

**Theodore de Laguna's discovery of the deflationary view of truth**  
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And

**A Nominalistic Interpretation of Truth**  
**Theodore de Laguna**  
**(Joel Katzav ed.)**

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**Abstract**

Theodore de Laguna develops and argues for a deflationary view of truth well before the publication of what many have taken to be its source, or at least its inspiration, namely Frank P. Ramsey's paper 'Facts and Propositions'. I outline de Laguna's view of truth and the arguments he offers for it; I also discuss its role in the history of twentieth-century philosophy. My outline and discussion serve as an introduction to de Laguna's 'A Nominalistic Interpretation of Truth', a paper he originally wrote in English but which has hitherto only been published in French.

**1. Introduction**

The American philosopher Theodore de Laguna (1870-1930) published a brief statement of the deflationary view of truth in his 1916 paper, 'On Certain Logical Paradoxes' (CLP). He goes on extensively to develop, and argue for this view in his 'A Nominalistic Interpretation of Truth' (NT), a paper that was written in English in 1921, presented at the 1921 Paris conference of the Belgian, British, French and American philosophical associations, and published, in French (De Laguna 1922), in the 1922 proceedings of the conference. The original, English version of NT is published here for the first time. I introduce (section 2) de Laguna's view of truth as well as the two arguments that he offers for his view, one of which tells us that only the deflationary view is compatible with our ability to comprehend affirmations of truth, and the other of which tells us that the deflationary view resolves the Liar Paradox. I then (section 3) situate de Laguna's work on truth with respect to related, deflationary and non-deflationary, views of truth that were developed roughly when he was active; the related views include those of Gottlob Frege, William E. Johnson and Frank P. Ramsey. De Laguna's work, I will point out, precedes what has often been supposed to be the source of the deflationary view, namely Ramsey's 1927 paper 'Facts and Propositions' and, indeed, may well be the first statement of this view. I also argue that de Laguna's work on truth may have had a substantial impact on the development of later views of truth, including on the development of Ramsey's views, as well as consider what impact its eventually being forgotten might have had on how early twentieth century philosophy has been perceived. Finally, I offer (section 4) a brief conclusion.

**2. De Laguna's view of truth**

The deflationary view of truth (DEF) is the view that (a) to say of any proposition  $p$  that it is true is to say no more than that  $p$  and that (b) explicit reference to truth is eliminable in this way because the

concept of truth is not a substantive concept, that is, is not the concept of a property or anything with a nature, and because all there is to say about the nature of truth is that it has none. De Laguna first publishes a commitment to DEF in CLP:

[T]he terms 'true' and 'false,' as applied to propositions may always be immediately eliminated. A proposition asserted to be true, may instead be simply asserted; and the contradictory of a proposition asserted to be false may be simply asserted. This use of 'true' and 'false' (as distinguished in particular from their application to beliefs) is in fact a mere periphrasis [1916, p. 23].

The use of 'periphrasis' in this quote suggests that de Laguna is not only committed to (a), but that he thinks, in accord with (b), that the concept of truth provides no information about, and that there is no information to be provided about, the nature of truth.

In NT, de Laguna confirms his commitment to DEF. He claims that what is said when a proposition is said to be true depends entirely on which proposition is being said to be true (2018, p. 11). More perspicuously, the truth of propositions is

systematically ambiguous. The truth of the proposition that two and two make four means that two and two make four. The truth of the proposition that Paris is in France means that Paris is in France [2018, p. 12].

There are two commitments that need to be brought out here. De Laguna is, to begin with, committed to a claim that is stronger than (a). He thinks that the content of the assertion of the truth of a proposition,  $p$ , is the same as the content of the assertion of  $p$ . In addition, de Laguna is here clarifying that, on his view, the concept of truth is not substantive. The systematic ambiguity of assertions of the truth of distinct propositions means that such assertions do not involve applying the same concept to different propositions. The concept of truth is thus supposedly not a concept of something that is generally involved in true propositions' truth, whether it be property, relation or particular; for de Laguna, this amounts to saying (2018, p. 12) that 'is true' is not a genuine predicate.

De Laguna is also explicit about his commitment to the rest of (b), that is, to the claim that there is nothing positive to be said about the nature of truth. In clarifying the goal of NT, he tells us that he aims to show that

truth, as such, has no nature; that there is no property whatsoever which is possessed by all true propositions and by no others; and, accordingly, that the problem of truth, as here proposed, is an illegitimate problem, the attempted solution of which can lead only to an endless circle of deception. Truth, in other words, is not a concept capable of clarification, but an ideal of the market-place – a mode of speech exalted to the position of a category [2018, p. 8].

Notice that, if de Laguna is correct, the reason why, for any proposition  $p$ ,  $p$  implies that  $p$  is true is not that  $p$  implicitly applies the concept of truth and thus says more than it appears to say. Instead, presumably, the implication rests on the proposition  $p$  being the same proposition as the proposition that  $p$  is true.

Further, while de Laguna holds that the assertion of the truth of  $p$  expresses the same proposition as the assertion of  $p$ , he acknowledges a difference between what instances of the form 'p is true' and instances of the form 'p' do; they express different mental attitudes. 'It is true that John is good' expresses an attitude akin to that of insisting that John is good; 'John is good' does not

(2018, p. 10). Thus, for de Laguna, each instance of ' $p$  is true' expresses a proposition and a mental attitude.

De Laguna offers two explicit arguments for his view of truth. First, he notes that, if a proposition implies its own truth, it also implies the truth of its truth, the truth of the truth of its truth and so on. It follows, according to de Laguna, that, if the concept of truth is contained in a proposition, it is contained in it an infinite number of times; but this supposedly would, if 'is true' were a genuine predicate, mean that even simple propositions are of a complexity that is beyond human comprehension (2018, p. 12). Second, as the quote from CLP makes clear, de Laguna's view of truth comes with the view that 'is false' is eliminable just as 'is true' is. Now, according to de Laguna, the eliminability of 'is false' allows resolving the Liar Paradox (1916; 2018, pp. 15-16). If we recognise that 'is false' is eliminable when properly employed but is not eliminable from the sentences that give rise to the paradox, e.g., from 'This is false' when it is applied to itself, we should conclude that the sentences in fact fail to express propositions, and thus express nothing that is true or false.

Interestingly, de Laguna recognises that the propositional calculus allows formally specifying some of the inferential roles of 'is true' (2018, pp. 13-14). He notes that we can, for example, say that, given any proposition  $p$ ,  $p$  is true iff, for any proposition  $q$ ,  $q$  [materially] implies  $p$ . De Laguna argues, however, that such a formal specification is neither a basis for saying that 'is true' is a real predicate nor a theory of truth (2018, pp. 15-17).

### 3. Revisiting the history of the deflationary theory of truth

Let me turn to briefly situating de Laguna's work on truth with respect to related work on truth from about the time he was active. I will then consider what role his work might have had in the development of views of truth as well as some of the potential effects of its having eventually been forgotten.

De Laguna, we have seen, publishes a brief statement of DEF in 1916. Ramsey also provides a brief statement of what appears to be a commitment to DEF; this statement takes the equivalence of ' $p$  is true' and ' $p$ ' to suffice to show that views of truth such as the pragmatist and coherentist ones are wrong (Misak 2016, p. 162). But Ramsey's statement was five years after 1916 and remained unpublished at the time. It was part of a presentation he gave, while still a student, to the Moral Sciences Club in Cambridge (Misak 2016, p. 165). Frege's views about truth are, to be sure, published earlier than those of de Laguna. However, although Frege subscribed to (a), he also thought that truth has a nature; truth, on his view, is a particular that is designated by true sentences (Heck and May, forthcoming). Johnson, who was one of Ramsey's teachers, was also committed to (a). But Johnson thought that truth is a property with a nature (Le Morvan 2004). The earliest published version of DEF that I am aware of, other than de Laguna's, is by Alfred J. Ayer (1935).

De Laguna's work on truth was also – like Frege's work (Heck and May, forthcoming) – early in emphasising that (a) should constrain what we think about the nature of truth. Although (a) was noted in early twentieth century discussions that focused on pragmatist and Absolute idealist theories of truth (see, e.g., Törnudd (1915)), it does not appear to have played a central role in these discussions. It does come to play a central role in Ramsey's 1921 position, as we have seen. Further, Ramsey's later work on truth – including his brief statements about truth in his review of Wittgenstein's *Tractatus Logico-Philosophicus* (1923) and in 'Facts and Propositions' (1927), and his

lengthier, posthumously published treatment of the subject in *The Nature of Truth* (1990) – continues to appeal to (a) in drawing conclusions about the nature of truth, though (a) then appears (Le Morvan 2004) to be used in arguing that truth is a property. Of course, (a) plays a key role in many other later twentieth-century discussions of truth.

Thus, de Laguna's work on truth may have, at least as far as timing is concerned, played a role in initiating the twentieth century discussion of DEF as well as encouraged, more broadly, a focus on (a) as a constraint on adequate theories of truth.<sup>1</sup> Indeed, taking de Laguna's prominent academic profile into account will allow me to make a stronger claim about his potential influence. He was one of the most prominent philosophers in America during the 1920s and early 1930s. His work, which covered, among other things, philosophical logic, epistemology, ontology, ethics and the history of philosophy, had appeared in many papers in *Mind*, *The Philosophical Review* and *The Journal of Philosophy*, as well as in his monographs *Dogmatism and Evolution: Studies in Modern Philosophy* (1910) – which was written with his wife, Grace A. de Laguna – *Introduction to the Science of Ethics* (1914) and *The Factors of Social Evolution* (1926). De Laguna's 1916 articulation of DEF appeared in *The Philosophical Review*, one of only three generalist philosophy journals in America and Britain at the time. *Mind*, in addition, (1916, p. 415) provided a brief summary of de Laguna's paper in the same year, a summary that notes de Laguna's commitment to the view that 'is true' and 'is false' are eliminable and, further, that their use is periphrastic. And while de Laguna did not publish NT in English, he did publish, in 1930, an overview of some of his central philosophical commitments, one which includes an extensive presentation of his view of truth. This overview appeared in the two volume *Contemporary American Philosophy: Personal Statements* (Adams and Montague 1930). The volumes include contributions from thirty-four of the most prominent American philosophers of the time, including John Dewey, George Santayana and Clarence I. Lewis. The contributors to the volume were selected on the basis of a vote of all of three of the divisions of the American Philosophical Association (1930, p. 9).<sup>2</sup>

Some considerations even tie the presentation of de Laguna's views about truth specifically to Cambridge during the 1910s and early 1920s, a period the end of which overlaps (Rescher and Majer 1991, p. xiii) with the period during which Ramsey begins to develop his view of truth as a student there. De Laguna was on sabbatical in Cambridge in 1914-1915 (McClellan 1988, p. 26), presumably when he was writing his 1916 paper. The 1921 conference at which NT was read is attended by a contingent of British philosophers, which included (Bush 1922) Dorothy Wrinch – who, like Ramsey, was one of Johnson's students (Zabell 1982, p. 1097). Finally, de Laguna's 1916 paper had Russell and Whitehead's theory of types as its target. It is after criticising the types-based solution to the Liar Paradox that de Laguna proposes his own response to it. Given the target of de Laguna's paper, it would have been of particular interest to Cambridge philosophers; Ramsey was a voracious reader (Misak 2016, p. 158) and the relevant literature was sparse.

The prominence of de Laguna in the small 1920s and 1930s philosophical community in America and Britain – the American philosophical association had 270 members in 1920 (Blanshard

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<sup>1</sup> I leave open the question whether Frege's views about the role of (a) might have similarly affected work on truth. Johnson's views are not, however, likely to have had such an effect. While he accepted (a), his discussion of it (1921, p. 52) was not part of his discussion of the nature of truth (1921, pp. 7-21).

<sup>2</sup> The overview ascribes the origins of de Laguna's view of truth to the early twentieth-century debate about truth between pragmatists and Absolute idealists (1930, p. 412). Plausibly, the debate took place in the pages of *Mind*, *The Philosophical Review* and *The Journal of Philosophy* during the period 1904-1911 (plausibly, the papers which sparked the debate were Francis H. Bradley's 'On Truth and Practice' (1904) and William James's 'Humanism and Truth' (1904)). It is, then, during this period that de Laguna first developed his views.

1945)) – along with the publication of his work on truth in prominent venues, and his active academic life, makes it likely that his views about truth were known to a substantial proportion of philosophers at the time. De Laguna's visits to Europe and the topic of his 1916 paper suggest, more specifically, that his work will have been familiar to some philosophers at Cambridge. So de Laguna's views may have been familiar to American philosophers who, like Willard V. O. Quine, were on the scene in the 1930s and went on to develop variants of DEF or related views about truth. Similarly, de Laguna's views may have been familiar to Ramsey and other British philosophers.

To be sure, de Laguna's work on truth is not, as far as I can tell, cited in the literature in the 1930s and beyond, and will thus have been known to fewer and fewer philosophers entering into the profession after the 1930s. But this merely means that de Laguna's work on truth will have been increasingly unlikely to have directly influenced young philosophers. It is compatible with its having indirectly influenced them. Nor does it mean that de Laguna's work was not discussed, without being cited, in the 1930s. After all, citation practices in the 1930s were not very demanding. For example, Acton (1938) discusses the main theories of truth available in the 1930s, including DEF, but does not identify proponents of these views beyond stating that his own view was influenced by the work of John Dewey and George H. Mead.

This brings us to the impact of the fact that de Laguna's work was eventually forgotten. I have observed that de Laguna's work on truth was not cited in the 1930s or in later years. By contrast, some prominent, early proponents of DEF (namely, Ayer (1935) and Strawson (1949)) do mention Ramsey as a related influence. This is likely to have had at least two effects. To begin with, Ramsey's work on truth will have seemed more original than it was to those entering the profession after the 1930s and, as a result, Ramsey's reputation will have been enhanced. In addition, those looking back at early twentieth century philosophy will have been deprived of an example of first-rate philosophical analysis that was written by someone who appeared to be unsympathetic to early analytic philosophy and sympathetic to Absolute idealism and pragmatism. These attitudes are, for example, seen in *Dogmatism and Evolution: Studies in Modern Philosophy*. The book's epistemology is presented as a result of sympathetic criticism of Absolute idealism and, especially, pragmatism. The ideas of Bertrand Russell and George E. Moore play no apparent role in the book. The attitudes are also in line with de Laguna's harsh criticism of Russell's application of the logical-analytic method in philosophy and with de Laguna's criticism of Wittgenstein's *Tractatus*. De Laguna concludes his paper about Russell's method by stating that "this latest phase of Mr. Russell's philosophy is as complete and radical a failure as his ethical theory of a few years ago, which he has now discarded" (1915, p. 462). In reviewing Wittgenstein's work, de Laguna's introduction states that "[t]he present work has the great merit of being uncompromising. It is the *reductio ad insanitatem* of the theory of logical atomism" (1924, p. 103). De Laguna does go on to write that there is "a good deal in Mr. Wittgenstein's book that seems to me to be very fine indeed", but in specifying what this might be – beyond noting that the book reflects hard thought and provides stimulating suggestions – we are merely told that it contains "some remarks about the character of logical propositions and about logical pseudo-concepts which are well worthy of study" and that "the efforts toward a simplification of logical theory should meet with much sympathy" (1924, p. 109).

#### 4. Conclusion

De Laguna's view of truth is of interest because it emphasises the role of (a) in constraining views of truth and, less broadly, because it is an elegant articulation of DEF. In particular, the use of the idea that ascriptions of truth are systematically ambiguous neatly clarifies the claim that 'is true' does not

express a general concept and does not stand for something with a nature. The arguments for DEF are also significant, especially the suggestion that, if 'is false' is not eliminable from a sentence, then that sentence is meaningless. This suggestion allows de Laguna to propose a simple solution to the Liar Paradox. But de Laguna's position is also of historical interest. Partly this is because of the role that it may well have played in influencing later views of truth. It is, however, also because DEF's discovery by someone who appears to be a critic of early analytic philosophy was forgotten. This fact may have enhanced Ramsey's, and with it early analytic philosophy's, reputation.

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## A Nominalistic Interpretation of Truth

When the subject of the nature of truth is proposed for discussion, it appears to be assumed that truth has a nature -- that is to say, that there are a body of characteristic properties which universally distinguish true propositions from false. It is the object of the present paper to call in question that assumption, and to maintain that on the contrary truth, as such, has no nature; that there is no property whatsoever which is possessed by all true propositions and by no others; and, accordingly, that the problem of truth, as here proposed, is an illegitimate problem, the attempted solution of which can lead only to an endless circle of deception. Truth, in other words, is not a concept capable of clarification, but an idol of the market-place -- a mode of speech exalted to the position of a category.

It is the peculiar pride of the thinkers of our own day that in our speculation we have brought to the front the problem of truth. Other generations of men have contemplated substance and cause and goodness and knowledge. But the problem of truth, which was for them a subsidiary matter has now become primary. The neo-Hegelian coherence-theory on the one hand and Pragmatism on the other hand are characteristic expressions of the spirit of the time. However, it is to be said, there are symptoms of a growing impatience with such speculation, an increasing conviction of its vanity and sterility; and not a few thinkers, I fancy, in America especially, would be willing to subscribe to the statement, that there is no legitimate problem of truth -- that all theories of truth are essentially and necessarily fallacious.

The great educator, by which the heritage of culture is passed on from generation to generation is language. But its lessons are not always strictly true; and they are so deeply impressed upon us that, where error is contained in them, it is exceedingly difficult to eliminate it.



Most of what is known with regard to the analysis of propositions has been derived from the study of the forms of speech, and especially of the more common forms that appear in the languages with which logicians have been most familiar. Mixed with the knowledge thus gained has been a certain amount of deception; and the deception has been so complete that only after centuries of struggle have men succeeded in large measure in overcoming it. This, I take it, is the more regrettable, because the difficulties attach to certain supposed qualities and relations, which have been recognized as having a fundamental philosophical importance. These are existence, identity, inclusion in a class, possession of property, and truth.

There are problems which are difficult because of their exceeding simplicity; for the difficulty consists in maintaining the attention upon that which is too obvious to call for notice. When erroneous preconceptions are involved, these merge with principles the denial of which would be idiocy, and the very affirmation of which seems almost idiotic in its utter futility. When as the result of such preconceptions definite contradictions develop, these are easily set aside as merely verbal, which they are, and trivial, which they are not. And when the persistent thinker, whose critical suspicions have been aroused, endeavors to go to the bottom of the matter, he can find no premises more self-evident than those very propositions which he would call in question.

We may illustrate this by a reference to the quality of existence, the illusoriness of which is now widely recognized, though an occasional idealist may attempt to rehabilitate it. Descartes is careful to explain, with respect to the ontological proof of God's existence, that, strictly speaking, it is no proof at all, but a mere procedure of calling attention to what is in the highest degree evident. That a perfect being exists is an analytical proposition. Spinoza incorporates the idea of the ontological proof in the first definition of his Ethics; that is self-caused, the essence of which

involves existence. Even Leibniz is willing to accept the ontological proof on condition that the subject -- the perfect being -- be shown to contain no self-contradiction, and this he believes he has himself accomplished. What reception could any of these thinkers have given to the suggestion that the predicate -- exists -- is no true predicate at all? God is great; he is wise; he is just; he is merciful; he exists. What difference is there between this last assertion and the others? The suggestion that it is indeed most radically different must have run counter not only to the whole general trend of their philosophical thought, but to those deeper and stronger tendencies which are embodied in habits of speech that date from the childhood of the individual and of the race.

Now it is my conviction that the qualities of truth and falsity which are ascribed to judgments are of the same illusory character as the quality of existence which was ascribed to things.

Every student of logic knows that a given proposition may be capable of a considerable number of formal interpretations, and that one or another of these may be pertinent according to the context in which the proposition stands. John is good may be regarded as a statement about John, or about John's character, or about goodness; or it may be regarded as asserting a relation between John and goodness, which may be more explicitly expressed by saying that John possesses the quality in question, or that the quality inheres in him. This last mode of interpretation leads, to be sure, to certain difficulties which may raise a doubt as to whether it is strictly valid. For one thing, it points to an infinite regress of relations; for if there is a relation between John and goodness, is there not equally a relation between John and goodness on the one hand and the relation of possession on the other hand -- as appears when one says that the relation or possession connects John and goodness. For another thing, it gives rise to

some of the most embarrassing of those logical paradoxes which have so hampered the development of symbolic logic.

But the proposition that John is good is capable of still another interpretation -- one by which the proposition, as originally proposed, becomes the subject and receives as predicate the quality of truth: It is true that John is good. This predicate may be again applied to the proposition as thus reconstituted: It is true that it is true that John is good; and so on without limit. Here too, then, we have to do with an infinite regress; and we need scarcely recall the fact that the notion of truth is the basis of the family of paradoxes that are associated with the name of Epimenides.

It should be observed that for the purposes of formal logic each one of these interpretations gives rise to a new and distinct proposition. When, for example, we predicate truth of the proposition, John is good, it is as if we imported a totally new idea into the matter. For the original proposition, while it had something to say about John and his goodness, made no reference to truth. Accordingly, we have a precise equivalence between two propositions, one of which contains a constituent which is absent from the other; and the equivalence is such that from either proposition we can, independently of any other consideration whatsoever, infer the other.

It can hardly be maintained that this view of the matter is satisfactory. If the notion of truth be not contained in the proposition that John is good, it must be illegitimate to introduce it. And, indeed, on a direct examination it is easily seen that nothing is introduced. The difference in expression corresponds to a difference in mental attitude, such as might equally well be expressed by an altered tone of voice, insistent or deprecatory: John is good. The idea of truth is as much, or as little, contained in this as in the periphrastic expression that it is true that John is good.

This seems clear; and yet it has apparent consequences that are perplexing -- or that would be perplexing if one could bring oneself to take them seriously. If the idea of truth is contained in every proposition, it is contained not once but an infinite number of times. For the proposition as given implies not only its own truth, but also the truth of its truth, and the truth of the truth of its truth, and so on ad infinitum; and if it not only implies but contains all these truths its complexity would appear to be far beyond human powers of comprehension. On the other hand, if we say that all these truths are one and the same -- which in itself does not seem unreasonable -- we are led to the conclusion, that any given proposition and the proposition that it is true are not only equivalent but identical. But this in turn means that any proposition may be regarded as being its own subject and thus embracing itself as merely a part of itself; which would seem to be ridiculous.

The way out of these difficulties appears to me to be very simple. It is, as I have suggested, that there is no quality of truth at all. That is not to say that the word 'true' is insignificant, but that it does not express what from a grammatical standpoint it seems to express. An affirmation of truth is always -- except in certain limiting cases which we shall have to consider -- interpretable; but in the interpretation 'truth' disappears from the expression.

In short, what is meant by the truth of a proposition depends upon the proposition. It is, to adopt a convenient phrase, systematically ambiguous. The truth of the proposition that two and two make four means that two and two make four. The truth of the proposition that Paris is in France means that Paris is in France. And in like manner the negative of 'true', namely 'false', owes its meaning to the proposition to which it is applied. To say that it is false that two and two make five is simply to say that two and two do not make five.

Does this mean that there is no difference between truth and falsity? Not at all. There may be, literally, all the difference in the world. But what difference there is depends upon the proposition in question -- there is no universal difference. Is it true or false that, as Peano claims, a curve can fill a space? Is it true or false that, as the newspapers one morning reported, the premier of Japan has been assassinated by a Korean? Both questions are important; but they have nothing in common.

How, then, is the true to be distinguished from the false? I answer: there is no universal method of distinguishing the true from the false. If you ask me how to determine whether it is true that a curve can fill a space, I may perhaps be able to tell you. If you ask me how to determine whether it is true that a Korean has assassinated the Japanese premier, I may again be able to tell you. But there is no universal method, and there is no criterion of truth.

Traditionally it has been held that true ideas must have some internal characteristic of 'clearness' or 'adequacy', which would guarantee their external agreement with their ideata. The curious ambiguity of the term 'idea' fostered this supposition. But, in the first place, it can never be made out that any proposition is at all clearer than its contradictory. And, in the second place, a proposition can only stand in agreement or disagreement with other propositions. Not the slightest difference can be pointed out between the true proposition and the 'fact' with which it is supposed to agree.

It may perhaps be objected that studies in logical theory during the last half-century have brought to light a very remarkable body of differences between true and false propositions, especially as regards their relations of implication, and even that there is a whole department of the new logic that is concerned with the development of these differences, namely the logic of propositions.

Thus, for example, a true proposition, it may be said, is implied by every other proposition, false or true; while a false proposition implies every other, false or true. I might content myself with replying that these principles mean vastly less than they have sometimes been credited with meaning; that the first means only that if one of the two propositions is true, at least one is true whether the other is true or not; while the second reduces to the statement that if one of two propositions is false, then at least one is false, whether the other is false or not. Or I might call attention to the singular fact that the properties treated of by the logic of propositions never enable us to distinguish a true proposition from a false one. You must first know on other grounds that the proposition in question is true or false, and then, if you will, apply to it the principles of this logic. But the subject has assumed so considerable a controversial importance that some remarks upon its larger aspects seem to be in order; and if certain technicalities are involved I hope that these will not be tedious.

The calculus of propositions is, on its face, a mode of reasoning about propositions without respect to their contents. It is well-known that the symbolic logicians of an earlier day treated this calculus as a sort of supplement to the calculus of classes, that the Italian school have generally ignored it and that the authors of Principia Mathematica have placed it at the foundation of their monumental work. In itself the topic is of the very slightest importance. No scientific reasoning ever takes the forms which the principles of that calculus indicate. In scientific reasoning the content of propositions is always in at least some remote way relevant to the argument. The only application that the calculus has in common life is in the case of propositions which are accepted on unquestioned testimony, where no consideration of the underlying evidence enters in. But though the direct importance of the calculus of propositions is so slight, the indirect importance which has been ascribed to it as the foundation of the whole body of mathematical sciences is so great, that it

challenges the most critical and thorough examination. This is not the place for such an examination; but a few observations may be made which are closely related to the subject of this paper.

From the very fact that the grammatical predication of truth is regularly capable of a reasonable and consistent interpretation, it becomes possible to treat it formally as if it were a genuine predicate. Thus we divide propositions into two classes according as they do or do not possess truth -- though it is notorious that in practice this amounts to a division between the propositions that are believed and those that are not believed by the one who undertakes the division. We count the number of true and false propositions in a given list, and we attach arbitrary consequences to the proportion between them. A student, for example, who answers wrongly more than forty percent of the questions which are asked, fails in his examination. Similarly, we may assert that all of a given set of propositions are true (or false), or that at least one is true (or false); and on the basis of such statements we carry on processes of reasoning which result in valid conclusions. It is of such inferences that the calculus of propositions treats.

Now, it may be said, if true and false can be thus freely used as if they were true predicates, are they not then as good predicates as any others? If the calculus of propositions leads to valid conclusions is it not perfectly good logic? Have I not thus virtually admitted all that I am attempting to question?

To this I would reply: The calculus of propositions is an algebra which has to do with formulae which are not always directly interpretable, but which lead to results that are interpretable and which are implied by the given premises. It is a play of counters. Now our daily experience shows us that counters may be very useful. They may pass as well as coin, and it would be foolish to refuse to receive them because they are not genuine.

Nevertheless there comes a time when counters must be cashed, and if the money is not there to redeem them they are worthless.

Now the calculus of propositions is subject to a certain remarkable limitation, namely, the family of paradoxes that go by the name of Epimenides. In these paradoxes a proposition is contrived to assert, directly or indirectly, its own falsity, as in the phrase "This is false," meaning by "this" just what is expressed by these three words themselves: so that it would seem that if the proposition is true it is false, while if it is indeed false it is true. It is hard for a man of good sense to bring himself to think seriously of such matters, as the paradox is so obviously a verbal trick. But when the man of good sense takes the trouble to attempt a solution of the paradox, experience shows that the problem which it offers is perplexing in the extreme. The solutions which at first suggest themselves are quickly seen to be untenable; and he passes from one alternative to another without repose for his spirit. To a certain extent, to be sure, the solution is obvious: the apparent proposition is not really a proposition, but the merest nonsense. But when the endeavor is made to state exactly why it is nonsense, the troubles thicken. It is found curiously difficult to condemn this obvious nonsense except upon grounds which equally condemn much that is as obviously intelligible and important.

If the contentions of this paper are sound, it is the apparent predicate of the nonsense-phrase that is at fault. For truth and falsity are not genuine predicates but modes of speech, which to be intelligible must be capable of elimination; and if the only assertion is that of the proposition's own truth or falsity, that elimination cannot be effected. The counters cannot be cashed and remain worthless upon our hands. The paradox lies deeper than the contradiction that has attracted notice. It occurs equally where there is no contradiction, but where we can with perfect freedom regard the apparent proposition as true or false, just as



we please. This is the case with the phrase, "This is true," where by "this" is meant the supposed proposition "This is true" itself. For when we endeavor in the usual way to eliminate the term "true" by substituting the proposition whose truth is asserted for the assertion of its truth, we obtain simply what we had before: "This is true." The counter cannot be got rid of and remains useless upon our hands.

Within the limits thus laid down, the calculus of propositions is sound, though it is utterly trivial; but I think that on consideration it will be admitted that it does not afford a sufficient basis for the distinction between truth and falsity.

It cannot escape observation that if truth, as I have contended, has no universal nature, a theory of knowledge in general is as hopeless as a theory of truth in general. For knowledge is necessarily of what is true; and if the quality of truth is an illusion of language so is knowledge. That knowledge is somehow distinct from mere belief is, and has ever been, one of the fundamental postulates of rationalism. For Plato, for Descartes, for Kant, it has been the unassailable basis of science. Nay, from the age of Socrates to our own it has been less a dogma of the schools than an article of religious faith. But as often as the attempt is made to give clarity to this distinction, a curious phenomenon occurs: On the one hand, knowledge must have an objective certainty that is different from subjective certainty, however strong. On the other hand, no notion of certainty that is not essentially subjective -- relative to some man or to some society of men -- can be made out. Hence the distinction between knowledge and mere belief remains an imperative demand which nothing satisfies; and the theory of knowledge swings back and forth between a dogmatism which nothing can justify and a skepticism which belies itself at every turn.

The fate of Descartes's criterion of truth is most instructive. With more unanimity than we could muster on almost any other question of philosophical importance, we would say that this was an ill-conceived and radically unsuccessful venture. If such a criterion were necessary at all - we would say - it would seem to be as necessary for its own establishment as for that of any other principle. We do not first learn the marks of truth and then go to seek it. And yet, if truth has a universal nature, Descartes's enterprise is as inevitable as it is doomed to failure. If true propositions have distinctive characteristics which make them true, then if these characteristics are unrecognizable, knowledge is impossible; and if they are recognizable the process of acquiring knowledge consists in their recognition. Hence to know what truth is is a knowledge preceding every other.

But how far is this from the actual life of the mind! In order to show what is true, we have not to consider the nature of truth; all that we need to consider is the nature of things. If the enemy are beaten, then it is true that the enemy are beaten; and to know this it is necessary to look at the enemy, not at truth.