The Epimenidean Dilemma and the Definition of Truth

The title of Jerrold Katz's book Sense, Reference, and Philosophy indicates the breadth of its concerns. One of the many topics covered in the book that is not directly mentioned in the title is truth. Katz makes two claims about truth: (1) There is no incompatibility between the autonomous theory of sense and a deflationary theory of truth, so long as the deflationary theory does not claim the predicate "is true" has no sense structure; (2) An adequate theory of truth must involve a groundedness constraint in order to avoid "the Epimenidean Dilemma." I will argue that these two claims are inconsistent—there can be no groundedness condition on a deflationary theory of truth. This inconsistency presents a further dilemma for the deflationist: either abandon deflationism or take one of the unappealing horns of the Epimenidean dilemma.

Deflationism and the Autonomous Theory of Sense

Katz critiques the deflationist account of truth presented by the philosopher who "was the starting point for deflationism about truth," Frege (Katz unpublished, 112). Frege claims that the sentence 'The thought, that 5 is a prime number, is true' asserts no more than the sentence '5 is a prime number' does. No content is added

to the former sentence by the predicate 'true,' which is merely redundant.

The problem with this redundancy theory, as Katz points out, is that it does not properly account for various facts about sentences containing 'true' (and terms synonymous with 'true'). The Fregean account fails the Church translation test, for (4), not (3), is a proper translation into German of (2).

(1) Frege was very influential.

(2) 'Frege was very influential' is true.

(3) Frege war sehr beeinflußreich.

(4) 'Frege war sehr beeinflußreich' ist wahr.

Also, any speaker of German who did not understand the meaning of 'wahr,' but did understand all of the other words in sentence (3), would be able to understand (3) but not (4). Such examples show that predicates such as 'true' and 'wahr,' *pace* Frege, do add additional meaning to the sentences in which they occur.

This critique of the Fregean redundancy theory is not intended as a critique of contemporary deflationist theories of truth. Katz is agnostic on the debate between deflationists and their critics: "It may be that our account of the theory of reference can be expressed in deflationist terms, and it may be that is cannot" (ibid.,

116). In particular, the critique of Frege's redundancy claim clearly does not apply to the deflationist account presented in Paul Horwich's book Truth. According to Horwich, the predicate 'true' does add content to sentences. Horwich provides a use-theoretic account of the meaning of the term 'true.' The use of the term that constitutes its meaning—the "core use[1]"—is the tendency of speakers to "accept instantiations of the schema (E) 'The proposition *that p* is true if and only if p'" (Horwich 1998b, 35)[2]. Horwich, unlike Frege, recognizes the fact that 'true' is significant, not redundant.

The Epimenidean Dilemma and Groundedness

One serious problem for any theory of truth is the semantic paradox commonly (and somewhat misleadingly) called the liar paradox. The liar paradox takes many forms, not all involving the claim that certain people are liars. The oldest known version of the paradox, due to Epimenides the Cretan, illustrates an important feature of the paradox. Epimenides said that all Cretans are liars. If all of the Cretans, including Epimenides, have *always*

[1] The core use of a term is "explanatorily basic...the use property that provides the best explanation" of all of the other uses of a term (Horwich 1998a, 60).

[2] Katz presents a number of objections to Horwich's use theory of meaning in Sense, Reference, and Philosophy. For the purpose of this paper, this debate between Katz and Horwich will be set aside.

lied, then what Epimenides said results in paradox: if he was speaking the truth, he is a liar, and *qua* liar, he must be saying something false. As W.V. Quine notes in "The Ways of Paradox," this utterance of Epimenides would not lead to paradox if certain other facts had been true:

> Perhaps some Cretans were liars, notably Epimenides, and others were not; perhaps Epimenides was a liar who occasionally told the truth; either way it turns out that the contradiction vanishes (Quine 1966, 6).

Whether or not the utterance 'All Cretans are liars' is paradoxical depends on features of the situation—certain sentences are paradoxical depending on context. In presenting his theory of groundedness, Saul Kripke captures this aspect of the liar paradoxes the claim that "it would be fruitless to look for an *intrinsic* criterion that will enable us to sieve out...those sentences which lead to paradox" (Kripke 1975, 692). Any account of the paradoxes that does not take into account the interaction between the liar paradox sentences and related facts is incomplete.

Simpler liar paradox sentences can be developed without mention of liars, and do not clearly depend upon contextual factors. One of the simplest is: Take EP to be the name of the following sentence:

(EP): EP is false.

The line of reasoning resulting in paradox runs as follows: Substitute the sentence EP for its name. 'EP is false' is false. If 'EP is false' is false, then EP is true by double negation. It is clear that something has gone wrong in this line of reasoning, or the ordinary notions of truth and falsehood stand in need of serious revision.

An unfortunate result of philosophical attempts to block the paradox or revise the notion of truth is the Epimenidean Dilemma. This dilemma is one of the many philosophical conundra that arise, according to Katz, due to uncritical acceptance of Fregean intensionalism. In particular, Fregean intensionalists are committed to the view that all sentences that are meaningful have a truth value. Fregean propositions are composed of senses, which are functions from domains to extensions. The senses of the expressions in a sentence combine to form the proposition, a Fregean thought, which determines a truth value. Fregean thoughts determine truth values as Fregean senses determine referents: "the reference of a sentence is its truth value..." (Frege 1960, 62)

It is important to note that Katz sometimes presents a stronger case than is necessary against the Fregean account of sense. In Sense, Reference, and Philosophy, Katz claims that Frege defines sense *entirely* in referential terms:

> Since Frege's definition of sense reduces the theory of sense to the theory of reference, the notion of sense is embedded in a system in which only extensional criteria constrain choices among semantic hypotheses (Katz unpublished, 37).
>
> [Fregean intensionalists] do semantics entirely in terms of reference (ibid., 159).

This cannot be correct—there is certainly a factor other than reference that is part of the Fregean definition of sense, namely "cognitive value." The well-known examples in "On Sense and Reference" involve terms with the same referent, such as 'Hesperus' and 'Phosphorus,' which differ in sense due to a difference in cognitive value. Extensional criteria are a necessary but not sufficient condition in the determination of sense.

This minor correction makes no difference to Katz's account of the Epimenidean Dilemma. The important issue is whether or not a proposition without a truth value (or a term without a referent) can be significant; To establish this point, Katz must show that truth values are not a necessary condition for a proposition to have a sense.

Fregean intensionalist approaches to the paradox have resulted in the rejection of either the universality or the consistency of language. If languages are universal, then

these languages can express anything—in particular, instances of the paradoxes are meaningful sentences of the language. Self-referring sentences such as 'This sentence is six words long,' are meaningful. There is also no difficulty understanding sentences that predicate truth of sentences, such as 'Everything Bush says about the tax cut is false.' There is therefore no independent reason to deny that sentences that predicate falsehood of themselves such as EP are meaningful. If EP is meaningful, and all meaningful sentences have a truth value, the language contains a inconsistency. If EP is true, it is false. To avoid this inconsistency, a philosopher could deny universality and claim that the instances of the paradoxes are not in fact meaningful sentences.

Katz uses a debate between Graham Priest and Timothy Smiley as a case study of the Epimenidean Dilemma. Smiley argues that a proper response to the paradoxes must deny that paradoxical sentences are meaningful; EP does not determine a proposition. This position is *prima facie* implausible. It would be very hard to explain how it is even possible to think about the paradoxes on Smiley's account. If liar paradoxes do not determine propositions, what are the objects of our beliefs about the paradoxes?

Smiley's argument for his position begins with a comparison of natural and formal languages. In natural languages, unlike formal languages, it is purportedly possible to "overshoot" the truths. A theory overshoots if its principles lead to an incorrect claim, and undershoots if it does not make all of the correct claims. The Gödel incompleteness theorem proves that axiomatizations of elementary number theory must undershoot. A formal theory cannot overshoot: If a list of recursive rules for forming well-formed formulae in logic results in a non-wff, at least one of the rules in the list must be rejected.

The relationship between the resources used to form paradoxical sentences and the paradoxical sentences is, according to Smiley, importantly disanalogous to the relationship between the flawed formation rules and the non-wffs. There need be no rejection of the resources that lead to paradox in natural languages. In particular, one need not claim that some contradictions are true, as Priest does. Smiley attributes a mistake in reasoning to Priest: "The mistake is to think of malfunctioning as being like failure to be a wff..." (Smiley 1993, 24).

What motivates Smiley's claim that there is a disanalogy between these two cases? Smiley offers a bit of rhetoric, mocking his opponents as people who think of

language as "a calculus with a human face" (ibid., 24). The only clear motivation for the claim that natural languages overshoot is that such an approach would avoid the paradoxes. Smiley does not think that another account can do so without accepting inconsistency. Smiley recognizes the difficulties with his account of the paradoxes, noting that "this solution is far from ideal" (ibid., 27). An account which does not deny the intuition that liar sentences are meaningful would presumably be closer to this ideal.

Priest defends this intuition: "*Prima facie*, the Liar sentence does express a proposition—and a unique one" (Priest 1993, 42). The cost of this defense, however, is great. According to Priest, there are some claims that are both true and false. In particular, the liar paradox sentences are dialetheia, true contradictions. The liar paradox is not the only case that motivates dialetheism—Priest applies dialetheia widely, to problems such as vagueness, psychological irrationality, and the set-theoretic paradoxes. In this paper, I will only consider the case for dialetheism based on the lair paradoxes.

Priest points out that Smiley's arguments for the meaninglessness of the paradoxes are self-defeating. Any

claim that contains a claim that does not express a proposition does not itself express a proposition:

> '[EP] does not express a proposition' expresses a clear and true proposition. '[EP] does not express a true proposition' appears to have a content that *includes* that of the first sentence [EP], and so it [EP] must have content (ibid., 43).

Smiley's meaningless strategy cannot succeed as a solution of the paradoxes, for if it is correct, the argument is itself meaningless.

Priest offers an account on which the liar sentences are meaningful, true contradictions. The problem with Priest's account is that it results in the inconsistency of all languages that contain the resources needed to form the paradoxes. If a natural language such as English is inconsistent, then it becomes very difficult to see how we can reason in that language. Our assumptions about what constitutes proof in various fields would be at risk, if the resources used to produce proofs can produce true contradictions. Katz asks if we can "suppose that the language we speak...in which we do science, mathematics, and natural science, is itself inconsistent?" (Katz unpublished, 152)

Katz also cites an argument against inconsistency first presented by Herzberger: If there are true contradictions, they are entailed by a set of those sentences that provide the structure of the language, the analytic sentences. Analytic sentences are secured against falsehood—they cannot be false. Any contradiction derived from the analytic sentences reveals that there must be a falsehood in the set of analytic sentences. This cannot be so, for the analytic sentences from which this sentence would have been derived are secured against falsehood: "It is a reductio of the claim that there is any such derivation" (ibid., 152).

Priest is not impressed by the arguments against his account. In particular, it is not clear that he would be impressed by Herzberger's reductio argument, given that "Dialetheism does not recognize the formal validity of *reductio ad absurdum*" (Priest 1993, 43). In response, one could stress the importance of *reductio* in the formal sciences; However, if the dialetheist denies the validity of *reductio,* either side could claim the other is arguing from its own position on this point. For a number of reasons, Priest regards the improvements of dialetheism over the alternatives as a revolution in the science of logic: "after [accepting there are true contradictions,]

everything falls into place. A similar point was true of the simplification provided by helio-centric astronomy" (ibid., 45). What falls into place in this particular case are the liar paradox sentences. If there is another way of accounting for the paradoxes that does not force a serious revision of the formal sciences, conservatism and simplicity motivate against Priest's account.

To preserve both universality and consistency, Katz argues that the Fregean account of propositions must be rejected. The liar paradox sentences are meaningful but do not have a truth value. Katz divides propositions in two: the bearers are meaning are intensional propositions, and the bearers of truth values are extensional propositions. Liar paradox sentences have a meaning, they express an intensional proposition, but they do not determine an extensional proposition. In order to distinguish the meaningful sentences that determine extensional propositions from those that do not, Katz invokes a groundedness condition.

A groundedness condition is a form of presupposition. Katz (in lectures) has stated the groundedness condition as follows: In order for a metalinguistic sentence containing predication from the theory of reference (for example, 'true') to determine an extensional proposition, that

sentence must be part of a chain of a sentences that ultimately refers to a sentence that determines an extensional proposition.

A liar paradox sentence such as EP results in a referential loop: its self-reference never terminates in a sentence with a truth value. The utterance of Epimenides the Cretan refers both to itself and to all of the other Cretan utterances. If other Cretan utterances were true, what Epimenides said would refer to sentences with truth values and hence would be straightforwardly false. If all Cretans were indeed pathological liars, then what Epimenides said could only be true if the most recent of Cretan utterances, his own, is also false. Yet given the circumstances, this utterance is ungrounded. Its predication of falsehood of itself results in a referential loop, and hence what Epimenides said does not have a truth value.

The theory of groundedness was originally developed in unpublished work by Jerrold Katz and Hans Herzberger. In "Outline of a Theory of Truth," Saul Kripke formalized the notion of groundedness in detail. Kripke characterizes groundedness in terms of a process, which begins with a sentence containing terms from the theory of reference. Each sentence that contains such terms has a place in a

hierarchy of sentences. Every successive application of a term such as 'true' in a chain of sentences is at a level higher than the preceding application. For example, supposing that none of the previous utterances of the Cretans had contained any terms from the theory of reference, these previous utterances would be at the lowest level, L_0, and what Epimenides said about the Cretans (including himself) would be one level higher, L_1. To establish whether or not the sentences at a higher level such as L_1 are grounded, one must first figure the truth values of sentences at a lower level such as L_0.

The sentence "All Cretans are liars" refers to itself, so it occupies two places in the hierarchy, at L_0 and L_1. The Kripke procedure begins by deciding the truth or falsehood of the sentences at the lower level. As noted above, the sentence can have a determinate truth value, false, if truths are found among the other Cretan utterances at the lower level. If all previous Cretan utterances are falsehoods, then the truth value of 'All Cretans are liars' in L_1 can only be decided upon discovering the truth value of 'All Cretans are liars' in L_0. The referential loop in this case precludes any decision on the truth or falsehood of 'All Cretans are liars' in L_0, so it is ungrounded at this level and the

higher level. The utterance does not have a truth value. The sentences in the hierarchy that are truth-valued are the fixed points; All successive applications of terms such as 'true' to the fixed points are grounded in turn. The ungrounded cases are those that do not terminate in a fixed point at any lower level. The application of this model to language is quite important—as noted above, it provides a way between the horns of the Epimenidean dilemma. Any theory of truth that does not allow for such a groundedness condition is hence at a serious disadvantage.

Deflationism and the Epimenidean Dilemma

Katz summarizes the deflationary position on truth nicely as follows:

> With an instance of a disquotational schema for truth, we are ex hypothesi left with no unanswered questions about the truth of the sentence, since the instance of the schema fully specifies the conditions under which the sentence, s, is true—namely, s. (Katz unpublished, 118).

The equivalence schema—an infinite list of instances of disquotation—cannot be the proper theory of truth if it includes any instances that lead to paradox. Take 'P' as the name of a sentence, 'P is false.' The instance of the disquotational schema containing this sentence is: 'P is

false' is true iff P is false. Substituting the sentence for the name on the right-hand side, a contradiction results: 'P is false' is true iff 'P is false' is false. If this were one of the instances included in the definition of truth, inconsistency would result. A deflationist dialetheist could accept this result, with the drastic consequences for the formal sciences noted above.

Horwich attempts to avoid inconsistency with a restriction on the definition of truth: "All that can be said...is that the theory may only contain a restricted set of the instances of the schema" (Horwich 1998a, 136). A suggestion in the text, not developed in detail, is that a groundedness condition could be developed in order to provide a "constructive specification of the excluded instances that is simple as possible" (ibid., 42). Among the possible "constructive specifications" cited by Horwich is Kripke's groundedness theory; Horwich also cites approaches to the paradoxes that do not involve groundedness, such as Tarski's hierarchy of languages and metalanguages in "The Concept of Truth in Formalized Languages." Horwich's official position is noncommittal: Any proper specification of the restriction of the truth schema that avoids the paradoxes may be invoked, so long as it is not overly complex or restrictive.

One difficulty to note is that this restriction on the schema, based on the introduction of notions such as groundedness or a hierarchy of truth predicates, seems to be at odds with the claim that is the core of deflationism. Deflationism offers an exhaustive account of truth that has as its basis only the instances of the deflationary schema. "The entire conceptual and theoretical role of truth may be explained on [the basis of the schema]" (Horwich ibid., 5). Katz does not object to such a claim, finding it likely: "it is plausible for the deflationist to claim that any account that provides the truth conditions for each appropriate sentence is the whole story about truth in the language" (Katz unpublished, 118). The difficulties presented by the paradoxes show that deflationist claims about the explanatory prowess of the truth schema are exaggerated. The conceptual and theoretical role of truth is explained on the basis of the schema and by appeal to a theory that restricts the schema.

Another difficulty is that deflationists such as Horwich appeal to the schema as an explanation not only of the referential theory of truth, but also of the meaning of the term 'true.' As noted above, Horwich claims that the meaning of 'true' consists in its use, the disposition of speakers to accept instances of the schema. If certain

sentences cannot be part of the truth schema due to their lack of groundedness, does this result in the meaninglessness of such sentences? Given that (EP) would be restricted from the schema on the basis of ungroundedness, does the word 'true' still have a meaning in (EP)? If not, the difficulties that arose for Smiley would arise again for Horwich.

A more significant worry results from considering how a groundedness condition would restrict the schema. The deflationist truth schema, on Horwich's account, is an infinite list of sentences of the form: 'p' is true iff p. As a restriction on this schema, the theory of groundedness would have to rule out certain cases that could not be substituted for p. (EP) is one case that could be ruled out as a proper substitution instance for the schema; The sentence 'I am currently lying' is another. In Kripke's terminology, there are no circumstances in which such sentences result in a fixed point.

Could a groundedness condition serve in general as a restriction on the deflationist truth schema? A serious difficulty for this approach is the aspect of the paradoxes noted by Kripke—groundedness is not an intrinsic feature of sentences. Given that this is so, the procedure that sorts grounded from ungrounded sentences will need to rely on

whether or not certain other facts are true. Certain sentences, such as the utterance of Epimenides, are only ungrounded depending on the situation. One cannot decide whether to remove ''All Cretans are liars' is true iff All Cretans are liars' from the schema without first determining whether or not what all of the other Cretans have said is false.

The problem is that restricting the schema depending on whether or not certain facts obtain at a certain point in time will present difficulties if the situation changes. If at time T1, the Cretans are all liars, a deflationist could appeal to groundedness to remove ''All Cretans are liars' is true iff All Cretans are liars' from the schema. Allowing such a sentence into the schema would result in paradox. At time T2, the Cretans may have begun to change their ways and tell the truth. At this point, the sentence would have a truth value, false; The deflationary restriction of this sentence would not allow for the sentence to have a truth value at T2, for *ex hypothesi* this sentence is not one of the acceptable instances of the schema. Kripke summarized the difficulty such cases present well: "There can be no syntactic or semantic 'sieve' that will winnow out the 'bad' cases while preserving the 'good' ones" (Kripke 1975, 692).

The deflationist cannot appeal to groundedness in order to remove all instances of the truth schema that result in paradox. Either sentences such as the utterance of Epimenides are removed and the restriction is far too restrictive, or this utterance is allowed as an instance of the schema and paradox results. The remaining options for the deflationist are to allow for true contradictions, as Priest does, or claim that liar paradox sentences are meaningless, as Smiley does. As noted above, the consequences of either of these approaches are fairly drastic. In order to avoid the Epimenidean dilemma, one must appeal to a theory of truth on which a groundedness condition can be properly formulated, and no there can be no such proper formulation on a deflationary theory of truth.

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