Meaning and Action
The Significance of Activity and Anticipation in Intensional Semantics
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The perennial question: what does a word mean? The majority of contemporary semantics is either explicitly or implicitly extensional. Extensional theories are, however, problematic. Descriptivism, advocated by such thinkers as Gottlob Frege (1892), Bertrand Russell (1905), and more recently John Searle (1967), encounters problems with denotation. For example, ignorance of proper descriptivistic criteria would cause a great number of terms to be denotationally insufficient for many language users: for example, the descriptivistic criterion for ‘Cicero’ is for quite a few people something like “that Roman guy,” which hardly can be said to sufficiently single out Cicero out of all Roman people of the past. On the other hand, causal theories, such as advocated by Saul Kripke (1980) and Keith Donnellan (1970), encounter problems with natural kind terms; the causal mechanism to denote natural kind objects becomes dramatically complex. The problem is, then, to establish how words connect with the world; how words denote.

Semantics can, however, also be crafted intensionally. The immediate consequence of adopting intensional semantics is that the extension of a term becomes subject to its intension. Instead of a mechanism that connects terms to objects, whatever objects are thought to populate the world depend on the individual intensional criteria for terms. It is on grounds of these criteria that we interpret experience. This resolves the problem of ignorance, and properly construed also offers a wieldy mechanism for denoting natural kind objects.

It should be noted that many approaches to semantics customarily referred to as intensional, such as those developed by Rudolf Carnap (1947) and Saul Kripke (1963), are in fact extensional systems that have simply been augmented with intensional devices. The problem here is that instead of intension’s determining extension, it simply fixes relations between terms and objects, the latter of whose definite existence is already assumed.

In the intensional semantics developed by Clarence Irving Lewis, the extension of a term arises from experience as construed in terms of its intensional criteria. Lewis’ semantics represents a very pragmatic position on meaning. In the Lewisian framework, meaning is construed in terms of potential applicability of terms, rather than in terms of
their relationships to objects. Thus the truth conditions for a term are determined by what activity the language user anticipates to ensue from whatever is denoted by the term. Lewisian semantics facilitates establishing truth-conditions for terms and statements in a way that takes into consideration the Kantian epistemological predicament – the limits of knowledge that arise from the subject’s active contribution to experience. This is in particular important if one entertains some other ontological notion than the naive object ontology implied by extensional semantics.

The goal of the present paper is to explore the role of activity and anticipation in Lewisian intensional semantics; the discussion is centered on Lewis’ conception of sense meaning. In the first section, Lewis’ distinction between linguistic meaning and sense meaning is presented, and the nature of sense meaning is explored in detail. In the second and third section, some further developments grounded on Lewisian semantics are offered to resolve some problems involved therein. The second section addresses vagueness in natural language. The third section introduces a hierarchy of verificatory demands to overcome the charge of relativism often leveled against intensional accounts.

**Linguistic Meaning and Sense Meaning**

Lewis separates the components of meaning into four categories: extension, comprehension, signification and intension. Extension is the class of existent objects denoted by a term. Comprehension is a classification of all consistently thinkable objects denotable by a term. Signification is a property an object must have in order to be denoted by a term. And intension is what determines the meaning of a term: “intension of a term represents our intention in the use of it; the meaning it expresses in that simplest and most frequent sense which is the original meaning of ‘meaning’; that sense in which what we mean by ‘A’ is what we have in mind in using ‘A’, and what is oftentimes spoken of as the concept of A.” (Lewis 1946, p. 43).¹ The meaning of a term is what we have in mind when using that term. The meaning of a term is the concept that it names.²

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¹ For more details on extension, comprehension and signification, see Lewis 1946, p. 39 ff. For the remainder of the present paper, the focal point will be intension.

² In what follows, I will exclusively focus on the meaning of terms. Lewis’ theory applies likewise to propositions, which Lewis construes as kinds of complex terms in their own right. I cannot, however, pursue this topic further in the present essay. On propositional meaning, see Lewis 1946, p. 48 ff.
Lewis makes a further distinction concerning intension. He separates linguistic meaning and sense meaning. Linguistic meaning concerns the relationship of a term to other terms. Sense meaning concerns intension as construed as the operative component of a concept. Linguistic meaning and sense meaning are two different ways of describing the intension of a term. These two aspects of intensional meaning “are supplementary, not alternative” (Lewis 1946, p. 133). Furthermore, they can only be separated by abstraction, rather than their being separated.

We are talking about an abstract analytic tool, with which to describe, not delimit, some features of language use. The goal of intensional semantic analysis is not to extract eternal truths concerning the nature of language, but rather to construct a viable model explicating some regularities that obtain in language use. As Lewis (1946, p. 140) maintains, meaning “cannot be literally put into words, or exhibited by exhibiting words and the relations of words.”

Linguistic meaning is the dictionary meaning of a term. It can be thought of being constituted by “the pattern of definitive and analytic relationships of the word or expression in question to other words and other expressions” (Lewis 1946, p. 131). A linguistic intension of a term may be construed as an infinite conjunctive set of all the terms applicable to what is comprehended by that term. Now were we to restrict meaning to relationships between terms, we would have an infinite regress – the classical dictionary problem: if we do not know a single word of an unknown language, we cannot learn the language from a dictionary. We must, then, have some operational knowledge of terms. We must have some sense of the application of them. And this sense of application is what is expressed in the sense meaning. As Murphey (2005, p. 265) puts it,

Language can, if we like, be completely abstracted from questions of sense-meaning and treated as a formal calculus, whose relational patterns we can study. Logic has often been so treated and, for certain purposes, this is a legitimate procedure. But when logic is employed in the guidance of action, reference to sense must be restored.

Sense meaning is “intension as a criterion in mind, by reference to which one is able to apply or refuse to apply the expression in question in the case of presented, or imagined, things or situations” (Lewis 1946, p. 133). Sense meaning concerns “the criterion in terms of sense by which the application of expressions is determined” (ibid., p. 131). Sense meaning is intrinsically connected to imagination. “Only through the capacity called imagination could one have in mind, in advance, a workable criterion for applying or refusing to apply an expression under all circumstances of presentation” (ibid., p. 134).
Lewis then explains that a “sense meaning, when precise and explicit, is a schema; a rule or prescribed routine and an imagined result of it which will determine applicability of the expression in question” (ibid.). It is important to note that the anticipated result is essential to sense meaning. Sense meaning involves not only the rule, but also the anticipation of some concrete result that can be facilitated by whatever the term is applicable to.

The criterion of applicability of a term is phrased in hypothetical terms: “If this and that condition is satisfied, then finding things being thus will determine the applicability of the term.” To this end, Lewis introduces the division to terminating and non-terminating judgments. Terminating judgments are such judgments that express qualities of immediately given experience. Non-terminating judgments are hypotheses justified on grounds of terminating judgments. In other words, a terminating judgment represents simply the outcome of some action in terms of sensation. A non-terminating judgment represents any empirical hypothesis, such as the existence of an actual object, which can be inferred from terminating judgments. The former concerns how things appear, or seem. The latter concerns how things, hypothetically, are.

For example, if I see a white rectangle in front of me, I can make such terminating judgments as “if I move my head thus, the rectangle will appear a parallelogram”, “if I touch what appears to be that white rectangle with my hand, it will feel smooth”, “if I grab it in my hand and crumple it, it will not offer great resistance.” These are, in other words, hypotheses that can be immediately verified. This is because they are set in terms of immediate qualities of experience; nothing beyond what is immediately accessible to the senses is postulated.

A non-terminating judgment, in turn, involves actual postulated objects. Thus, in the previous scenario, a non-terminating judgment would be something like, “since what appears to be a rectangle also appears to be smooth, white and crumply, and furthermore I seem to be able to produce writing on it with what appears to be a pencil, I can infer that what thus appears is a piece of paper”; or, in an abbreviated form: “this is a piece of paper.” A non-terminating judgment is never completely verifiable, but only confirmable. We could be brains in a vat, or dreaming about the piece of paper. But the fact that something – an actual paper, a stream of bits, a dream image – appears presently in this particular fashion is completely indisputable. Even if it were to appear subsequently as something completely different.

The sense meaning of a term consists, then, in an array of confirmatory operations an experience must satisfy in order for the term to be applicable. These operations can be formulated as counterfactual conditionals of the form: “S being given, if I were to do A, E
would follow.” Thus, a particular immediate experience being given, I can posit that if I were to carry out some specific action, a predictable effect would ensue. A concept can thus be construed as an aggregate of such confirmatory hypotheses. As long as experience satisfies these hypotheses, we shall consider the term expressing that concept to be applicable. It is important to note that since the meaning of a term is constituted from hypotheses, understanding the meaning of a term does not require for any particular ones of these hypotheses ever becoming realized. But even if they did not, these hypotheses would nonetheless constitute the meaning of the term.³

One may consider as a crude simile a checklist: a concept is a list of confirmatory operations, and insofar as operations are checked off the list by conforming experience, the validity of the concept is confirmed. One should note here, though, that the dominant operation in concept use would appear to be disconfirmation. That is to say, we do not run around checking our concepts against their confirmatory operations. But were a given object found not to conform to our expectations of it, we would be faced with the need to reconsider our conceptualizations. A concept is not, of course, automatically proven wrong by recalcitrant experience; some other condition may just as well be held accountable for the aberrant experience. For example, we could deem that we were hallucinating the inconsistency.⁴

But were we to consider a concept inappropriate, the explication of such a reconsideration could, then, be expressed in terms of some expected property being found lacking in the object being conceptualized. For example, if it turned out that I could not crumple what had so far appeared to me a piece of paper, no matter what I tried, I would probably eventually conclude that I had been mistaken in my taking it to be a piece of paper, because it could not be crumpled. This avenue of inquiry is pursued further below.

Sense meaning is an aggregate of verificatory operations with a projected result. The sense meaning of a term consists in a conjunction of counterfactual conditionals which spell out the conditions which must be satisfied in order for a term to be applicable. The meaning of a term is analyzable into the conjunction of such counterfactual conditionals

³ The argument is akin to Peirce’s argument concerning the existence of properties of objects: “It exists only by virtue of a condition, that something will happen under certain circumstances; but we do not conceive it as first beginning to exist when these circumstances arise; on the contrary, it will exist though the circumstances should never happen to arise.” (Peirce 1872.)

⁴ The topic of evaluating the reality of experience is studied in detail in Lewis (1929, p. 224 ff.). A similar position is also one of the pivotal arguments in the latter part of Quine’s “Two Dogmas of Empiricism” (1951).
whose satisfaction would corroborate the applicability of a term, and whose dissatisfaction would increase the likelihood of doubt as to the applicability of the term.

Lewis maintains that while the choice of words is subject to convention, meanings themselves are fixed entities. Lewis writes:

We may, thus, entertain and utilize certain meanings or we may disregard them. Most of the precise meanings which could be thought of, never will be thought of or expressed just as the finite numbers which no one will ever make use of exceed those which will be used in counting. (Lewis, 1946, p. 110.)

While the choice of words to signify concepts is convention-dependent, the actual relationships among concepts are fixed. They are what they are, regardless of whether anybody actually entertains them. Meanings are action-choreographies that exist regardless of if anybody ever puts them to use. The fixed nature of meanings maintained by Lewis is, however, problematic.

In the light of empirical research carried out some decades after Lewis’ work, this part of his approach is untenable. There appears to be endless minute variations of meaning across language users; natural language involves a degree of vagueness. If meanings were construed as fixed, the only way to resolve vagueness would be to postulate an endless continuum of concepts one slightly at odds with another in respect to their intensional content, which would imply that no two people use the same concepts. It should be noted, though, that the issue of vagueness is a problem present in practically all of 20th century semantics, not only intensional semantics. For intensional semantics, this problem can, however, be resolved. This topic shall be addressed below.

Another issue with intensional semantics is that it seems to imply relativism, or even solipsism. If the intension of a term consists of criteria that are in some sense subjective, and if the extension of the term is populated subject to these criteria, does this not imply that what exists is somehow dependent on the subject? But surely there is the fact of the matter. Even if I, as the experiencing subject, were to construe an object as, say, a chair, that does not entail that the object in fact was a chair. I could easily be mistaken. Resolving these two issues requires some further development on intensional semantics. To these developments we shall next turn.

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5 See below.
Vagueness and Understanding

Classical semantics relies on the notion that meaning is universal. *Prima facie* this seems inevitable: how else could we understand each other? If everybody entertained meanings that were somehow discrepant, on what grounds could mutual understanding rest? This attitude is present also in Lewis’ semantics, as was noted above. However, in the light of empirical research carried out by e.g. Rosch (1973 & 1977) and Lakoff (1973), there indeed seems to be endless minute variations in meaning across language users. In the vein of the later Wittgenstein (1953), meaning appears to be family resemblant across a population. In what follows, a development based on Lewis’ notion of sense meaning is offered that will account for vagueness and family resemblance.

In using language, we are not very analytical about it. Analysis is the practice of the philosopher, not that of the language user. What the language user does is engage in a habitual activity – in using words in a certain way that has proven itself useful through time. What this ‘useful’ means here, and what this ‘habitual’ means here, can be elucidated by intensional analysis. Analyzing sense meaning provides us with a way to explicate the habits involved in construing meaning. By analyzing the sense meaning of a term we analyze the conditions we anticipate for an object to satisfy in order to be included in the extension of the term – in order for the term to apply to that object. In analyzing, for example, the term ‘chair’ we lay down the possible conditions an object should satisfy in order for us to be satisfied of its chairness. The meaning of a term involves an aggregate of hypotheses for potential future activity. Being able to signal the possibility of future action is useful because it enables us to project future activity and to organize joint activity with others. It is habitual, because once we get the gist of it, we tend to stick with it.

The issue of understanding language is problematic in an extensional framework. For example, it is hardly tenable that the meaning of ‘chair’ would in actuality be defined by existent chairs. First of all, there is no way to enumerate the totality of existent chairs. Secondly, there are minute variations as to what qualifies as a chair across various language users. In practice, the extension of ‘chair’ is populated by judging, either *in situ*, whether this or that object experienced qualifies as a chair, or by making a postulate, for example that there are certain objects and only these objects that exist and are chairs, and that these are the objects that *would* be singled out in experience when interpreted in terms of a properly construed intension of the term ‘chair’. Properly construing the intension involves, however, some problems.
The sense meaning of my conception of a chair may involve different criteria than that of somebody else’s. This can be easily demonstrated by showing a number of people objects that are limiting cases for class inclusion, such as design furniture. This yields, almost without exception, discrepant interpretations of the objects. However, to establish understanding, no two language users need to entertain the exact same sense meanings. It suffices that whenever an object is construed as a chair, the activity of, for example, sitting on it is anticipated by language users designating the object with the term ‘chair’. Whatever it is exactly that the collaborators construe the object to be is irrelevant insofar as that construal, denoted by a shared sign, enables coordinated activity between the two people. Thus insofar as coordinated action is possible, intensional variations do not matter. Understanding arises not from two people’s entertaining the same meanings, but rather from their entertaining meanings that are sufficiently convergent toward a common mean for the present purposes.

This does not imply that meaning would be construed arbitrarily across language users. While an exactly objective meaning is inaccessible on these grounds, we can construe abstractly generic meanings by postulating a sense meaning that functions as a limiting value toward which the sense meanings of a chosen sample of language users converge. Thus, if for the majority of people in a sampled population the term ‘chair’ intensionally contains the operation “a (tentative) chair being given, if I were to sit on it, it would carry my weight,” then we can say that the generic term ‘chair’ used by that population entails that the object denoted by it can be sat on. This does not preclude individuals who think otherwise. But with time, such individuals would come to realize that what they expect for a chair to do is something other than what people in general seem to expect. Meanings are, effectively, family resemblant across a population of language users, and converge, with time, toward a generic mean as we interact with one another. The generic convergent meaning is, then, as close as we come to an objective meaning of a term. No actual universality of meaning will need to be postulated.

Intensional semantic analysis offers a relatively powerful tool to account for vagueness and family resemblance in natural language. Since meaning is construed in terms of anticipated action, meanings of terms themselves do not need to coincide, insofar as the actual action that ensues from using terms does. As the empirical research shows, meanings vary; but insofar as they are sufficiently convergent in terms of anticipated activity, they facilitate understanding across different language users.
The Fact of the Matter

The second issue against intensional semantics was that it seems to imply relativism, or even solipsism. Some objectivity was already offered in the preceding section in terms of the convergence of meanings across a population of language users. A more thorough, strongly fallibilistic, position to avoid relativism and solipsism is investigated below.

A degree of relativity in meaning ensues, indeed, from intensional semantics. This should, however, be construed as relationalism, not relativism. That is to say, if an object appears to me as x and satisfies the function of x, in a relation to me that object is then in every respect an x, and thus satisfies the truth conditions for the term ‘x’, reflexive to me and the present context. As Lewis (1929, p. 187) notes, a thing as known “is a function of two variables; it depends on the mind, but also it depends on the thing.” Therefore, while my interpretation of x as ‘x’ arises in the context, x itself does not. I might still be mistaken as to the nature of the object. Given two objects, x and y, that have partly coincident functionality expressible in identical sense meaning operations, were I to address only this coincident functionality, I might mistakenly denote both with ‘x’, or both with ‘y’. For example, if I had two bottles, one filled with water and the other with vinegar, I might dub both ‘water bottles’ if I never tasted them.

Determining the legitimacy of interpretation is, however, problematic. Since the applicability of a term depends on the denoted object’s facilitating the activity anticipated of it, some criterion is needed to determine when a satisfactory corroboration of sense meaning criteria is reached. Generally we are quite uncritical about experience. In everyday life, the criterion of applicability of a term is simply that the object denoted by it performs the role expected of it. There are, however, activities and contexts where a stronger degree of accuracy is demanded of a concept. For example, for scientific study it hardly suffices that x just seems to me to be x. For many purposes, a higher degree of certainty as to the x’ness of x is demanded. With this in mind, one can construct a hierarchy of verificatory demands to demonstrate the variable access to the sense meaning criteria exacted by various activities, for example in the following fashion:

1. Generalized conclusive verification.
2. Generalized philosophical verification.

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6 Cf. Peirce's pragmatic maxim: “Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object.” (Peirce 1992, p. 132.)

4. Quotidian critical verification.

5. Quotidian interactive verification.

On the bottom rung of the ladder, the quotidian interactive level, we are happy insofar as things work. We are happy to call ‘chair’ something we can sit on. As was pointed out above, the primary mode of satisfying terms is not that of confirmation, but rather that of the lack of disconfirmation. This is especially true on the quotidian interactive level. In using words, we do not need to have the totality of the intensional criteria of a term satisfied in order for the term to apply. Rather, what is essentially required is simply that critical items in the intensional criteria of a term are not dissatisfied. Insofar as objects fit our expectations, we accept them uncritically. But that is not to say this uncritical acceptance would not involve some criteria of acceptability we apply habitually. On the contrary, it is exactly the satisfaction of some activity that we have anticipated the object to facilitate that makes our experience satisfactory.

Some incident may, however, trigger doubt as to whether a particular term really applies. Then we would enter the quotidian critical level, where we would actively consider how to make sure that the object of scrutiny was indeed denotable by the term chosen. This would involve some methods of testing the object, in other words, identifying and verifying some intensional criteria that would further corroborate the hypothesis that the object in case was indeed what it appeared to be. If quotidian testability felt unsatisfactory, we could introduce specific criteria of testability according to which we would single out intensional criteria which we would seek to satisfy. Entering thus the generalized scientific level, we would furthermore introduce a social element: also other members of the scientific community should be able to corroborate our findings. Finally, if we were still unsatisfied, we could direct our investigations to the very principles guiding scientific inquiry, thus entering the process of generalized philosophical verification. In a sense, this level involves intensional criteria that are present throughout our entire conceptual use; criteria that apply to every term.

And this, I am afraid, is about as far as we can go. We can postulate the generalized conclusive level: the exhaustive enumeration of the totality of conditions an object must satisfy to be denoted by a given term. But we cannot actually enumerate these conditions. As Lewis (1946, p. 193) points out, “exhaustive recital of all that the truth of [an objective statement] would imply in terms of possible experience cannot finitely be accomplished.” The generalized conclusive level can only be construed in the vein of the Peircean ideal of Truth, as an asymptotic idealization we can approach endlessly but never quite reach. The
conclusive level is a phantom, a vanishing point. The reason it is mentioned here at all is that while it may not be reachable, postulating it may still be of pragmatic use in coordinating inquiry. There no doubt is the fact of the matter. Even if it was in its full glory epistemically inaccessible to us, it does not mean that we could not aspire to approximate it better.

On the quotidian interactive level we generally do not see the need to put our experience to the test. From the quotidian critical level on, the satisfaction of the applicability of a term depends on the corroboration lent to the term by various tests we can perform. The level of verificatory demands determines up to what extent we need to corroborate the sense meaning criteria of the term for it to be applicable. By increasing the level of verificatory demands, we increase the extent to which we seek to corroborate items contained in the intension of a term.

Because the extension of a term can only be determined in situ or by postulate, the extension depends also in part on how exact a verification we demand. The lower one descends on the verificatory hierarchy, the more objects are incorporated in the extension of a term. To accommodate for a less relationalistic temperament, one can, in the vein of the previous section, stipulate that the proper extension of the term is the extension of the term as construed convergently on the scientific or philosophical level in respect to qualified language users. That is to say, the proper extension of a term is populated by objects that meet the intensional criteria convergent in respect to the members of the scientific community. This would coincide roughly with the classical extensionalist conception of the extension of a term.

An absolute Truth is epistemologically beyond our reach, for even if we knew it, we could not know that we knew it; any meta-epistemic level affording such certainty would in turn need another meta-level to affirm itself. Therefore absolute truth conditions cannot be expressed either. While there is a degree of relativity involved in the way an individual discerns whether a term is applicable or not, generic truth conditions can be construed as a convergence toward a common mean shared by a population. The common mean, in turn, approximates the fact of the matter, because a concept is viable only insofar as the activity it implies is in fact feasible. If an activity implied by a concept turns out to be impossible, thus indicating some inappropriate intensional criteria, we shall begin to doubt the applicability of the concept, eventually adjusting it or even abandoning it. Meaning is not, thus, confined within the psychologistic realm of an individual language user, but arises in relation to the entire community of language users, and to the fact of the matter. Therefore, intensional semantics implies neither relativism nor solipsism.
Concluding Remarks

Sense meaning of a concept is a conjunction of counterfactual conditionals with a projected result, whose satisfaction determines whether a term is applicable to an object. The counterfactuals concern actual hands-on verificatory operations we can, at least theoretically, carry out. We can perform an analysis of the sense meaning of a concept, and thus render explicit the operational criteria for the applicability of that concept. Sense meaning provides us an operational model of language use.

Sense meanings explicate the habits involved in using and understanding language. Since sense meaning involves the anticipation of future activity, it explicates how understanding can take place across language users who entertain slightly discrepant meanings. Insofar as the actual resultant activity coincides, the choice of words is considered appropriate. Therefore meaning across a population of language users can be construed as family resemblance, and more objectively as a mean toward which the meanings entertained by individuals in the population converge.

Lastly, while intensional semantics implies that the extension of a term is populated according to criteria that are partly subject-dependent, defining meaning in terms of intensional criteria does not confine us to relativism or solipsism. Intensional semantics implies rather what can be characterized as differential relationalism. While the applicability of a given term is relational in respect to the context and the subject, there are more and less suitable approximations of the fact of the matter, which functions as the limit toward which various approximations converge. While meanings are in everyday life satisfied with relatively low demands, for purposes of inquiry the demands increase. A hierarchy of levels reflecting various demands of inquiry can be constructed to express how thoroughly we expect to be able to corroborate the sense meaning of a term. Objective meaning, in the classical sense, can be expressed as the point of convergence of intensional meaning across a chosen population of experts, such as the scientific community.

A term is a sign that designates potential future activity. The meaning of a term is the way it is used. In a sense, a term is a designator of a choreography of activities. To render explicit what one means by ‘x’ and what somebody else means by ‘x’ – which choreography each expect when the sign ‘x’ is evoked – the meaning of the term can be analyzed into an aggregate of counterfactual conditionals, the sense meaning of the term.
References


