devoid of the specification-of-representational-content that would *constitute X* as an encoding—and the only conclusion is that encodings cannot be logically independent: they must be defined in terms of, and thus they are derivative from, some other form of representation.

The root problem here is that encodings exist only insofar as some epistemic system can *take* them as encodings, i.e., can interpret them as representing whatever it is that they encode. If what they are to encode can be specified in terms of some already available representation, then we have a familiar derivative encoding. If this specification cannot be done in terms of an already available encoding, then there is no way possible to specify what they are to encode and thus no way for them to be encodings at all.

This is not basically a new argument. It is an extension of the classic argument of scepticism: there is no way to have direct access to whatever is presumed to be on the other side (the encoded side) of the encoding relationship and, therefore, no way to know if our encodings represent what we "think" they do or even if they represent anything at all. The deeper incoherence introduced in this version is that there is no way to specify for the knower what the logically independent encoding is even supposed to represent (even if it did "physically" correspond to something) and, therefore, no way for it to encode anything at all.

Such arguments have not been taken as compelling in the past not because any invalidity has been found in them but because the conclusion of radical scepticism was so radically unacceptable and because no alternative conception of representation which avoided the sceptical conclusion was known. In other words, the sceptic's arguments have not been defeated; they have simply been rejected.

Certainly, many people have tried to defeat scepticism, and many have thought they had succeeded. History, however, has invariably shown the arguments to fail. The most sophisticated arguments against scepticism have attempted to argue that the position is internally contradictory, that the very expression of the sceptic's position is in some way incoherent. Both Wittgenstein (1969) and Heidegger (1962) have developed highly parallel versions of this attack on scepticism. Crudely put, the basic idea is that while doubts about particular parts of our experience can make perfect sense, the universal doubt of the sceptic is incoherent because it doubts the very means by which such a doubt could be expressed—language—and the very experiential grounds on which any doubt could be based. Scepticism, in other words, presupposes the very reality that it purports to doubt.

I find a major difficulty with these arguments. They presuppose that the transcendental condition for meaning and epistemology, e.g., for the sceptic's doubt or question, is circumscribed by language games and forms of life for Wittgenstein (Gier, 1981) and by Dasein for Heidegger (Guignon, 1983). Against this, note that one of the possible reactions to scepticism is a form of solipsism: the basic "encodings" do *not* encode anything; they simply constitute all the reality we have. A more sophisticated version of this introduces considerations of intersubjectivity: we do not construct our realities chaotically and individually—we as individuals are constituted as intersections of meaningful social processes and relationships. To stand outside such social meanings is impossible, for such positions within a meaningful social network constitute our existence as human beings. Thus, the reality that we experience is constituted at this social level, not by us as individuals. Such a social or linguistic idealism has exactly the same problem as solipsism: it cannot account for or even acknowledge a reality outside of

its representational (social, in this case) domain. Correspondingly, I refer to such a position with the *prima facie* oxymoronic term "social solipsism."

I find Wittgenstein's forms of life and Heidegger's *Dasein*, as they are used in this way, to be versions of such a social solipsism and unacceptable as such. On their own terms, they cannot account for a (physical) reality that participates in our experience, that resists our actions, outside of the realm of social construction. They cannot account for the epistemological and meaningful relationship of the individual to these forms of life or to *Dasein*, not just within it. When and how does the prelinguistic, presocial infant become imbued with this "socially human" existence, and what is the relationship of this "fully human" social existence to the "presocially human" existence of the younger infant or fetus? In other words, neither Wittgenstein nor Heidegger has considered, nor can either account for, the transcendental conditions prerequisite for the existence of, and the participation in, forms of life and *Dasein*. Therefore, among other consequences, their arguments do not constitute refutations or dissolutions of scepticism.

In fact, although Wittgenstein and Heidegger have uncovered the errors of encodingism more thoroughly than anyone else to date and have correspondingly moved further away from them, I nevertheless find their positions to manifest subtle derivations from the encoding perspective, and this recourse to a social solipsism is one of them. The concept of logically independent encodings poses the dilemma of scepticism or solipsism, and to fall within either pole is to remain within the encoding framework.¹

The discussion turns now to an alternative conception of representation. The primary focus here is on the fact that it *is* an alternative and that it leads to a different conception of language, not that it avoids the sceptic. I would in fact argue that it does avoid the sceptic's arguments, but that position can at best be adumbrated here. The point of using the sceptic's insights above was not to advocate scepticism, but rather the more restricted goal of showing that the concept of logically independent encodings is logically incoherent.

III. INTERACTIVE REPRESENTATION

The alternative to encodingism, which I call interactivism, can be intuitively evoked by considering that any goal-directed system must have some sort of sensitivity to the environment in order to be successful in reaching its goal(s) and that this sensitivity need not in any sense involve encodings of that environment. All that is required is that the system be able to appropriately differentiate its activities in accordance with relevant differentiations of the environment. Such differentiations constitute some sort

¹A more detailed explication of Wittgenstein's version of this dilemma is presented later.

of information about the environment, or representation of it, for which the model of encodingism is inappropriate and inaccurate.

In order for a simple thermostat to be successful, for example, it must differentiate its environments into those in which the action of heating would yield success (maintaining its set point, reaching its goal), those in which cooling would yield success, and those in which doing nothing is the successful "action." Normally, we think of this case in terms of the system generating and receiving feedback about the temperature of the environment, and we think of that feedback in terms of encodings of the temperature, perhaps nonnumeric and crude, but encodings nevertheless. However, although there are states internal to the thermostat that have a physical correspondence to the external temperature (actually, to the relationship between the external temperature and the internal set point) there is no epistemic relationship between the thermostat and the temperature whatsoever; there is no sense in which the thermostat *knows* anything at all about the temperature. Instead, the system has a way of interacting with the environment that yields one of three possible outcomes, thus yielding a differentiation of its "situation" into three possible conditions, and it has an internal relation between the three parts of this differentiation frame and its three possible actions. (We as observers or designers of the system can understand its three possible conditions in terms of physical relationships with the temperature, but they are simply given for the thermostat.) As standardly constituted, the system tends to maintain a relatively constant temperature. If it were a learning system with a metagoal of "being able to stay within the second of its three part differentiation frame" (i.e., maintain a relatively constant temperature), then it might need to try out variations on its subordinate differentiation frames, on its internal relationships between its differentiation frames and its possible actions, and perhaps on its framework of possible actions. In either version, learning or nonlearning, there need be no encodings of the environment. There need only be internal differentiations corresponding to the environmental conditions that are useful in internally differentiating the system's further interactions with the environment, where "useful" is defined in terms of the system's internal goals.²

Clearly, there is some sort of information about the environment here, some sort of representation. It is not quite so clear that it is not an encoding form of representation. In the general case, we have two sorts of differentiation frames, one of possible interaction outcomes and one of possible interactions and a set or network of internal relationships between them. The

²The system's internal goals (if any), in turn, are intrinsic in the internal relations between the environmentally differentiating outcomes of earlier interactions and the consequent selections among further possible interactions.

most fundamental reason for why this is not a set of encodings of the environment, a set of actions, and a set of mappings between them is that the differentiation frames involve no information about what is being differentiated. They are simply internal outcomes of internal processes, that happen to also involve interactions with the system's environments, and, therefore, correspondences with those environments (but this is not "visible" to the system itself) and internal connections to further processes. There is no knowledge of anything on the other end of an encoding relationship and, therefore, no way for there to *be* an encoding relationship.

One might ask why this is not just a version of solipsism, i.e., a self-contained, self-constituted epistemic world. The answer to that question has two parts. The first is that the differentiating interaction outcomes are not unconstrainedly constructed by the system. The system engages in various interactions, but it arrives at its outcomes by "discovering" them, rather than by freely creating them. There is a contingent contact with the world, but it is not an encoding contact.

The second part of the answer to the charge of solipsism is to point out that, although the system does not encode anything about what is being differentiated or about what corresponds to those differentiations in the frames per se, it does contain information about those differentiation categories *in the internal relations to further possible interactions* (and a learning system will learn about them). Those internal relations constitute indicative relations between possible interaction outcomes and successful further interaction selections, and to contain information about, or to learn about, such indicative relationships *is* to contain information about, to learn about, the environmental differentiation categories. It just is not the sort of information that makes those differentiating outcomes into encodings. Most important, it is information *about* those possible interaction outcomes, rather than information that *constitutes* them as outcomes. They are outcomes, and they differentiate as such, regardless of how much or how little (even nothing) is "known" about what possible selection indications, what possible internal relations, could be derived from them.

This last point touches on one of the most fundamental differences between the encoding and the interactive approaches. The information about what an encoding encodes is the same as the information that makes it an encoding in the first place; something *is* an encoding insofar as an epistemic system knows what it encodes. The status as a representation and the knowledge of what is represented are the same thing for encodings. An interaction outcome, on the other hand, *is* a representation by virtue of its constituting a differentiation, while knowledge of what is represented is constituted in the internal relations in which it participates, in the indicative power that can be derived from it. The status as a representation and the knowledge of what is represented are intrinsically separate for interactive indicators.

This separation of being a representation from knowing what is represented is what allows the interactive position to avoid the dilemma of scepticism and solipsism. It avoids solipsism because the status as a representation does involve a contingent relationship to the world. It avoids scepticism because the system does not have to already know (this would be impossible) what the representational relationship is *with* in order to have the representational relationship at all. When the system arrives at some particular interaction outcome, then it *knows*, immune to any sceptical arguments, that it is in a situation appropriate to that outcome, regardless of how much or how little it knows about what sort of conditions do in fact yield such an outcome. Interactivism yields a certain explication of the existence of the world, of Being—Being is that which codetermines the outcomes of our interactions—by providing a separation between epistemic contact with the world and epistemic knowledge of the world.

The inspissated presentation of interactivism to this point raises more questions than it answers. How are objects, space, time, causality, other minds, etc., to be understood within such a perspective? How about theoretical concepts, like that of the electron? It might be conceivable that such an interactivism could account for knowledge of the external world, but what about abstractions, such as in mathematics, for which there is no realm of interaction? And so on. Interactivism is sufficiently different from encodingism that it demands a reexamination of a sizable range of phenomena. That cannot be undertaken here (for some preliminary explorations, see Bickhard, 1978, 1980a,b; Bickhard & Richie, 1983; Campbell & Bickhard, 1986). Only some of the implications of interactivism for language are examined below.

IV. INTERACTIVISM AND LANGUAGE

The most immediate consequence of interactivism for language is that it provides no encodings-of-the-world to be reencoded into language. Perceptual and cognitive interactivism precludes language encodingism.³ Although this seems clear intuitively, there is a more technical rejoinder to this intuition that needs to be considered: it may be that direct encodings of the world are precluded by the interactive perspective, but why couldn't language be based on the derivative encodings that can be constructed on the interactive base? The fundamental point is that such derivative encodings internal to the

³An interactive or operative view of language would be, at least to a first approximation, consistent with an encoding view of cognition in the sense that encodings could be interacted with and operated on instead of reencoded, but the converse does not hold: an interactive conception of cognition is not consistent with an encoding view of language (Bickhard, 1980a).

individual cannot provide the intersubjective base for a social language. Encodings are stand-in relationships. As such, any epistemic agent must already know both ends of the encoding relationship before the encoding can exist, before those "ends" can be placed in such a stand-in relationship. An individual already has such knowledge of "things that can be put in stand-in relationships" internal to himself or herself, and thus, internal derivative encodings are possible (and even likely; see Bickhard & Richie, 1983). Similarly, for external elements that are already part of the collective social world, such as electronic pulses and marks on paper or marks on paper and various sounds, etc., both ends of potential encoding relationships are already epistemically available, and such external encodings can in fact be constructed.

It is "only" when crossing an epistemic boundary that encodings are impossible, for then the construction of an encoding stand-in relationship across such a boundary presupposes what it purports to solve: how can an epistemic agent ever know anything outside of itself, ever reach across that boundary, in the first place? This leads to the arguments of scepticism when approached from the perspective of encodingism with respect to the individual knowing his or her external environment, but exactly the same issues exist if we try to construct encodings in the social world (elements of language) that encode things inside the individual (internal) derivative encodings). To construct such an encoding would require that the individuals in the social collective (the language community) already had representations of both the external elements (e.g., speech sounds) *and* of the internal derivative encodings of the individual who was speaking. However, it is precisely this latter epistemic relationship from the social realm to the mind of the individual that the presumed encodings of mental contents in language were supposed to have solved in the first place; encodings require that what is to be represented be *already* represented. The only way for epistemic relationships to cross epistemic boundaries is via an interactivism.

An additional problem is that, even if it were presumed that somehow encodings of mental contents were possible, there would be no reason to suppose that the internal derivative encodings of different individuals would be in correspondence with each other and, therefore, no reason to assume that there could be a single external language of encodings that would be socially common and would suffice to encode multiple persons' thoughts. We would need to know a different language of encodings for each person that we listened to. In the classic view this problem does not arise because all internal encodings are presumed to be ultimately of the external world, which automatically guarantees a commonality among individuals in their internal encodings of that world and thus automatically guarantees a basis for a single social system of language encodings common to all (Bickhard, 1980a).

It might be argued that the internal derivative encodings of different individuals could "obviously" be *constrained* through language learning and language training so that they would be in sufficient correspondence to provide a basis for a language. But such a proposal assumes that the language trainer can somehow make direct epistemic contact with the internal representations of the language learner and, conversely, that the language learner can make direct epistemic contact with the internal representations of the language trainer so that they can understand each other in the learning-training process. However, such an understanding is precisely what is supposed to be explained and mediated by the language that is taught and learned. We have here the incoherence problem again.

Furthermore, such an argument about the "trainability" of internal derivative encodings makes a critical and untenable assumption about the *nature* of such internal encodings. In particular, it assumes that they are identifiable by some unique and directly accessible characteristics by which they can be *specified* in the encoding relationship. For example, we specify marks on paper *qua* marks on paper and electronic pulses *qua* pulses in order to specify an encoding relationship between them by which the representational power of one can be transferred to the other via the designated stand-in relationship. But there *are* no such socially common or socially accessible "extraneous" properties of internal encodings by which they can be identified and specified for such an encoding relationship, no abstract forms or symbolic types, even if it were possible to cross the external-to-internal epistemic boundary via encodings. Internal indicators and internal encodings alike have no existence other than a functional one. Their existence and identity are constituted as points of intersection, as locations, within a web of functional relationships (Bickhard, 1980a; Bickhard & Richie, 1983; Campbell & Bickhard, 1986). They have no additional properties by which they could be specified and, therefore, no way to participate in an external encoding, for to specify them in terms of the functional location properties which they *do* have, which are the *only* properties that they have, is to engage in a process of *differentiating them* within that functional web. But such a process of differentiation is an interactive process, not an encoding process—to assume that they are encodable is to assume that they already have the independently specifiable nature of encodings. The assumed encoding relationship across an epistemic boundary is an assumed direct, unique, and certain differentiation, and neither the directness nor the uniqueness nor the certainty of the differentiations is in general attainable.

If interactivism thus precludes an encoding approach to language, how can interactivism begin to account for language? Clearly, utterances must be produced by some sort of goal-directed interactive system, and language must be some kind of interactive phenomenon. But what kind of interactive

phenomenon is it and what differentiates it from other kinds of interactions? One approach to this question would be to attempt to differentiate language interactions from others in terms of the characteristics of the subsystems that yield those interactions, i.e., to attempt to find characteristics of the functional organization of linguistic systems that essentially define them as linguistic. But any such functional characteristics will of necessity be constrained by whatever it is that linguistic interactions interact with. That is, the nature of linguistic systems will be derivative from the nature of the object of linguistic interactions, so the most fundamental question is what *is* this object of linguistic interaction. It is to this question that we now turn.

V. THE OBJECTS OF LINGUISTIC INTERACTIONS

An obvious and easy candidate for the object of linguistic interactions is other minds: language does not transmit encodings to other minds, but it does interact with them. I will argue that this is not wrong as far as it goes, and that we certainly do interact with (or attempt to interact with) other minds but that this is not sufficient to differentiate language from other forms of interaction or to begin to account for its special properties.

First, we clearly interact with, transform, and change other minds in ways that do not involve language: I put sugar in your gas tank so that you will think that your car is in bad shape and thus sell it to me at a lower price. However true it may be that language interacts with minds, there must be some further defining property.

Second, the proximate, definitive object of linguistic interaction must in some sense be "between" the utterer and the minds of the audience, for if not, then the success or failure in making an utterance would depend on the success or failure in achieving the utterance's point with respect to those other minds. Thus, one could not succeed in uttering a command unless it were obeyed, or, an assertion unless it were believed, and so on—obviously something is wrong here.

Third, an utterance is in some sense commonly "understood" by both the utterer and the (possibly collective) audience, even if it is in some other sense directed toward only one of the audience, e.g., a command directed to one member. This common understanding is social in nature and is crucial to the success or failure of the attempted utterance, whether or not it is obeyed or believed, etc. (Grice, 1967, 1969, 1971; Schiffer, 1972). The proximate object of interaction for language, then, must be social in nature.

I propose that the object of language interactions is what I call a *situation convention*. A situation convention can be intuitively thought of as a socially consensual definition of the situation (Goffman, 1959; McHugh, 1968; Thomas, 1967), a socially consensual structure of assumptions among the

participants in a situation about what the situation is and what is commonly understood within it. More precisely, the task of "understanding" the situation in any interpersonal situation constitutes a coordination problem in the sense of Schelling (1963), and any solution to that mutual task of understanding the situation constitutes a convention in the general sense of Lewis (1969, though with some nontrivial revisions).

Examples of situation conventions are myriad. They range from the institutionalized conventions of "being in a lecture situation" or "driving on the right side of the road" to more momentary ones, such as the structure of understandings about what the topic is and what has been said about it, within which a next utterance in a conversation is to be interpreted.

Elsewhere (Bickhard, 1980a) I argue, in fact, that situation conventions constitute the emergence of the social level of reality out of the psychological. The argument is that no social interaction can occur except as constituting, or at least on the basis of (even conflict requires some such basis), some solution to the coordination problem that is inherently posed by the mutual epistemic presence of human agents, and that any such solution *is* a situation convention. If this is valid, then examples are not just myriad but universal.

Situation conventions have many properties which cannot be explored here. To mention but a few, they are supraindividual, they involve differing kinds of reflexivities, which can yield highly complex structures of differentiations and layerings, and *institutionalized* conventions are constituted as a form of metasituation convention (Bickhard, 1980a).

One of these properties will be particularly relevant below: situation conventions can be established by a process of precedent and habituation—they do not require explicit agreement or even explicit understanding (Lewis, 1969). For example, if two people accidentally meet for lunch one Tuesday, enjoy the conversation, meet again the following Tuesday with perhaps some anticipation but no planning, and continue to do so, then before very many Tuesdays have gone by, these two people will have a convention between them concerning lunch on Tuesdays that need not ever have been discussed. This property is critically important because discussion and agreement about conventions is not always possible, e.g., in the formation of the conventions of language itself and, if such conventions are to be understood as conventions at all, then the possibility of their origin must be addressed (Lewis, 1969).

With the concept of a situation convention at hand, the basic model concerning language can be stated: language is a _____ for the _____ of utterances which operate on situation conventions. That utterances _____ the above arguments that utterances interact with a social object and that all social realities are versions of situation conventions. That language is itself a convention, I will take to be obvious for the discussions in this chapter.

I cannot consider here properties of language that derive from the particular properties of situation conventions as being its objects of interaction. In what follows, I will only pursue some of the deep and sometimes counterintuitive properties of language that follow from the general idea that language consists of social operators instead of cognitive encodings.

VI. SOME IMMEDIATE CONSEQUENCES OF THE MODEL

One of the strange consequences of the encoding perspective on cognition and language is that there is no way for new basic encoding elements to arise. New combinations of old elements can be constructed, but to create a new basic element *per se* would require that whatever is to be encoded must be already known so that the encoding relationship with the encoding element can be established. However, the only way in which the to-be-encoded element could possibly be already known would be in terms of the already existing encoding elements. In this case the new encoding would not be basic and logically independent but would instead be simply a new derivative encoding. This is just the incoherence problem, encountered now from an ontogenetic perspective.

Since new basic encodings cannot arise, the only possible conclusion—so long as no alternative to encodings is recognized—is that all basic encodings are innate and that these innate encodings are combinatorially adequate to (and limiting of) all cognitions and all languages of all human beings throughout history (Chomsky, 1965; Fodor, 1975, 1983). The primary difficulty with this move is that the incoherence involved is logical, not just developmental, and shoving its problems off onto evolution is ultimately of no help—new basic encoding elements cannot arise in evolution any more than they can do so in ontogenesis. Basic encodings presuppose what they purport to solve (for differing perspectives on this point, see Bickhard, 1979, 1982; Bickhard & Richie, 1983; Campbell & Bickhard, 1986).

The interactive approach offers a way out of this aporia. The general intuition is that situation conventions can be established, and progressively differentiated and elaborated, via precedent and habituation. Concurrently, so can the conventions which select, differentiate, elaborate, and operate on those situation conventions—i.e., language. Language, in this view, is a specialized means for interacting with a specialized (social) aspect of reality, and the specializations involved, although enormously complex, offer no particular logical problems beyond those of the evolution and development of other complex goal-directed interactive systems.⁴

⁴A much more extensive discussion of the nature and structure of these specializations is contained in Bickhard (1980a). I propose a sequence of progressive differentiations of ever more language-like interactive systems, beginning with general goal-directed systems and ending with full productive language capabilities.

A view of language as a productive conventional system of operators on situation conventions makes language the same kind of reality—convention—as that which it operates on—situation conventions. Language, then, should be intrinsically capable of reflexiveness and, therefore, of serving as its own metalanguage. Further, language, in the form of possibilities for further conversation, *constitutes* a great deal of standard situation conventions. This simultaneous operative, reflexive, and constitutive set of relationships between language and situation conventions generates much of the unbounded potential complexity, both social and logical, of linguisticity and logic.⁵ Thus, once primitive situation conventions and their operators have been established through initial precedents and habituations, the dialectic of such a reflexive and constitutive operativity makes possible extremely rapid growth and elaboration, either phylogenetically or ontogenetically.

Interactivism, then, dissolves the necessary, but nevertheless incoherent, innatism of encodingism.⁶ The innatism was needed to provide the basic building blocks of mental cognitions and of linguistic propositions (which are often argued to be of the same form, e.g., Anderson & Bower, 1973; Fodor, 1975). Interactivism dissolves not only the necessary innatism of the basic propositional building blocks but also the propositional approach to language at its foundations—propositions *are* encodings.

In a superficial sense, this encodingism of propositions is obvious, but a more thorough explication of the point requires that we examine some further consequences of the general interactive approach to language. First, as an operator on social realities, utterances are intrinsically and necessarily context dependent: the consequences of an operation (utterance) are as dependent on the argument for that operation (the social context for that utterance) as they are on the operation (utterance) itself. Context dependencies are well known in language studies, e.g., deixis and anaphora, and more are being discovered with time, but one of the basic assumptions of propositional analysis is that such dependencies are “mere” abbreviations and that as such they are ultimately eliminable in some basic propositional encoding that explicates what the utterance “really” means, perhaps in some

⁵The interactive perspective to language makes much stronger connections to algebraic logic (Craig, 1974; Grandy, 1979; Henkin, Monk, & Tarski, 1971; Quine, 1966) and, most especially, to combinatoric logic (Fitch, 1974) than it does to the standard encoding inspired model theoretic approach. But even the model theoretic approach to logic and mathematics can be accommodated within the differentiations-within-patterns of interactivism (Resnik, 1981). Interactivism, thus, yields no impasse with respect to logic or mathematics.

⁶This is not to deny the possibility that some aspects of language or language learning may be innate—such innate aids may well have evolved to increase efficiency—but rather to deny that any such innatism is logically necessary. Such innate aids or dispositions can be nothing more than aids (Bickhard, 1979).

“deep structure” or “semantic base” or “underlying logical form.” This presumed context independence of underlying propositions is just a version of the assumption that encodings are context independent, direct interactive differentiations. In both cases, it constitutes an unreachable asymptotically limiting case of the interactive reality.

In truth, as language usage becomes more sophisticated with development, we do in fact learn ways to reduce the context dependency of our utterances. As we try to communicate with wider and less specified audiences, this broader and less specific context dependency is a necessity.⁷ Such reduced context dependency is at a maximum in written language and especially with formalized languages. But even the use of the most formalized logic is dependent on the contextual situation convention regarding how the constructions within that particular system are to be understood: particular dependencies that are specific to particular utterances, common in ordinary language, have been flattened out into one overall dependency for the whole language, which, incidentally, can ultimately only be created via and within ordinary language. Propositional analysis assumes that this limit can be overcome in the form of a contextless specification (differentiation)—an encoding—of what the consequence of the operation is to be.⁸

A second violation of the interactive approach by propositional analysis is that the presumed propositional meaning of an utterance is taken to be the situation convention *consequence* of that utterance (which is then rendered in encoding terms, as above), rather than as being the *operative power* of the utterance. Within the interactive approach, an utterance evokes an operation on the contextual situation convention which then yields a consequent situation convention—the direct meaning of an utterance is precisely that operative power, not the consequence. For one thing, the consequence is the result of both the utterance and its context, not just of the utterance alone. If it is presumed that there is no “real” context dependency, however, as in the propositional approach, then there is a direct one-to-one correspondence between the operator and its consequence, and it is tempting to identify the meaning of the operator with its corresponding consequence. Aside from the fact that such total context independence is impossible, it would still be inappropriate to identify the meaning of the operator with its consequence even if they were in exact correspondence; an operator is simply not the same thing as what it is

⁷At the same time, we also learn much richer ways of making use of the contexts available, including the contexts of prior and expected language.

⁸The model here is that of a constant function—a function (operator) that yields the same answer (consequence) regardless of what the argument is. Even in such a case, however, approximated by certain proper noun forms, like “The Empire State Building,” there must be a proper context within which such an operator is to be understood.

operating on.⁹ Actually, something close to this point can be made even within the usual approach to language analysis: *any* context dependency in an utterance requires a conceptual distinction between the *process(es)* of differentiating within (operating on) that context (of unfolding that dependency) and the *results* of such differentiations (even if those results are presumed to be encoded propositions). This distinction, of course, is not normally made in any principled way—to do so would be to construe the meanings of utterances as operators rather than as encodings.¹⁰

Propositional analysis, then, first identifies the meaning of an utterance with that utterance's context dependent consequence, and then it renders that consequence as a structure of encodings.¹¹ Both steps are versions of taking the context dependent processes of differentiation within the interactive approach to the unreachable limits of context independent encodings. In general, both of these moves tend to be motivated by taking the relatively less context dependent case of proper names to a totally context independent limit and then taking this encoding interpretation of names as paradigmatic for all of language (e.g., Dummett, 1973; Tarski, 1969).¹² From the interactive perspective, neither step is legitimate.

The confusion between the operative power of an utterance and the consequence of that operation in a particular context is not specific to propositional analysis, it is intrinsically embedded in the standard conception of language in terms of syntax, semantics, and pragmatics. As standardly conceived, syntax is the study of the well-formedness conditions for language encodings, semantics is the study of the encoding relationships, and pragmatics is the study of the consequences for which such encodings are used. As such, semantics is presumed to be concerned with utterances and their meanings, which are (in the case of declaratives) assumed to have truth values; pragmatics is presumed to be concerned with the contexts within which utterances occur and the effects that utterances have on such contexts. Within the interactive perspective, however, the meaning of an utterance (a concern of semantics) is its operative power, which is considered

⁹A constant function cannot be identified with the number that is its constant result.

¹⁰Kaplan's (1979) distinction between content (proposition) and character (operative power) is an interesting half step toward an operative view but one which he feels is useful only in the case of demonstratives (see also Richard, 1983).

¹¹The propositional encodings, of course, are not normally recognized as *consequences* of anything at all. Aside from the renderings as some sort of deep structure mentioned above, we also find them construed as the objects of intentions (e.g., Grice, 1967) or the objects of speech acts (e.g., Searle, 1969) and so on. In general, the nature of the correspondence relationship between an utterance and its propositional meaning is a matter for theoretical debate. What is constant is the presumption of some such correspondence.

¹²The brilliance of Tarski's model theory lies, among other things, in his rendering the encoding conception for quantifiers.

to be a part of pragmatics, while the consequence of an utterance (a concern of pragmatics) is a situation convention—a representation—about the situation, which will be true or false about that situation, considered to be in the purview of semantics. In other words, in the interactive perspective, utterances have operative power and consequences have truth values, while in the standard conception, utterances have semantic truth values and the encoded transmission of propositions with truth values have pragmatic consequences. The aspects of language are put together differently in a very fundamental way within the two perspectives, and the distinction between semantics and pragmatics only makes sense within the encoding approach—the standard distinction between semantics and pragmatics is incoherent within the interactive approach. Contrary to assumption, then, the existence of the common distinction between semantics and pragmatics is not a theory neutral assumption—it is deeply committed to the encoding approach and has never been defended as such.

Interactivism dissolves an intrinsic innatism of encodingism and replaces the encoding distinction between semantics and pragmatics with a model of institutionalized operators on situation conventions, which, among other things, are representations with truth values. Utterances, then, are intrinsically context dependent, and their meanings are operations on representations (situation conventions), which have truth values—utterances (and sentences) do not have truth values in themselves.

VII. A COMPARISON WITH THE LATER WITTGENSTEIN

A model which similarly emphasizes the deeply social nature of language is to be found in the writings of the later Wittgenstein (1958). In this section, Wittgenstein's conception of language will be briefly examined from the interactive perspective. In preview, the primary conclusion to be reached is that while Wittgenstein had a profound understanding of the social nature of language and meaning (meaning as use), he did not see the social *point* of language. He had no conception of anything like situation conventions and, thus, did not conceive of language as a system of social operators. Wittgenstein saw language as social and as functional, but he did not see that the function of language is itself social, i.e., operating on social realities. I will argue that there is a vestigial encodingism inherent even in his conception of meaning as use.

Wittgenstein is interesting and important to consider in this context not only because he presents a social and functional model of language in his later works but also because he underwent a transition from a strict encoding model in his early works. Wittgenstein's *Tractatus* (1961) presents a model of language as a system of propositional encodings. The basic

elemental encodings are atomic propositions, and higher order encodings in language are considered to be truth functional constructions (roughly, "and," "or," "not," etc.)¹³ of these atomic propositions. The truth or falsity of a higher order sentence is determined by whether the logical structure of the atomic propositions implicit in the sentence corresponds to the structure in the world of the atomic facts that are specified by those atomic propositions.

Wittgenstein contended that the atomic propositions, and thus the corresponding atomic facts, must be logically independent of each other.¹⁴ Without this thesis, the world would be constituted not only by the atomic facts and their structures but also by the dependencies and constraints among them. Furthermore, sentences could not be freely constructed as logical products of the atomic propositions, since some such constructions would violate the logical dependencies. This point introduces an important concern: it is clear that some constructions will be false, i.e., those whose structure is not "matched" in the world. It is also possible that some may be meaningless, i.e., those that cannot be rendered in terms of structures of atomic propositions that actually have corresponding (possible) atomic facts. But with the presumed logical independence of atomic propositions, it is impossible for a sentence to be meaningless (though it might well be false) as long as it is a logical structure of meaningful atomic propositions. On the other hand, if atomic propositions have dependencies and constraints among them, then it becomes possible for a sentence to be constructed out of legitimate atomic propositions and still be meaningless by virtue of violating one of the constraints among them. This specific point is centrally important to Wittgenstein's later shift away from this early model. The general focus on meaning and meaningfulness evidenced by this point remains central to Wittgenstein throughout his oeuvre.

Another part of Wittgenstein's early model that prefigures later developments is his distinction between saying and showing. Consider a structure of atomic propositions. How can the (truth functional) relationships among them be indicated? One possibility might be that such relationships could themselves be encoded—relational encodings as well as propositional encodings. But then we face the problem of how to indicate the relationships

¹³Wittgenstein actually proposed a single logical connective in place of the familiar truth functional connectives and devoted considerable strain toward explicating quantifiers within this framework. His attempt to do so evidences a commitment to finitism (in a finite universe, quantifiers can be rendered in terms of iterative constructions of "and" and "or") that shows up even more strongly in his later works.

¹⁴Roughly, a fact is a state of affairs, and a state of affairs is a structure of objects; correspondingly, an elementary proposition is a concatenation of names, and the names encode the objects. The logical independence follows if the objects are presumed to be freely combinable in states of affairs.

among the first order relational encodings and propositional encodings. These could, presumably, also be encoded—as second order relational encodings. But then there will be a third order, a fourth order, and so on, and we are faced with an infinite regress of encodings interpreting the relationships among lower order encodings.

At some point, the relationships among the encodings cannot themselves be encoded; they cannot be “said”, but must simply be “shown” in the relationship among the facts that constitute those encodings.¹⁵ Since in this model the only principle of construction among atomic propositions is Wittgenstein’s truth operation connective, there is no function for any higher order relational encodings, and Wittgenstein proposes that the logical relations themselves cannot be said but must be shown. Three aspects of the saying—showing distinction carry over into Wittgenstein’s later works: the distinction *per se*; the problem of the regress of interpreters, which becomes much more explicit in a different form in his later considerations; and the general concern with the relationship between the foundations of language and the higher order language constructions.

Still one more anticipation of his later work to be found in the *Tractatus* that I would like to mention is Wittgenstein’s distinction between a sign and a symbol. Roughly, a sign is a perceivable thing of some sort, e.g., a mark on paper or a sound. A symbol is a sign together with its logico-syntactical use. “If a sign is *useless*, it is meaningless” (3.328). In this we find a very clear adumbration of his later conception of meaning as use.

One of the first points to falter that contributed to Wittgenstein’s movement away from the *Tractatus* model was the presumed logical independence of atomic propositions. Wittgenstein realized that the phenomena of measurement contradicted this assumption: the proposition that some variable x has some particular value *excludes* all other possible values of that variable, i.e., the propositions asserting the various possible values of a variable are *not* independent. It is nonsense, meaningless, to say that x is both one value and a differing value. This realization opened up the whole consideration of meaning as involving something more than just

¹⁵The world is constituted of atomic facts; therefore, the propositional encodings must themselves be facts. Wittgenstein does not explicitly consider the problem of the infinite regress of interpreters in the *Tractatus* but arrives at the conclusion that manages to avoid that problem from a consideration of how the “form” of the propositions as facts must relate to the form of the structures of facts in the world.

It is not clear to me that Wittgenstein was aware of the relationship between this early version of the regress problem, which remained quite implicit, and the later quite explicit problem of what Kripke calls “rule scepticism” (Kripke, 1982). That there is such a relationship is obvious once it is recognized that this regress of interpreters is a general problem of encodings (e.g., Bickhard & Richie, 1983) and that it is only differing kinds of encodings that are at issue in the two cases.

truth functional relationships; the uses that made a symbol out of a sign involved something more than truth operations.

Wittgenstein was also strongly influenced by the intuitionist mathematician Brouwer. Brouwer proposed a conception of mathematical meaning in terms of intuitive rule-governed actions on, and constructions of, mathematical objects. Wittgenstein already had a primitive conception of meaning as use in his sign-symbol distinction; the case of measurement opened up that arena of meaning as use to realms beyond truth operations; and Brouwer both stimulated the general exploration of such considerations of meaning as use and forcefully proposed that its scope included mathematics as well as ordinary language.

What had reemerged here was the whole issue of the relationship of higher order language constructions to their foundations. In the *Tractatus*, this was simply a relationship of truth operations on elementary propositions, but this would no longer do—broader forms of use must be taken into account. In turn, this raised anew the relationship of language to the world. Atomic propositional encodings and truth functional correspondences would also no longer do—the relationship was more complicated than that.

In the *Tractatus*, Wittgenstein had given very little attention to the question of how a language user actually made the connection between a proposition and a fact. This was assumed to be a matter for psychology and of no interest to philosophy. But the expansion of meaningful uses beyond those of truth operations injected this issue directly into Wittgenstein's considerations: how is language related to the world *in terms of these nontruth functional uses?*

In exploring this issue, Wittgenstein moved further and further from the simple model of the *Tractatus* in which propositions "pictured" the world. He examined verificationism, briefly considered falsificationism (Kenny, 1973), and with each step arrived at a more complicated sense of the relationship between the propositions of ordinary language and their ultimate connections with the world. Each complication of this logical relationship was simultaneously a complication of the conception of the rules of use of language—any such logical relationships could be realized only in such uses. Furthermore, Wittgenstein began to be impressed by the fact that there are many uses that involve differing kinds of relationship to the world, including those with no assertive claim at all, such as commands or riddles.

The focus, then, shifted increasingly to these patterns of use. Wittgenstein developed the central concept of his later philosophy in order to be able to talk about such patterns: the concept of a "language game." Language games are rule-governed patterns of use of many diverse sorts. One of Wittgenstein's famous analogies, in fact, compares language to a tool box which contains many different tools for many differing uses.

In this view, "criteria" are for language games what elementary propositions are for complex propositions, i.e., their foundational connections to

the world. The logical relationships between criteria and language games, however, are much more subtle and complex than the truth operations on elementary propositions. Criteria form the grounds of language but not independently as with elementary propositions. For example, criteria for pain, such as grimacing or crying out, ground language concerning pain in unboundedly complex patterns of possible occurrence, with some supporting others, some, such as indications that the pain is being faked, invalidating others, and all of them being related by the various possible moves in the language game, e.g., questions about the pain, expressions of sympathy, etc. The logical relationship between criteria and language that emerges from this is a finitistic constructivism—we never encounter more than a finite pattern of criteria, and the relevant meanings are constructed as possible such patterns—that is strikingly akin to Brouwer's mathematical constructivism (Baker, 1974).

Wittgenstein's disenchantment with the simple encoding model of the *Tractatus* was focused most strongly on "mental" predicates. One of the earliest examples he examined was "expectation," and a central exploration of the *Philosophical Investigations* (Wittgenstein, 1958) is of pain. He argued that the meanings of such words cannot be encodings of the supposed corresponding mental phenomena—we don't have any direct access to such phenomena. Nor can they be rendered in terms of some presumed underlying (e.g., brain) processes—such an assumption conflates criterial meaning with explanation (which might possibly involved models of such underlying process). Any such interior model that conflicted with the outer criteria, e.g., for pain, would be invalidated by that conflict: the criterial meanings define whatever it is that such an explanatory model might be trying to explain—they cannot be superseded by such explanations. Wittgenstein devotes considerable attention to showing that various conceivable alternatives to a criterial, language game version of meaning are untenable.

Among the class of mental predicates, some are more central to Wittgenstein's concerns than others. In particular, in developing a philosophy of language, terms having to do with language itself, such as "understanding," are of paramount significance and are given corresponding attention in the *Investigations*. Like pain, the meanings of such terms can only be construed in terms of rule-governed language games with respect to relevant criteria. Such analyses, in turn, make the meaning of "rule-governed" itself central to all meaning and to Wittgenstein's philosophy: meaning-as-use rests on it.

As before, Wittgenstein considers alternatives to a criterial sense of "rule-governed," a seductive one being that a rule is something "in the head" that is followed. But, how can one compare the rule and the activity? To follow such an internal rule, one would have to know what the rule means and how to interpret it, e.g., one would have to know which activities counted

as "the same" and which as "different" with respect to the rule. But any such interpretation would itself have to be governed by a rule, the interpretation of which would also have to be rule-governed, and so on. This is the "rule" version of the infinite regress of interpreters for propositional relationships that we found in the *Tractatus* model. Wittgenstein's avoidance of that regress in the *Investigations* is similar: ultimately we do not interpret, we simply act, and the meaning is "shown" in the activity. The meaning of "rule-governed" is itself constituted in terms of rule-governed language games with respect to relevant criteria of activity.

The meaning of "meaning," thus, seems to have been lifted entirely out of any possible encoding frame, including especially that of the encoding of mental meanings, into the realm of language games. Language games, in turn, are aspects of our overall participation in social activities. They are the aspect of our forms of living or forms of life. Meaning is within the patterns of language and forms of life: they are the realm of, and the transcendental conditions for, meaning. "Kant taught us that reality conforms to the forms of thought; and Heidegger and Wittgenstein show us that forms of thought are ultimately dependent upon forms of language and life" (Gier, 1981, p. 34).

This is a rough summary of Wittgenstein's philosophy, but it will suffice to point out three of its problems in comparison with the interactive model of language. First, by lifting meaning up by its bootstraps into a self-sufficient and enclosed realm of language games and forms of life, Wittgenstein has created a problem of epistemology: how is meaning connected to the world? His clear answer is "In terms of criteria," but then we must ask how criteria connect to the world, and we encounter problems. If the answer is "Via rule-governed use," then the realm of forms of life is completely sealed off from the world and we have a full social solipsism. But the only other available answer within Wittgenstein's writings is that the basic criteria are fundamental encodings of the world—they are still akin to the elementary propositions in the *Tractatus* (this foundational function is elaborated in Wittgenstein, 1969). Wittgenstein is actually not clear about criteria—he was more concerned with the nature and implications of language games per se than with their foundations—but either possibility is untenable. Wittgenstein's criteria pose a dilemma, the encoding dilemma between solipsism and scepticism.

Second, among the myriad language games, there are still those that involve the communication of propositions, and there is still a conception of propositions as pictures. "Imagine a picture of a boxer in a particular stance. Now, this picture can be used to tell someone how he should stand, should hold himself; or how he should not hold himself; or how a particular man did stand in such and such a place; and so on. One might (using the

language of chemistry) call this picture a proposition-radical" (PI I, p. 11).¹⁶ In effect, Wittgenstein did not abandon the picture model of the *Tractatus*, instead, the multiplicity of language games of the *Philosophical Investigations* supplemented the picture model (Kenny, 1973).

Third, although Wittgenstein had a well-developed sense that language serves multiple functions, he had no sense that it serves one essential unifying function. Wittgenstein, in fact, explicitly argued against any such unifying function:

Why don't I call cookery rules arbitrary, and why am I tempted to call the rules of grammar arbitrary? Because I think of the concept "cookery" as defined by the end of cookery, and I don't think of the concept "language" as defined by the end of language. You cook badly if you are guided in your cooking by rules other than the right ones; but if you follow other rules than those of chess you are playing another game; and if you follow grammatical rules other than such and such ones, that does not mean you say something wrong, no, you are speaking of something else. (PG, pp. 184, 185)

It is clear in this quotation that Wittgenstein's conception of meaning as use focused on the rule-governed sense of use, rather than a functional or transformational sense.

Note that Wittgenstein did in fact have not only a functional but even in a sense a transformational notion of the potentialities of language. For example, "To understand a sentence means to understand a language. To understand a language means to master a technique" (PI, par. 199); "we *calculate*, operate, with words, and in the course of time turn them sometimes into one picture, sometimes into another" (PI, par. 449). However, these remained secondary uses of the rule-governed language games; they were never essential. Not all uses of language involved transformations, and there was no unifying sense of the nature of the transformations that do occur.

In the transformational model of language, the representational aspects of linguistic utterances are explicated as operations on representations. Wittgenstein makes no such distinction between language and its transformational object, and there is therefore no way for those representational aspects to be understood except as one of the direct properties of language, i.e., as one of interwoven language games and no way for those representational properties to be understood except as grounded on encoded criterial propositions. Wittgenstein could not fully abandon the picture function of language as long as language had to itself be representational, as long as language was not seen as distinct from representation, an operator on representation. He found many nonrepresentational language games and enormously subtle and complex relationships between language games and their representational foundations in criteria, but the encoded propositional

¹⁶This idea of a proposition in some sense being an object that one can do various things⁵ with is similar to speech act theory (Austin, 1968; Searle, 1969).

criteria and propositional communications had to remain within language itself. The transformational model avoids these problems by differentiating between the transformational function of language and the representational properties of its object and by providing a nonencoding explication of those representational properties. This solution is not possible for Wittgenstein because everything is constituted within the transcendental realm of meaning, of language games. Therefore, there is no way to define anything as a representation except in terms of what it is to be taken to represent (or in terms of potentially complex criterial relationships to such), and any representation defined in terms of what it represents *is* an encoding.¹⁷

VIII. SOME BROADER CONSEQUENCES

Wittgenstein's conception of language games constitutes a major step away from the simple encodingism of the *Tractatus* but not a complete abandonment of encodingism. Wittgenstein elaborated the simple truth operations of the early model into the complex constructivist relationships with criteria in the *Investigations*, but the criteria themselves still have much of the character of encoded elementary propositions, and propositions must still be communicated in many language games.

How would the study of language change if encodingism were abandoned? What would it look like from the perspective of interactivism? A complete answer to these questions is obviously not possible, but some general consequences of such a shift can be pointed out.

The philosophy of language currently focuses on various properties and problems of language considered as a system organized around propositional encodings. Within the interactive perspective, language would be examined as a system of social praxis, rather than of epistemology.¹⁸ Meaning would be considered in two parts, operative power and situation convention consequence. The relationship of language to the mind would no longer

¹⁷Another perspective on this same problem derives from asking what the epistemological relationship is, or can be, between the individual and this realm of meaning constituted by language games and forms of life. For example, what is the perceptual-epistemological nature of criteria that they somehow both relate to the world and participate in language games? Wittgenstein leaves this issue unexamined. It too is left by default to an encodingism or to a subsumption of the individual into the social solipsism of language games.

¹⁸A major evolution in this direction is modern hermeneutics (e.g., Howard, 1982; Gadamer, 1975). Hermeneutics has deeply explicated such interactive properties of language as the (historical) context dependency of understanding, but it does not present a fully interactive conception of language. There is nothing corresponding to a situation convention; there is no differentiation between language and its interactive object; and there is correspondingly no distinction between the operative power of language and the representational power of its object.

be seen as an expressive encoding of static structural mental contents but instead as a powerful form of praxis for mind as an active and process (Bickhard, 1980a).

Linguistics is currently the study of the well-formedness conditions and the "semantic" encoding rules of well-formed encoded utterances. Within the interactive perspective, linguistics would focus on the rules of differentiation and composition of situation convention operators. Of particular interest might well be those properties of language attributable to language itself being an institutionalized conventional system, at least partially characterizable in terms of rules, as well as a system of operators on situation conventions. Linguistic studies would have connections with microsociology with respect to situation conventions, with macrosociology with respect to institutionalized situation conventions, and with the psychology of skills and problem solving with respect to the composition of operators (Bickhard, 1980a). The conceptual morass concerning competence and performance would be discarded.

Psycholinguistics within an interactive perspective would be concerned with a particularly central goal-directed interaction system, rather than with some presumed processes of encoding and decoding. Such issues as the psychological reality of various principles of grammar or the nature of word meaning involve entirely different questions if an utterance is viewed as a goal-directed composition of operators. Sentence comprehension as the apperception of a transformation is an entirely different phenomenon than as a decoding (Bickhard, 1980a).

Similarly, if there is a change in the conception of the nature of language, so also would there be a change in the study of language development. Developmental psycholinguistics has always had a struggle with the encoding presuppositions of standard approaches to language because the process is so clearly social and interactive when observed in real settings, but there has been no other perspective available to turn to. Over time, the field has moved away from studying how the infant learns the various encoding and decoding rules to a much greater emphasis on the differentiation and development of the various social functions of language, such as requests, bringing an object into the center of mutual attention, etc. (e.g., Bruner, 1975a,b; Ochs, 1979). The interactive perspective provides a direct rationale and coherence to this general move (Bickhard, 1980a).

The interactive perspective, then, would invite some major changes at all levels in the study of language. The encoding perspective is currently deeply embedded at all levels and imposes strong constraints on what assumptions are made about the nature of the phenomena and on what questions are taken to be meaningful and important to ask. Such constraints and corresponding distortions have never been examined or questioned.

Insights into *aspects* of the interactive–transformational nature of language are widespread. Major instances would include Wittgenstein, Heidegger, Austin, Grice, Searle, Gadamer, Habermas, sociolinguistics, ethnomethodology, “pragmatic” precursors to language development, and so on. But each of these, and in fact all current approaches to language, still retain an encoding view at least of the representational aspect, the propositional aspect, of language. This is so even for otherwise explicitly functional approaches to language (e.g., Dik, 1978; Silverstein, 1976). The encoding view is being dismantled piecemeal, and each step is viewed as a significant advance, but the basic relationship of these steps to encodingism is not recognized, and so the full move to an interactive perspective is inhibited.

The transformational view, with its broad consequences, has not even been recognized as an alternative. The many reasons for this include the encoding–propositional assumptions about the nature of the representational aspect of language, the dominance of the paradigm of the name—a presumed encoding—in language studies, the dominance of the encoding approach to cognition and perception, the encoding assumptions that are inherent in information processing and artificial intelligence approaches, and so on. The dominance is still so strong and there is still so little awareness that there is an alternative to be considered that the basic issues between the two perspectives and, in particular, the fundamental logical problems with encodingism are never even addressed. Perhaps it is time to begin doing so.

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