could have been noted that most of the persons now comprising "Man" are
excluded from galactic revels and such; they will be dead; as material subjects,
finished. They are told instead that the freedom of man will be asserted, against
the "definite homeostasis" of the inorganic world, against the "destructive
action of entropy" (233). The reader may agree that Strugatskys couldn't have
ironically expressed it better.

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Paradoxes: A Study in Form and Predication
JAMES CARGILLE

Culminating in a bold, tightly argued last chapter that undertakes to resolve the
semantic paradoxes, Cargile's book appears in the main to be a leisurely,
digressive, informal sheaf of reflections—rather more critical than systematic—
in the philosophy of logic. How the two themes that divide the book might be
seen to connect with one another—the fastidious argumentation regarding the
semantic paradoxes on the one hand and the fairly free-wheeling discussion of a
miscellany of logical topics featuring Russell, Mill and Frege on the other—the
casual reader will not always find easy to determine, even though on a line by line
and page by page basis this absorbing book is compellingly readable. The
following instructions should indeed be pasted into every copy of the book:
begin (and end) with Sections 78 and 79 on "kinds of assertion and predication",
proceeding straight into Sections 92 and 93 that are designed to show that "the
semantic paradoxes can be answered in terms of my account of assertion and predication".

Assertion and predication emerge as the central themes on the basis of an
antecedent inquiry into the "very obscure" question of logical form where it
turns out that we can neither abstract entirely from the linguistic features of
sentences, attending solely to the propositions they express, nor altogether
ignore those propositions in favor of the sentences themselves. Logical form is
not to be read off simply from either the one or the other. So the interplay
between sentence and proposition comes to be crucial for logic, semantic con-
siderations proving thus to be decisive, and it is in this connection that certain
T-sentences are actually found to be false! They are not true simply in virtue of
their form. Surprisingly, this new "paradox" admits of being defused, where-
ona classically pure solution to the semantic paradoxes, free of all makeshift
deVICES, begins to appear—for the first time after many years of widespread
defeatism—as once again within our reach if not perhaps quite within our grasp.

Consider A. A is the following sentence-token: A is not true. It is in the
specific interplay between assertion and predication that the truth value of A
comes to sight. To say (assert) something is to attribute truth to a proposition. A
must then be seen to attribute truth to the very same proposition of which A
predicates being not true. Inconsistent, A proves to be false and hence not true,
and the following Tarskian biconditional must now be evaluated: The sentence
"A is not true" is true if and only if A is not true. Consider B. B is the following
sentence-token: A is not true. Having ruled that A is not true, we are committed
to accepting B as true. Which is itself rather paradoxical seeing that one would
suppose that A and B must express the same proposition. That the Tarskian
biconditional is now taken by Cargile to be false, ought not to be surprising. It is
too fair to say, however, that one of our intuitions about truth has been expressed
by Tarski when he says (off the record) that every T-sentence must surely be true in
virtue of its very form. Apart from the semantic paradoxes, even non-
paradoxical token-reflexive sentences can generate deviant T-sentences. One
has only to consider C. C is the following sentence-token: The present senten-
token contains less than ten words. The Tarskian schema is thus seen to have
only limited validity.

How A and B can differ in truth value remains to be explained, though Cargile
is by no means alone in having to face that challenge. Falling in line with the
conventional wisdom, we may choose to insist that A says nothing at all on the
ground that it fails to express a proposition. On any account it is safe to say that A
and B do differ in truth value. The resulting paradox can be stated as follows. The
subject-expression of B is a singular term that denotes the same item that is
denoted by the subject-expression of A, and the predicate of B certainly expres-

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and B do differ in truth value. The resulting paradox can be stated as follows. The
subject-expression of B is a singular term that denotes the same item that is
denoted by the subject-expression of A, and the predicate of B certainly expres-
same thing. "Saying the same thing" may itself express different properties on different occasions, though a family resemblance may be expected to obtain among them. In that spirit we may venture to allow that A and B do "say the same thing" even though in this more radical case there is a divergence in truth value. If Jones says, "It is raining," and Smith says, "It is raining and it is cold" both have said the same thing, namely that it is raining. That at any rate supplies us with one paradigm. Here is another. If Brown contradicts himself by saying, "It is raining and it is not raining," he has of course said that it is raining, though that is not all he has said.

Whether in fact A does succeed in expressing a proposition has not been settled. The principal stumbling-block lying in the way of my accepting Car기에’s account has been my doubt that there is a proposition to which A attributes the property of truth and of which A predicates the property of being not true. Moreover, even if someone does attribute truth to a proposition of which he predicates being not true one cannot conclude, simply from that, that the proposition is false. Let someone say, "It is both true and not true that 2 + 2 = 4," and though he is certainly inconsistent it is at least plausible to suppose that there is a true proposition featured here, namely that 2 + 2 = 4, to which he attributes truth and of which he predicates being not true. Prepared to concede that A may well be a "questionable case", Car기에 prefers to regard it as saying (1) that A is not true and also (2) that it is not true that A is not true. But the only reason we can have for adjoining (2) to (1) is that A is to be seen as saying that (1) is not true. And that can obtain only if (1) is all that A says, which is of course impossible. Suppose now that (1) is merely part of what A says. Then we have no reason for saying that A predicates being not true of that.

Much more accommodating is a closely related case (there is a whole battery of them) that is designated "F". Let us say then, that F is the following sentence-token: Every proposition asserted by F is false. Here we proceed in piecemeal fashion, giving F the initial benefit of the doubt. Presumed to assert that p, namely that every proposition asserted by F is false, F must also be taken to assert that ~p. As well as that ~p, ad infinitum, albeit in a cumulatively redundant fashion. Here indeed the notion of what a sentence (or a speaker) says need not be taken to imply that logically equivalent propositions are identical, as if there could be only one arithmetic truth. The concept of a "proposition" is doubtless polymorphic, varying concomitantly with "the demands we make of the notion" (Kripke), and even in the worst case one ought never to rule that some paradoxical sentence says nothing at all. Even "Close the door!" says something. Overlooked by Car기에 though very much in the spirit of his inquiry into logical form, the following sort of case is crucial for the systematics of formal logic. Suppose that F is found to be the conclusion of some argument (i.e. some argument-token). How is the argument to be formalized? We can stick to sentential logic. It will not suffice to exhibit the conclusion as being of the form "p \land \neg p", though that would doubtless serve to bring out the validity or invalidity of the argument, in an informal way.

No rigorous proof of the invalidity of the argument-form "p \land q \land \neg q" can perform double duty as a rigorous proof of the invalidity of the argument-form "p \land q \land \neg q\land q". So the argument-forms are distinct if only because the relevant sentence-types are distinct. Different proof-theoretical machinery is brought to bear in the two cases. Presumably, then, F as the conclusion of an argument-token must needs be formalized as an infinite conjunction whose ordinality is at least \omega, and indeed Car기에 allows that we cannot expect to unpack "in full" all that F says. But then if F yields an \omega conjunction it can be readily argued that it yields the negation of that \omega conjunction as well, and on and on, suggesting that no transfinite ordinal can suffice for all that F says, thereby raising the issue whether the totality of what F says may not be an illegitimate totality. That both sentential and predicate logic ought to be paradigmatically formalized so as to license formulas of infinite length, can be defended on independent grounds. The inconsistent proposition that F expresses is by no means especially obscure, on any view of a "proposition" taken to be a non-linguistic item. Logical form, however, seems to be essentially bound up with language, and we may well insist that there are transfinite ordinals (e.g. \omega_1) that no linguistic string could possibly instanticate. How precisely these considerations are to be represented in predicate logic, the logician will not wish to ignore.

Car기에’s predication theme comes through most clearly in connection with the Epimenides proper. Car기에 follows Mill. According to Mill, a person who affirmed before the Duke of Wellington was born that all men are mortal asserted that the Duke of Wellington was mortal. That "confuses asserting with asserting of, or predating" but even so "the assertion does achieve predicating mortality of the Duke". That "All men are mortal" predicates mortality of every Tom, Dick and Harry turns out to be the less surprising when one realizes that in standard predicate logic "Everything is an F, therefore Socrates is an F" is accepted as valid. Better, surely, to say that "Everything is an F" predicates F-ness of Socrates without, however, entailing it. The predicator of the sentence can thus supplement its propositional content, thereby introducing a certain ill-ocutionary force into the pure semantics of the sentence (quite apart from its employment in some speech act). When Epimenides the Cretan says, "Every Cretan assertion made at midnight is false" he fails to realize (being deceived by his clepsydra) that he is predicking falsity not only of Clinia’s midnight assertion that 2 + 2 = 5 but also of his own virtual assertion that 2 + 2 = 5. And on and on in that vein ad infinitum. Here then is a proposition, namely that 2 + 2 = 5, of which he predicates falsity even while he unwrittically predicates falsity as well of the negation of that proposition and of the negation of that etc. In this case (the truth predicate is special) the predicator of Epimenides’ assertion must not be taken merely to supplement its propositional content. Rather, it must be recognized as being part and parcel of it (224). The general idea here is illustrated by Jones’ saying, "What Smith just said is false." Then if Smith just said that 2 + 2 = 4 it turns out that Jones has said (doubtless unintentionally) that 2 + 2 \neq 4. That someone can say and even state something unintentionally is nicely shown by Ronald Reagan’s lapsus linguae, during the recent political campaign, that on being elected president he would certainly raise taxes. He said it.

If Car기에’s theory of form and predication is splendidly controversial, there can be no doubt that among the very few absolutely indispensable, classic texts on the semantic paradoxes his discussion must be included.