GRICE'S THEORY OF MEANING

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WHAT'S NICE ABOUT GRICE?

Paul Grice developes an intention based theory of meaning which presupposes very little in the way of other theories. It is capable of standing more or less alone. Though meticulously conceived, it is not simply an exercise at refining pre-existing theories of meaning. In addition, the theory has implications for AI as a viable semantics of natural language at the levels of both discourse and dialogue.

STRONG vs. STRONGEST AI

The current fuss over intentionality is based on two fundamentally distinct but closely related considerations. First, that minded beings are able to make decisions and act, and, second, that minded beings are by nature capable of consciousness. Intentionality straddles these conceptualizations. The first consideration is related to purposiveness: purposes being identical here with our intentions in acting. Early on the possibility was pursued that intentionality in this respect is definable in terms of what is believed and desired (Ducasse [1]), Goldman [1]). The second consideration has come to belong to Franz Brentano who remarked:

> We can, therefore, define mental phenomena by saying that there are those phenomena which contain an objet intentionally within themselves. (Brentano [1])

Thus a thought contains what is thought about "intentionally" within itself. John Searle is concerned more with this second sense of intentionality when he observes that

> Intentionality is by definition that feature of certain mental states by which they are directed at or about objects" (Searle [1]).

The usual view is that consciousness is always consciousness "of" something and that intentionality can be identified as some sort of special connection (Sellars [1], Bergmann [1]). From these two orientations toward intentionality two senses of "strong AI" can be distinguished. To see how, suppose that a conscious being must possess intentionality in Brentano's sense. If so, must we also suppose that this being is conscious? There is no apriori reason to believe that the answer to this is "yes." That is, there is no reason to believe that consciousness is essential to intentionality in the sense of Brentano or even Searle. In fact, conscious beings may be viewed as dependently intentional in the sense that their intentionality depends on consciousness. Thus a distinction can be drawn between AI that is dependently intentional ("strong AI") and AI that is independently intentional in the sense of not requiring consciousness ("strongest AI"). Grice's theory of meaning can be broadly understood as defining intentionality in the sense of Brentano in terms of the teleological theory of action. In other words, our ability to grasp a meaning depends on the purposes (intentions) of our linguistic (speech) acts.

GRICE'S TECHNIQUE

Grice's point of departure is the idea of an utterance as an action. Here the views of J.L. Austin are in evidence. In the William James lectures Grice ([2], [3]) begins by identifying four ways of specifying meaning.

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1. "x (utterance type) means '...'"
2. "x (utterance tup) meant here '...'"
3. "U meant by x (utterance type) '...'
4. "U meant by uttering x that ...
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(1) specifies "timeless meaning"; (2) specifies "applied timeless meaning"; while (3) indicates "utterance type occasion meaning" and (4) "utterer's occasion meaning." Grice will define timeless meaning in terms of occasion meaning and occasion meaning in terms of the intentions of the utterer. It is occasion meaning, then, that receives the greates attention. Note that 'x' in (4) refers to an action. In Austin's sense a "phonetic act." Grice begins with a definition consisting of three conditions. While he improves the definition systematically in response to counterexamples, these three conditions remain at the core of his conception. Understanding the subtleties that emerge from discussion of these three conditions is best facilitated by taking into account remarks made some twenty years after the William James letures.

NATURAL AND NONNATURAL MEANING

Grice's three basic conditions are easier to fully comprehend after taking into account an allegory he introduced (Grice [5]) in order to explain the relationship between two senses of meaning. The distinction itself is familiar to most everyone familiar with Grice, unlike his views on personal identity or perception. It involves the difference paradigmatically expressed between (5a) and meaning in the sense of (5b).

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5a. Those spots mean measles
 b. Those three rings of the bell mean the
      boat is full
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(5a) expresses the relation of natural meaning, while (5b) describes an instance of nonnatural meaning. Clearly nonnatural meaning, unlike natural meaning, is the sort of meaning one associates with communication. But this is not explanatory, or at least far from being fully so. Grice considers the difference between "getting someone to know" and "telling someone." He explains the difference this way: consider when Hesiod presents the head of St. John the Baptist to Salome, clearly indicating his intention to let Salome know that John the Baptist is dead. But, as Grice points out, this is not an actual instance of telling. And why not? Because Salome comes to know of John the Baptist's death idependently of Hesiod's intention - after all, there is John the Baptist's head!

Here is the point: in an instance of actual telling, it is not enough that the utterer, U, intend the audience, A, to believe something, p. Nor is it sufficient to add to this intention the further intention that A recognizes that this is U's intention. What is needed is that these two intentions be appropriately related; that is, that A is intended to come to believe that p as a consequence of recognizing U's intention that A should by U's utterance come to believe that p. To be an act of telling it must be the case that U intends that A come to believe that p at least in part because of the recognition of the fact that this is what U intends. Now with these two notions in mind - that of telling and the distinction between natural and nonnatual meaning we are in a position to understand the significance of Grice's allegory.

GRICE'S ALLEGORY

Grice ([4]) constructs an allegory for the purpose of showing how it might come to be that agents familiar only with interpreting natural meanings might come to understand and make use of nonnatural meanings. Suppose I am an agent familiar only with natural meanings. Imagine, then, that I wish to let someone know I am experiencing pain but the pain is not sufficient to evoke a natural sign such as a howl. Grice's allegory consists in six stages for a being such as myself. At stage 1 I voluntarily produce symptoms that are characteristic of pain but which as signs occur typically without being voluntary. Essentially this amounts to pain simulation. At stage 2 another creature comes to be able to recognize that the behavior is actually the mere simulation of pain, and at stage 3, this same creature comes to realize that not only am I simulating pain I intend for it to know that I am merely simulating pain. Baffled, perhaps, at stage 4 this creature comes to associate my actions with a game or some sort of play, but something nonetheless done with intention. At stage 5 the observing creature is able to discern my intent as one in which it is expected to believe I am in pain on the basis of its recognition of my intent that it realize that my behavior is intended to be recognized as simulation. At stage 6, the creature is now able to recognize my behavior as a sign for communication. This allegory supplies the rudiments of Grice's theory of meaning.

THE CORE OF GRICE'S THEORY

Grice sets forth numerous revisions of his core theory. In this brief introduction I have dispensed with the arduous but worthwhile task of discussing the counterexamples that elicit the various changes. But here is the core theory that survives. The definition here is for utterance occasion meaning:

"U meant something by uttering x" is true iff

1. U intended, by uttering x, to induce a certain response in A.
2. U intended A to recognize, at least in part from the utterance of x, that U intended to produce that response
3. U intended the fulfillment of the intention mentioned in (2) to be at least in part A's reason for fulfilling the intention mentioned in (1).

A number of objections have been raised involving the possibility of deception, and answering these objections led to further objections, suggesting a certain regress of necessary intentions; but Grice meets the challenge in each case and reformulates the definition.

GRICE'S SIGNIFICANCE FOR AI

Grice offers a theory of meaning that is consistent with either form of strong AI we earlier discussed. His theory acknowledges continuity between natural and nonnatural meaning. Those who maintain that machines operate only at a level of natural meaning must provide an alternative theory that maintains a sharp distinction between the two. Seldom discussed but more controversial is the fact that most theories in formal semantics, e.g., Davidsonian and Montagovian semantics, rely on the principle of compositionality, the idea that the meaning of wholes is determined by the meaning of parts. Although some have alleged a Gricean conformity to this principle, the contrary position is arguably the case, attesting the flexibility of Gricean intention based semantics. It should be cautioned that we have only discussed the elements of one area of Gricean intention based semantics. The concept of "converstational implicature" is one component left untouched here, but one which requires serious examination before a final judgement on Gricean semantics can be made.

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