

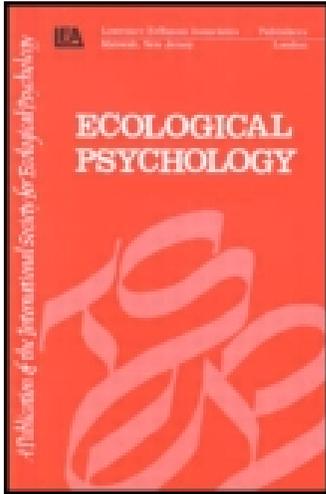
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Ed Baggs^a

^a School of Informatics University of Edinburgh, United Kingdom

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A Radical Empiricist Theory of Speaking: Linguistic Meaning Without Conventions

Ed Baggs

School of Informatics

University of Edinburgh, United Kingdom

I propose an account of speaking that draws on radical empiricist philosophy, which conceives of the environment as a network of relations. The argument takes the following form: (a) affordances are relations that exist between an animal and structure in its environment; (b) these affordance relations exist even when the animal is not attending to them; (c) these relations are themselves public and can in principle be perceived by an observer; (d) in the case of language-using humans, these relations can be directly acted upon by other speakers; and (e) one tool for acting upon another person's web of relations is linguistic structure. This description scheme offers a way to incorporate linguistic meaning into the framework of ecological realism while avoiding any notion of conventional meaning. Speech is conceived not as the production of messages to be decoded but as action controlled with reference to relational properties of the environment; the function of verbal actions is to influence the behavior of others in ways that are adaptive to the speaker's purposes. It is argued that the shape of the system of relations must result from the personal learning history of individual language users and therefore that early word learning is the appropriate place to begin an ecological analysis of speaking.

Our everyday way of talking about speaking relies on a dualistic conception of linguistic meaning: there is a realm of mental objects in which words and meanings reside, and there is a value-free physical world that contains only structure. According to this scheme, it is possible for meaning to be transferred

Correspondence should be addressed to Ed Baggs, Informatics Forum, 10 Crichton Street, Edinburgh EH8 9AB, UK. E-mail: ed.baggs@gmail.com

between individuals because speakers are able to produce patterned structures in sound waves (i.e., we are able to affect the structure of the physical world) that carry information about the speaker's meaning. Thus, sound structure in the physical world is seen as a conduit for thoughts (Reddy, 1979).

Gibson's (1979/1986) theory of affordances provides a very different conception of meaning. According to Gibson (1979/1986), meaning does not reside in a separate mental realm but arises in the fit between a given animal and a piece of structure in its environment. An object is meaningful to the animal by virtue of the action possibilities that it affords to that animal—possibilities that arise not in the realm of thoughts but in the fit, or the relation, between the structure of the animal's body and the structure of the object.

The theory of affordances thus provides a powerful alternative account of meaning that avoids the dualism inherent in our everyday folk conception. Despite this, ecological psychologists have struggled to develop Gibson's (1979/1986) relational account of meaning into a fully convincing and comprehensive ecological account of language use.¹ Attempts to apply Gibson's approach to the problem of speaking have typically taken one of two forms. The first simply leaves the problem of meaning to one side and attempts the more modest task of explaining how sound structure is directly perceived; this approach is exemplified by Fowler (1986), who posited that the phenomenon of speaking can be addressed at two levels of description: a "speech event" (the directly perceivable sound pattern) and a "linguistic event" (where meaning is located). The second type of approach attempts to take some theoretical element of Gibson's psychology of visual perception and to extend its use to encompass linguistic meaning. Thus, it is proposed that the concept of affordances must be extended to encompass "interaction affordances" or "social affordances" (Kono, 2009; Worgan & Moore, 2010)—affordances that hearers, by virtue of their presence, offer to speakers. Or else it is proposed that Gibson's concept of an energy array ought to be expanded to encompass "dialogical arrays" (Hodges, 2009), drawing an analogy between how animals explore their surroundings and how speakers explore each others' experiences through speaking. Or again it is proposed that Gibson's concept of information must be modified to allow that

¹One reason for this difficulty may be that Gibson's (1979/1986) theory of affordances, to the extent that he was able to develop it, maintained a crucial ambiguity about the status of the social. Costall (1995) asserts that Gibson was attempting to maintain two conflicting ideas: on the one hand, that meaning is a relational property arising from the mutuality of animal and environment (and here it is acknowledged that the environment encompasses other actors), but on the other hand, that in order to avoid slipping into cultural relativism it is necessary to assert that the asocial physical structure of the environment is primary. This ambiguity seemingly threatens to relegate the social to the status of secondary property.

energy arrays are structured not only by specifying information but also by nonspecifying, convention-based patterns (Wilson & Golonka, 2013).

This last proposal, about conventions, is of particular interest here. The idea that words and other linguistic segments derive their meaning via convention is both attractive on its face and seemingly very difficult to do without. However, the purpose of this article is to pursue a genuinely nonrepresentational account of linguistic meaning. I consider the idea of conventional meaning a disaster to this project.

The particular conception of conventional meaning of concern here is that proposed by Barwise and Perry (1983) in their situation semantics.² The idea is that events in the world are related to specific pieces of linguistic structure through statistical regularities and that a speaker learns a language by matching up pairs of sounds and events. In the jargon, the pairing relationship is called a “constraint,” and the speaker or hearer is said to have access to the meaning of a phrase if they have access to two things: (a) the constraint and (b) one of the terms it connects (either the sound pattern or the event in the world). This conception of meaning is tentatively endorsed by Wilson and Golonka (2013) and by Chemero (2009, pp. 116–117). The immediate problem here is that it is not clear how having access to a set of constraints could be compatible with antirepresentationalism. To invoke a set of constraints would appear to be to invoke a store of mental content. The idea that speakers are mapping between two separate systems of structure via such a set of constraints simply demands, in that case, that the speaker must be engaging in some form of mental gymnastics.

Moreover, to suggest that sound structure can carry information that a hearer is able to interpret via conventional constraints is to invoke a version of the conduit metaphor (according to which sound is a medium by which mental content can travel through the physical world). The dualism between mental and physical realms is reinstated.

My intuition is that the problems here arise from the choosing of an inappropriate starting point from which to attempt to build an ecological account of speaking. Gibson’s (1979/1986) psychology of visual perception was developed to be just that: an account of the perceptual activity of an individual organism in an environment filled with objects and events. The special nature of speaking, as Gibson recognized, is that it is an activity that can only take place within an environment that is *populated* (Gibson, 1982). It cannot be assumed

²It must be acknowledged that the term “convention” is used in a great variety of ways. For instance, Millikan (2003) used the term to denote patterns of activity that span multiple individuals; on this scheme a complete exchange can be said to constitute an instance of one single convention, for example, the phrase “Can you pass me the bread” followed by the complementary action of a second person handing a loaf to the first. I confine myself to attacking only the notion of convention as a relation between a pattern in sound and an event in the world.

that Gibson's theoretical machinery developed for dealing with visual perception can be straightforwardly extended to fit the complexities of speech. It may be that there are features of the structure of populated environments that are not relevant to the types of visual perception activity that Gibson was primarily concerned with and which therefore demand to be analyzed in their own right. To work out how to analyze speech in an ecological way it is therefore necessary to start not from the position where Gibson ended up but from the position where he started: with the philosophy of radical empiricism (Charles, 2011; Heft, 2001).

The proposal is that speaking is a form of action directed at knowledge relations. It is asserted that these knowledge relations come into existence through our activities as we learn, from early infancy, to address the structure in our environment. An ecological approach to the study of speaking must therefore begin by understanding speaking at its most basic level: as a child's action directed at existing knowledge relations standing between caregivers and other objects or events in the child's environment. The discussion is restricted to utterances of this basic type on the assumption that such protospeaking in early infancy is what provides the key for all later, more sophisticated forms of speech.

DOES "LANGUAGE" EXIST?

A crucial starting point for Gibson was William James's philosophy of radical empiricism (Heft, 2001; James, 1912). A striking feature of this philosophy is that James set out by rejecting the use of the word "consciousness." He did this in an essay titled "Does 'Consciousness' Exist?" (James, 1904). I want here to defend this rejection as a sensible move and to draw a parallel argument: for the purposes of the present project, too, it is necessary to start by rejecting a commonly used word—we should reject the word "language."

James (1904) noted that the word "consciousness" is ambiguous between two different meanings. On the one hand, it denotes the fact of subjective experience. On the other it implies a simplistic theory about the nature of this experience: the idea that experience is a substance that exists in a kind of container. James (1904) rejected the idea of this container and rejected "consciousness" as its label: "It is the name of a nonentity, and has no right to a place among first principles" (p. 477). In short, his rejection of "consciousness" is a rejection of mind-body dualism. James was careful to stress that in rejecting the container metaphor he was not rejecting the first meaning: that individuals have subjective experience. On the contrary, James made the fact of experience central to his philosophy. He argued that experience is not merely an incidental fact, or an epiphenomenon, but it carries out a crucial function: the function by which one comes to know things or by which one comes into contact with the objects in one's surroundings.

James proposed to reconceive this function as a direct relation that exists between, say, an animal and an object that it encounters. James labeled this relation “knowing.” Following Gibson (1979/1986), we might now label it the perception–action relation. Suppose further that the animal’s activity produces knowledge relations that persist even when the animal’s attention is directed elsewhere: relations that stand between the animal and the objects it comes into contact with.

We can now adapt James’s (1904) argument for our present purposes and turn to the case of “language.” What we now want to reject is not mind–body dualism but language–environment dualism. “Language,” like “consciousness,” is ambiguous between two meanings: it denotes the behavior that we engage in when we speak, but it also denotes a simplistic theory about the nature of that behavior: the conduit metaphor. According to James, in the case of “consciousness,” the fatal flaw with consciousness-as-a-container is that it creates two distinct realms that have no means of interacting with one another. Likewise, in the case of “language,” the conduit metaphor creates an untenable dualism between linguistic structure and the structure of the environment: it creates a view of the world in which language exists in a realm of content whereas the physical environment stands apart as a value-free realm of material. If “language” is the label for this dualistic notion, then it must be rejected. Like James, however, we must be careful to hold on to the function that is also denoted. The function of a verbal act lies, I claim, in its power to affect the structure of the speaker’s environment by influencing the behavior of others in that environment. We can label this function “speaking.”

What is speaking, exactly? The argument here is that it is an action directed at the system of relations that is constituted by the “knowing” activity of other individuals and of oneself. Speaking is action directed at knowledge relations.

SPEAKING AS ACTING ON THE RELATIONAL FIELD

It is commonly observed that a language is like a set of tools (e.g., Everett, 2012). The language-as-tool metaphor is proposed in order to draw attention to the fact that when people use linguistic structure, they are using it to achieve some particular end: language is used to do things. For present purposes I simply accept this tool metaphor as valid. But if language is a tool, what is it a tool for? A hammer is a tool for driving nails into things. In the case of the hammer it is easy to see how this works: one surface comes into physical contact with another and the force applied from the hammer’s direction of motion drives the nail into the wood. We might think of a sentence as a tool for directing a listener’s attention to a thing in a certain way (Reed, 1995; Tomasello, 1999). But what does the

sentence make contact with? The obvious response is that it makes contact with a listener, who then extracts the meaning and works out where his or her attention is being directed to. But this is again to invoke the old mind–body dualism and to demand an explanation in terms of internal representations. The proposal here is that a sentence does not make contact with a listener per se.³ Instead, a sentence should be thought of as being directed at the *relation* that connects a listener to some aspect of the structure of the world. Or, more accurately, the verbal action should be thought of as an action that is *controlled with reference to* a knowledge relation standing between an addressee and some other piece of structure in the speaker’s environment.⁴

In his radical empiricism, James (1912) proposed that animals directly experience their surroundings through the relation of knowing. A central claim of the approach is that relations are themselves directly accessible to perception just as much as are things: relations are perceived and do not have to be inferred by mental effort. A modern take on this asserts that an individual animal occupies a place in an ecosystem made up of objects and surfaces and other animals and of relations between all of these entities (Heft, 2014). In effect, the perceiving–acting animal stands at the center of its own web of relations connecting it to everything else around it. One important class of relations that it perceives as it explores its environment is the class of affordances (Chemero, 2003). The mature animal, by virtue of its previous learning activity, is able to perceive a rich set of affordances when it moves about in its surroundings: water that affords drinking, trees that afford climbing, and so on.

This ontology is foundational for the account of speaking I want to develop here. The argument can be summarized as follows: (a) affordances are knowledge relations that exist between an animal and structure in its environment (note that this encompasses other people who happen to be in the environment: from my

³Clearly it is true that a sound wave makes contact with a surface inside the listener’s ear, but this is to describe the phenomenon at a different level of analysis: at the biological level rather than the psychological level. See Michaels and Carello (1981, p. 103) on “grains of analysis.”

⁴Is there not a contradiction here? If the claim is that the function of a verbal action is to direct a listener’s attention (implying that speaking is about indirectly affecting the behavior of others), how can this be compatible with the claim that speaking is action directed at knowledge relations (implying that speaking is a means of directly acting on the speaker’s environment)? My working assumption is that these claims are compatible. I here call upon Tinbergen’s (1963) distinction, in ethology, between a trait’s evolutionary function and the mechanism by which that trait operates. It is presumably functional, or adaptive, for members of a species to be able to reliably direct one another’s attention to threats in their shared environment (note, also, that attending is itself a form of behavior). In order to achieve this, an individual may rely on the mechanism of producing an action that is controlled with reference to a knowledge relation standing between a conspecific and the threatening object. In that case, the *function* of speaking is to direct attention, whereas the *mechanism* by which speaking is achieved is through action directed at knowledge relations.

perspective, you are a piece of structure in my environment); (b) these affordance relations exist even when the animal is not attending to them; (c) these relations are themselves public and can in principle be perceived by an observer; (d) in the case of language-using humans, these relations can be directly acted upon by other speakers; and (e) one tool for acting upon another person's web of relations is linguistic structure.

This relational scheme flattens out the apparent dualism between linguistic structure and environmental structure. Speaking is not something that occurs in a separate realm. It occurs *within* the environment and is directed at particular structures: at the relations of the environment. From the standpoint of the speaker, speaking is not acting upon the addressee but upon the relations linking the addressee to other task-relevant structure in the shared environment.⁵ Similarly, from the point of view of the addressee, it is not the case that a piece of linguistic structure contains information that must be extracted and then reconciled with the environment. A speaker's utterance is instead *experienced* as an event within the environment—one that impinges on or perturbs the addressee's own perception–action activity. A well-directed verbal action has the effect of adjusting the addressee's attunement to some structure in the environment—in the simplest case, drawing the addressee's attention to some object.

In order for a verbal action to provoke an appropriate response, the action must be compatible in some way with the relation it is aimed at. The action and the relation must fit together. Later I propose that this is possible because the relation is shaped by the learning history of the addressee. As a child learns a language, its relations become increasingly compatible with verbal structures produced by others and thus increasingly accessible to actions from other speakers. The point for now is that if a verbal action can be directly compatible with a certain kind of relation, then there is no need to invoke conventional meaning or any other form of the language-as-conduit model. Both the action and the relation are real entities: they fit together in the same way any other action produced by an animal fits together with a suitable affordance—in the same way that giraffes fit together with tall trees or that keys fit together with locks.

It might be objected that this talk of “acting on relations” is too vague. There need be no mystery here, however. In Chemero's (2009) terminology, affordances are already relations. On this account, any action that involves an affordance is already an action on a relation: an action on the first-order relation that stands between oneself and a piece of structure in the world. For example, walking toward an object is an action that alters the relation between walker and

⁵Granted, there may be some verbal utterances for which this description does not seem to apply. The word “hello,” for instance, does not obviously connect the addressee to any structure except for the speaker. The word “hello” may simply be a device for orienting the addressee toward the speaker.

object. A verbal action is an action directed at a second-order relation that exists between a second person and some other piece of structure in the speaker's environment. At the most basic level, it adjusts the addressee's attunement toward some object. A second-order relation need not involve another person. Stacking one block on top of another is an action of the same order as a simple act of pointing to and naming an object.

HEARING: ACTING OR BEING ACTED UPON?

I suggested earlier that, as an addressee, one experiences the actions of a speaker as a perturbation of one's own attunements to the environment. But is this not too passive a view of addressee-dom? It suggests that an addressee has no choice but to be manipulated by the actions of the speaker. But hearing other people talking is more commonly thought of as a type of perception. Surely there is at least some sense in which being an addressee is in fact an active perceptual process, one in which the addressee deliberately engages with the speaker's verbal actions and seeks to discover something.

In truth, these two views must be compatible. Being spoken to is at once an active and a passive process. To engage someone in conversation it is necessary to seek that person out and to actively contribute, and so on. However, once a conversation or an engagement is begun, the words that a speaker utters cannot help but affect how the addressee attends to the world. Once I have you engaged in a conversation, if I emit the word "pebble" in your presence, your action system can no more avoid being perturbed by this than if I had placed a round stone in your palm. It would be a mistake to overlook this direct power that speakers have over addressees, at least during temporary periods of interactive engagement.

The fact that a speaker's verbal actions directly affect the behavior of others echoes something that is already well appreciated within the study of animal communication. This can be seen in the assessment/management perspective, as proposed by Owings and Morton (1998). This combines two ideas: that animals produce signals in order to change the behavior of other animals to their own advantage (management) and that at the same time they monitor their environment for opportunities to act and for threats from rivals and predators, and so on, looking out for the signals that are most likely to be reliable (assessment). Owings and Morton's innovation is to suggest that animals are able to manage the behavior of other individuals precisely by exploiting the assessment activity of those animals. That is, assessment and management are two different kinds of activity, but they are codependent; one cannot function properly without the other. The assessment/management framework, like the present account of speaking, is presented as an alternative to the information-transmission or

information-sharing model. Assessment is exploratory monitoring of the environment's affordances, whereas management is the set of actions directed at arranging those affordances for personal ends.⁶

THE SIGNIFICANCE OF LEARNING

The proposal that speaking is acting on relations immediately invites many questions of the form "This theory might be able to account for how attention is directed to objects in the immediate environment, but how do you explain linguistic phenomenon X (referring to fictional entities; engaging in storytelling; metaphor; etc.)?" These are all good questions, and I believe they all admit of plausible answers, although I do not attempt to address them all here. The key to answering all of them is to insist that skilled speaking is something that can only be understood with reference to the individual's development. One's ability to speak a particular language is entirely dependent on one's history.

Certainly it is inappropriate to base our theory of the basic nature of language on observations of language use in adults. We know that adult language is very different from early child language. Any adult speaker has had to go through a series of transformations in learning and their mature behavior may bear little resemblance to their behavior in earlier states. This is notable in the transformation from outer speech to inner speech (Vygotsky, 1962): whereas adult language can be a private affair that goes on entirely "in the head," early language has to be spoken out loud. Because our present interest is in the basic nature of speaking, it is appropriate to look at the earliest stages of word learning.

The preverbal infant finds itself situated in a richly structured field of relations and events and must learn the meaning of this ecosystem through exploration. What must the infant first attend to, in the earliest stages, if it is ultimately to acquire the ability to speak?⁷

The radical empiricist ecosystems view posits that the environment is structured hierarchically at increasing levels of complexity. There are objects,

⁶A related approach is Thompson's (1997) natural design perspective. Thompson conceived of design as an association between two arrays—an array of structures (verbal actions, say) and an array of uses (outcomes that the speaker is trying to achieve). In the case of communication, the speaker is said to be attempting to cause the addressee to enact a further design (e.g., in the bread-passing example, to cause the addressee to enact the action of bread passing).

⁷There is, of course, a vast empirical literature on the nature of speech in early infancy and its development (e.g., Reed, 1995). I am not concerned here with the question of in what precise order a child's skills develop; I restrict myself to the more theoretical question of what kinds of explanatory structure we should be looking for if we wish to pursue a genuinely nonrepresentational account of speaking.

then there are relations between objects, then there are relations between relations, and so on. Logically, then, one would expect that the infant must learn the meaning of the kinds of structure encountered at the lower levels before moving on to explore the structure in the levels higher up. The earliest stage of infant exploration should therefore be characterized by attention to the structure of events and of objects (or surfaces). After the infant has attained a certain competency at this level, there will be a shift to the next level up, and the child will begin to attend to how certain actions *cause* certain other events. In other words, there will be a shift from attending to things to attending to relations between things. One important class of events that the child must explore is the set of verbal actions, which can themselves cause further physical events, although an understanding of the exact nature of these causal relationships can only be approached by the child through continued exploration: a given sound made by the infant may at one time elicit some response from a caregiver, whereas at another time a seemingly very similar sound may elicit a very different response or no response at all.

An important milestone in infant language learning is the shift from making sounds to “naming objects.” On the present proposal, this may be better characterized as a shift from attending to event structure (to what it sounds like when different mouth movements are made) to attending to what verbal actions can be used to *do*. The proposal is that a child at the one-word stage is not simply naming objects but also is acting on, or exploring, the structure of the relational field. A child producing the word “apple” is not deliberately sending a message to a caregiver (to be translated as “you give me the apple” or some such) but is actively trying to bring about a change in the environment. The child may be attempting to bring the apple closer or else may simply be attempting to disrupt the system in some way to see what happens when the word “apple” is produced. The message-like nature of the utterance is really an artifact of the standard description scheme (to reiterate: the proposal is that speaking is *always* acting directly on relations; what is being claimed here is not that young infants lack an awareness that what they are doing is sending messages, but rather what is being claimed is that speaking is *never* sending messages insofar as messages are objects sent through a conduit).

On the present proposal, a central function of speaking is as a kind of technique for pointing to things. At the one-word stage, the things being pointed to are objects. There should follow a developmental trajectory: first the child points to objects, then to relations between objects (e.g., “juice gone” to denote a relation between a juice cup now and the same cup at a previous time) and to relations where the object is not immediately visible (“give apple” to request an out-of-sight apple), through eventually to relations that are created by the very act of pointing (e.g., “look, a pirate ship!”, said while pointing to a climbing frame). Each transition can be conceived as a change in the state of the animal-

environment system; the later states cannot simply be accessed from the beginning—the states must be passed through in sequence. (Learning here is to be viewed as a process of change, of increasing adaptation to the environment, and not as a process of acquisition of mental content.)⁸

The idea that relations can point to nonpresent or fictional objects is one that immediately demands further explanation. The suggestion, for now, is that the solution to this problem lies in the developmental trajectory of the individual child. At the earliest stages, in order for a child to be able to learn a new “object name” (i.e., a new verbal action), it will be necessary that both the object and the addressee are present at the point of learning. Later on, through exploratory use of the newly acquired action, the child will learn that the relation exists even when the object itself is no longer visible (e.g., uttering the word “ball” will sometimes result in an adult leaving the room and returning with ball in hand). As the child’s verbal repertoire expands, the actions the child is able to carry out will be less and less confined to the immediate surroundings; the child will gradually learn that what is important for carrying out successful verbal actions is not that the referent object is immediately visible but that the addressee is present and is responding in an appropriate way to the verbal actions being produced. At this point, the child has already reached a state where he or she should in principle be capable of referring to nonexistent entities. In short, it is possible to talk about things that aren’t there only as a consequence of being able to talk about things that are there.⁹

One immediate advantage of this description scheme is that it dissolves some issues in child language that have been the source of much dispute. On the cognitivist view, and by extension on the convention-based view of situation semantics (Barwise & Perry, 1983), it is assumed that there can only be one

⁸Here I acknowledge another account of speaking that also emphasizes the importance of relations: relational frame theory (Hayes, Barnes-Holmes, & Roche, 2001; Tonneau, 2004). This is an intellectual descendent of B. F. Skinner’s behavior analysis approach to verbal behavior (Skinner, 1957). An important difference between this account and the one presently being outlined is that the relational frame theory does not conceive of relations as things in the environment that can be directly perceived but as things that a person *does*: “People *frame events relationally* in the moment as an active process that is a function of their extensive learning history and stimulation in the present environment. ‘Storage’ of these frames as structures is not implied and not required” (Blackledge, 2003, p. 429).

⁹The proposal here is not novel. Vygotsky (1978) outlined the same process, describing the child’s language learning, and particularly learning to use private speech, as a process of “internalizing” a behavior first learned in interaction with others. E. B. Holt also proposed something along these lines in his radical empiricist concept of the “recession of the stimulus” (e.g., Holt, 1915, p. 75). Holt suggested that as an animal learns to respond appropriately to structure at increasingly higher levels of organization, its behavior is less and less constrained by the immediate contingencies of the surroundings.

internal system of language (Hendriks & Koster, 2010). (On the situation semantics view, presumably the child should have access to only one set of conventional constraints, to be called upon in both the production and comprehension of utterances—not two separate sets of constraints.) What an individual speaker can comprehend and what the speaker can produce should therefore be identical. Certain aspects of children’s verbal behavior are therefore puzzling; for instance, children overgeneralize morphosyntactic inflections, effectively inventing words that no one else around them has ever spoken (“I goed” instead of “I went”; Rumelhart & McClelland, 1986), and they show clear signs that they understand more words than they themselves produce (Benedict, 1979; Goldin-Meadow, Seligman, & Gelman, 1976).

For the theory currently being proposed, these phenomena do not present a problem. If it looks as if there is a difference, in observed behavioral data, between language production and language comprehension, that is because there really is a difference. On Owings and Morton’s (1998) terms, one is management, the other is assessment. Language is not conceived as a system in the head; rather “language” is a label applied from the outside to describe a set of behaviors that take place in a populated environment. In terms of behavior, acting on someone else’s relational web really is a different kind of thing from having your own web acted upon. This is the case even though we can classify the actions that are used in acting and in being acted upon as being instances of the same words or structures. The difference is the same as that between watching someone else playing a violin with some level of skill and trying to play the violin oneself: it is not enough just to observe a set of actions; to become a competent language-user or violin-player one must practice those actions firsthand.

CONCLUDING REMARKS

I have attempted to develop an account of speaking that is genuinely antirepresentational and that is compatible with both James’s radical empiricism and Gibson’s ecological realism. The central proposal is that speaking should be seen as having a basic form: speaking is action directed at knowledge relations. On this account, a verbal action does not have to “carry” meaning because meaning is distributed throughout the system. The act of speaking is not meaningful because of the words it contains but because of the effect it has on the meaningfully structured environment into which it is directed. Meaning resides in the entire structure of the populated environment, containing as it does other individuals who themselves stand in a meaningful relation with the objects and events of that environment.

Whether the ideas outlined here are ultimately of any use will be determined not by whether they sound plausible but by whether they lead to some real-world

application in areas such as education or therapy. In developing this account it will be crucial to keep sight of certain facts: that speaking is a way of affecting others' behavior, that it is something that we have done to us as much as it is something that we do, and that our skill in using language cannot be understood except in the context of our individual history of learning.

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