THE JOURNAL OF PHILOSOPHY
VOLUME XC, NO. 1, JANUARY 1993

UNIVERSALS*

Controversy surrounds the traditional metaphysical arguments for the existence of universals (e.g., arguments from resemblance and arguments concerning the applicability of single predicates to diverse objects). Also controversial are the traditional epistemological arguments (e.g., those concerning our ability to recognize diverse objects as falling under a single general term). The same holds true of the traditional arguments in the philosophy of language (e.g., arguments to the effect that universals are the immediate semantical values of predicates).[1]

Such controversy has led many philosophers to think that the best arguments for the existence of universals are arguments from intensional logic. The most famous such argument is derived from Alonzo Church's[2] translation-test argument. This argument is aimed at nominalist analyses of a certain class of intensional statements, namely, statements of assertion and belief. The argument trades on the fact that the familiar nominalist analyses incorporate bits of linguistic information which, intuitively, are not included in the original intensional statements. A radical, rather unpersuasive, nominalist reply is to reject the very notion of translation upon which

* I presented an early version of this paper in one of the seminars on property theory which I gave at the University of Padua in spring 1989. A later version was given at the University of Colorado Philosophy Colloquium. I appreciate the many helpful comments made by participants at those events and also by my research assistant Jennifer Murphy. Special thanks go to Mark Hinchliff and Stephen Leeds.

[1] The same also holds true of the traditional arguments in the philosophy of mathematics (e.g., arguments concerning the distinctive ontological status of numbers and arguments concerning the commitment by mathematical physics to nonconstructive infinite totalities).

[2] "On Carnap's Analysis of Statements of Assertion and Belief," *Analysis*, x (1950): 97–9.

0022-362X/93/9001/5–32

Church's argument depends. There is, however, a moderate reply available to nominalists. They may reject the need for an *analysis* of intensional statements; instead, they may rest content with mere *truth conditions*. Perhaps nominalist truth conditions can be given along the following lines: the intensional statement ⌜It is *F* that *A*⌝ is true if and only if ⌜that *A*⌝ designates some linguistic entity (e.g., the set of natural-language sentences synonymous to ⌜*A*⌝ or the set of Mentalese sentences synonymous to ⌜*A*⌝) and the predicate ⌜*F*⌝ applies to that linguistic entity. The point is that Church's translation-test argument does not, as it stands, refute this form of nominalism.[3]

I. A NEW ARGUMENT

Presented here is a new argument from intensional logic. Whereas Church's argument turns on the fine-grained informational content of intensional sentences, this argument turns on the distinctive logical features of 'that'-clauses embedded within modal contexts. Unlike Church's argument, this argument applies against truth-conditions nominalism and also against conceptualism and *in re* realism (the doctrine that universals are ontologically dependent upon the existence of instances). So, if the argument is successful, it serves as a defense of full *ante rem* realism (the doctrine that universals exist independently of the existence of instances). The argument emphasizes the need for a unified treatment of intensional statements—modal statements as well as statements of assertion and belief. Some nominalists, conceptualists, and *in re* realists have tended to neglect this point.[4] The larger philosophical moral will be that *ante rem* universals are uniquely suited to carry a certain kind of modal information. Linguistic entities, mind-dependent universals, and instance-dependent universals are incapable of serving that function.

Needless to say, the argument, if correct, has implications for the philosophy of mathematics, especially recent attempts to "modalize" away Platonic entities. Limitations on space, however, will prevent me from elaborating on these implications in the present paper.

A terminological note: 'universal' will be used for propositions as well as for properties and relations. In fact, much of the discussion

[3] I believe that a direct argument can be given against this truth-conditions nominalism. See, e.g., Bealer and U. Mönnich, "Property Theories," *Handbook of Philosophical Logic, vol. IV* (Dordrecht: Kluwer, 1989), pp. 133–251. In the present paper, I do not attempt such an argument; nevertheless, my argument will imply as a corollary that truth-conditions nominalism is mistaken.

[4] For example, Jerry Fodor tells us that "propositions exist to be what beliefs and desires are attitudes *toward*"; *Psychosemantics* (Cambridge: MIT, 1987), p. 11.

will focus on propositions; only near the end shall I indicate how the argument extends to properties and relations. Finally, I shall assume throughout that actualism is true: everything there is actually exists. There are, I believe, compelling arguments for actualism and against possibilism (the doctrine that there truly exist individuals that are not actual), but this is not the place to give them.[5] Readers in doubt about actualism may take my argument conditionally: *if* actualism is correct, so is *ante rem* realism.

II. THE FORM OF ATOMIC INTENSIONAL SENTENCES

The initial premises of the argument concern the form and truth conditions of atomic intensional sentences (sentences such as ⌜It is necessary that *A*⌝, ⌜It is possible that *A*⌝, ⌜It is acceptable that *A*⌝). Since this is not the right occasion to argue for these premises, I shall take them as as assumptions.[6] Nevertheless, it will be helpful to say something to motivate them, recognizing that there will be replies and counterreplies. In this section, I shall be concerned with three premises concerning logical form.

First, expressions like 'is necessary', 'is probable', 'is possible', 'is true', 'is known', 'is acceptable', and so forth are predicates or predicate-like.[7] The reason is that, evidently, only if such expressions are predicates or predicate-like can we make *general* statements and *general* arguments about necessity, possibility, probability, truth, evidence, knowledge, acceptability, and so forth. (Statements and arguments of this kind are needed in any *general* epistemology.) As an illustration, consider the following intuitively valid argument:

[5] See, for example, Robert M. Adams, "Theories of Actuality," *Noûs*, VIII (1974): 211–31; Michael Jubien, "Problems with Possible Worlds," in *Philosophical Analysis*, D. F. Austin, ed. (Dordrecht: Kluwer, 1988), pp. 299–322; Bealer and Mönnich; and many others.

[6] For an extended defense, see Bealer and Mönnich.

[7] The following rough-and-ready remarks might help. I shall count an expression as a singular term if it designates (or purports to designate) some item or, in the case of a variable, if it indicates (or purports to indicate) a range of items as values. I shall count an expression as a quantifier if it indicates (or purports to indicate) some portion (e.g., all, some, none, most, few, etc.) of the range of items indicated (or purportedly indicated) by a variable. I shall count an expression as a predicate or as predicate-like if either of the following conditions is met: (a) when it is combined with a singular term, the resulting complex expression says something (or purports to say something) about the item designated (or purportedly designated) by the singular term; or (b) when it is combined with a variable and an associated quantifier, the resulting complex expression says something (or purports to say something) about the portion, indicated by the quantifier ('all', 'some', etc.), of the range of items indicated (or purportedly indicated) by the variable. Thus, a mark of a predicate or predicate-like expression is that it takes singular terms as arguments and its argument places are open to quantification.

Whatever is necessary is true.

Whatever is true is possible.

∴ Whatever is necessary is possible.

It seems that only when the indicated expressions are treated as predicates or predicate-like can such arguments be represented systematically. The following is an illustration of how, when these expressions are so treated, the sample argument can be neatly represented in a predicate logic:

$$(\forall x)(Nx \rightarrow Tx)$$

$$(\forall x)(Tx \rightarrow Px)$$

$$\therefore\ (\forall x)(Nx \rightarrow Px)$$[8]

[8] The standard higher-order sentential-operator approach is a special case of such a treatment. For example, on this approach 'Whatever is necessary is possible' is represented as '$(\forall p)(\Box p \rightarrow \Diamond p)$'. The sentential operators '$\Box$' and '$\Diamond$' are predicate-like inasmuch as they take singular terms (e.g., 'p') as arguments and these singular terms are open to quantification. At this stage, I take no stand on the range of values of these variables (linguistic tokens, linguistic types, propositions, etc.). Indeed, I do not even take a stand on the question of whether these variables have a range of values; it is enough that they should *purport* to have a range of values.

Kit Fine's approach ("First-order Modal Theories II—Propositions," *Studia Logica,* XXXIX (1980): 159–202) is also a special case of the treatment suggested in the text. On his approach 'Whatever is necessary is possible' is represented as '$(\forall x)(\Box\text{True}(x) \rightarrow \Diamond\text{True}(x))$', where '$\Box$' and '$\Diamond$' are first-order sentential operators (syntactically akin to '$\neg$') and 'True' is a one-place predicate. To see that 'is necessary' and 'is possible' are predicate-like on Fine's treatment, note that they correspond to the complex expressions '$\Box$True( )' and '$\Diamond$True( )', respectively. These complex expressions take singular terms as arguments and their argument places are open to quantification. Thus, they satisfy my criteria for being predicate-like.

There is, also, the adverbial treatment. Adverbialists, however, would represent general sentences such as 'Whatever is necessary is true' along the following lines: '$(\forall p)(p$-ly(Necessary) $\rightarrow p$-ly(True))'. Although the expressions '-ly(Necessary)' and '-ly(True)' are not predicates, they are predicate-like inasmuch as they take singular terms (e.g., the variable 'p') as arguments and these singular terms are open to quantification. Given this, the considerations in the next paragraph in the text would lead adverbialists to represent ⌜It is necessary that *A*⌝ as ⌜(that *A*)-ly(Necessary)⌝, where ⌜(that *A*)-ly⌝ is a complex adverbial expression in which ⌜that *A*⌝ occurs as a singular term. In view of this, the adverbial approach may for the purposes of my argument be thought of as a mere variant (albeit more complex) of the position advocated in the text. Adverbialists may avoid this conclusion only if they retreat to (something like) the prosentential approach.

The prosentential approach is at odds with the approach advocated in the text. (See Dorothy L. Grover, Joseph L. Camp, Jr., and Nuel D. Belnap, Jr., "A Prosentential Theory of Truth," *Philosophical Studies,* XXVII (1975): 73–125.) On the prosentential approach, 'Whatever is necessary is possible' would be represented exactly as it is on the standard higher-order operator approach '$(\forall p)(\Box p \rightarrow \Diamond p)$' except that variables like 'p' are not counted as singular terms, i.e., as pro*nouns*. Rather they are counted as pro*sentences*. Accordingly, they do not even purport to indicate a range of values; they are construed as anaphoric expressions whose

Second, 'that'-clauses are singular terms. To see why this is plausible, consider the following intuitively valid argument:

Whatever is true is possible.

It is true that *A*.

∴ It is possible that *A*.

If there were an equivocation in the use of 'is true' between the two premises, the argument would not be valid. So, given that the argument is valid, there would seem to be no equivocation. We have agreed that in general sentences—for example, the first line in this argument—expressions like 'is true' have predicate or predicate-like occurrences. So, given that there is no equivocation between the use of 'is true' in the two premises, 'is true' also has a predicate or predicate-like occurrence in the second premise. Therefore, in the second premise, the expression ⌜that *A*⌝ must, it seems, be a singular term that occurs as an argument of 'is true'. So, the correct parsing of the second premise must be the following:

<u>It is true</u> <u>that A</u>.[9]

---

linguistic function is to go proxy for sentences. In my view, there are serious difficulties facing the prosentential theory. The most salient in the present context is perhaps that, syntactically, the theory is rigidly *typed*. The parts of discourse which the theory is designed to capture are manifestly *type-free*, however, as the following sorts of examples indicate: 'Some things are neither true nor false; for example, commands, questions, rules of inference, intellectual movements, governments, artistic styles, sensations, events, and, of course, persons and physical objects'. 'Murphy's Law is that whatever can go wrong does go wrong. When I first heard of O'Reiley's Law, I mistakenly thought that it was the same thing as Murphy's Law, but it is not. O'Reiley's Law is the blackjack that O'Reiley keeps behind the bar at his saloon'. 'When I was young, the things I cared most about were things that I could see or feel, but now they are things I can know to be true'. Etc. In the next section, this evident type-freedom will figure in the argument against the sentential-operator theory of the truth conditions for atomic intensional sentences.

[9] There are two alternate theories worth noting. First, Donald Davidson's paratactic theory, according to which ⌜It is known that *A*⌝ would be represented as two distinct sentences:

That is known. *A*.

where 'that' is used as a demonstrative. Second, a sentential-operator approach, according to which ⌜It is known that *A*⌝ would be represented either as $\ulcorner(\exists x)(Kx \ \&\ xO(A))\urcorner$ or $\ulcorner(\forall x)(xO(A) \rightarrow Kx)\urcorner$, where syntactically '*O*' is an operator that, when applied to a sentence, yields a complex 1-place predicate-like expression. (Israel Scheffler's inscriptional approach to indirect discourse is a special case of this treatment in which $\ulcorner O(A)\urcorner$ is a semantically primitive one-place predicate that applies to inscriptions of sentences synonymous to *A*.) For the purpose of the present paper, these two theories may be viewed as complex variants of that advocated in the text. For, on both theories, the use of a 'that'-clause involves (at least implicit) use of an associated singular term as an argument of a predicate-like

In what follows, it will be convenient to represent the singular term ⌜that A⌝ with ⌜$[A]$⌝. Accordingly, the above intuitively valid argument would be symbolized thus:

$$(\forall x)(Tx \rightarrow Px)$$
$$\underline{T[A]}$$
$$\therefore \quad P[A]$$ [10]

The third premise is that 'that'-clauses may contain externally quantifiable variables. Consider the following intuitively valid argument:

Whatever is true is possible.
For all y, it is true that $y = y$.
∴ For all y, it is possible that $y = y$.

Given the previous conclusions, we are led to the following representation of this argument:

$$(\forall x)(Tx \rightarrow Px)$$
$$\underline{(\forall y)T[y = y]}$$
$$\therefore \quad (\forall y)P[y = y]$$

---

expression. Specifically, on Davidson's theory, the use of a 'that'-clause involves an (at least implicit) paratactic use of the demonstrative 'that'. On the operator theory, the use of a 'that'-clause involves an (at least implicit) use of a quantified variable (e.g., the variable 'x' above).

[10] Advocates of free logic might claim that the original argument is not strictly speaking valid unless it is supplemented with the premise ⌜That A is something⌝ or ⌜There is something identical to that A⌝. I need not suppose otherwise. To accommodate the free logician, I would simply supplement our symbolized version with the premise ⌜$(\exists x)\ x = [A]$⌝. The philosophical point is this. I am, at the present stage, arguing merely that 'that'-clauses should be treated as singular terms. This treatment is required even in free logic. The question of whether 'that'-clauses actually designate anything and, accordingly, whether they have ontological significance is a separate question, which I shall consider in a moment. In this connection it should also be said that at present I am taking no stand on the question of whether our quantifiers are objectual or substitutional.

Incidentally, the higher-order sentential-operator approach is a variant of the position stated in the text. On this approach, entire sentences ⌜A⌝ are substituends for quantifiable variables and, hence, count as singular terms. Accordingly, higher-order operator theorists would rewrite our sentence ⌜$(\forall x)(Nx \rightarrow Px) \rightarrow (N[A] \rightarrow P[A])$⌝ as ⌜$(\forall p)(\Box p \rightarrow \Diamond p) \rightarrow (\Box A \rightarrow \Diamond A)$⌝. Similarly, on Fine's first-order treatment, our sentence would be rewritten by Fine as ⌜$(\forall x)(\Box\mathrm{True}(x) \rightarrow \Diamond\mathrm{True}(x)) \rightarrow (\Box\mathrm{True}([A]) \rightarrow \Diamond\mathrm{True}([A]))$⌝, where ⌜$[A]$⌝ is a singular term, 'True' is a one-place predicate, and '□True( )' and '◇True( )' are complex predicate-like expressions.

The point is that the singular term '[$y = y$]' contains free occurrences of the variable 'y' which are bound by the external quantifier '($\forall y$)'. There are, of course, alternate approaches to quantifying-in. I believe, however, that they fail to yield a fully general treatment, or else they turn out to be notational variants of the above approach.[11]

Wholly analogous considerations suggest that gerundive phrases ⌜being such that A⌝ and infinitive phrases ⌜to be such that A⌝ are also singular terms that may contain externally quantifiable variables. Gerundive phrases, infinite phrases, and 'that'-clauses are known as *intensional abstracts.*

III. THE TRUTH CONDITIONS OF ATOMIC INTENSIONAL SENTENCES

I now turn from considerations of logical form to considerations of truth. Intuitively, a great variety of atomic intensional sentences are true. For example, for every mathematical sentence ⌜A⌝, intuitively either ⌜It is necessary that A⌝ or ⌜It is impossible that A⌝ is true. Likewise, a great variety of atomic intensional sentences of the form ⌜$[A] = [B]$⌝ or ⌜$[A] \neq [B]$⌝ are true.[12] By accepting the intuitions that a wide variety of atomic intensional sentences are true, I am taking no stand on how to answer the question: What conditions must hold for an arbitrary atomic intensional sentence in an arbitrary language to be true? But surely this is a question which has an answer.[13] In saying this, I am not taking a position on the question

[11] See Bealer and Mönnich, pp. 146–54, for a critical survey of the alternative approaches to quantifying-in. The most common one is to increase the *degree* of predicates that take 'that'-clauses as arguments. For example, on this approach 'w believes that x gives y to z' would be represented as '$B^5 w,x,y,z,$giving'. The major flaw in this treatment is that it is incompatible with a *general* treatment of general sentences. How, for example, are we to represent 'Someone believes something'? With 'B^2'? 'B^3'? 'B^4'? Or what? Evidently, the only solution to this problem is to appeal to *sequences.* For example, 'w believes that x gives y to z' would be represented as '$B^3 w, \langle x,y,z \rangle,$giving'. The phenomenon of "transmodal" quantification, however, which I shall discuss in section V, will serve as a reductio of this approach. So, for the purpose of the present discussion, I may countenance it as an alternative to the approach favored in the text. But how implausible this approach is! To illustrate, notice that 'that'-clauses containing externally quantifiable free variables may flank the identity predicate, for example:

$$(\forall wxyz)[w = x] = [y = z].$$

Should '=' therefore be treated as a four-place predicate? Surely, little examples like this do not provide sufficient reason to give up the classical treatment of '=' as a standard two-place predicate. Besides this problem, there are many others confronting the sequence approach.

[12] There are radical philosophers who question such intuitions and, indeed, whether there are any true atomic intensional sentences. For a reply to these radical philosophers, see my "The Incoherence of Empiricism," *Proceedings of the Aristotelian Society, Supplementary Volume* (1992): 99–138.

[13] The paradoxes might block a fully general answer to this question. If so, the remark in the text should be understood thus: when suitable paradox-avoiding distinctions are incorporated (e.g., object-language/metalanguage distinctions), then surely the resulting qualified question ought to have an answer.

of how best to characterize the semantics of natural language, nor am I supposing that the semantics for natural language must conform to one learnability requirement or another. Nor am I supposing that deflationist attitudes toward linguistic truth are mistaken. The point is simply that a wide array of atomic intensional sentences are true, whereas others are not. I simply want to know in general what conditions must hold for an arbitrary atomic intensional sentence in an arbitrary language to be true, rather than not true. The question is clear; it would be mysterious in the extreme if it did not have an answer.[14]

I shall adopt the premise that a *referential* theory provides the only viable answer to this question. On a referential theory, an atomic intensional sentence ⌜*F*[*A*]⌝ is true if and only if there is something that the singular term ⌜[*A*]⌝ designates and the predicate ⌜*F*⌝ applies to that thing.[15] This will be the fourth premise.

To motivate this premise, let us look at two alternatives. The first invokes a first-order sentential-operator approach to intensional language. The idea is to proceed in two stages: first, to try to give nonreferential truth conditions for sentential-operator sentences of the form ⌜*F*-ly,*A*⌝ (e.g., ⌜Necessarily,*A*⌝, ⌜Probably,*A*⌝, ⌜Possibly,*A*⌝, ⌜Acceptably, *A*⌝, etc.) and, second, to give truth conditions for atomic intensional sentences in terms of the truth conditions given in the first stage (i.e., ⌜*F*[*A*]⌝ is true iff ⌜*F*-ly,*A*⌝ is true). Both stages have serious problems, however. Concerning the first stage, it is true that there are nonreferential techniques for specifying truth conditions for sentences of the form ⌜*F*-ly,*A*⌝ in the case of certain individual predicates ⌜*F*⌝. But no one has a clue about how to state *in general* the conditions under which sentences of the form ⌜*F*-ly,*A*⌝ would be true for *arbitrary* predicates ⌜*F*⌝. Indeed, for each new predicate ⌜*F*⌝, giving truth conditions for ⌜*F*-ly,*A*⌝ seems to be a separate project unto itself. What is called for is a *general* technique that works for an arbitrary sentence ⌜*F*-ly,*A*⌝ in an arbitrary language. Piecemeal techniques for certain selected individual ⌜*F*⌝ in certain selected languages do not

[14] Stephen Schiffer argues that we must accept this mystery—*Remnants of Meaning* (Cambridge: MIT, 1987). I believe that his arguments can be met with a satisfactory theory of propositions. See sect. 10 of my "A Solution to Frege's Puzzle," in *Philosophical Perspectives* (forthcoming 1993).

[15] Instead of the relation of designation, there are other, perhaps less direct, semantical relations that might hold between a 'that'-clause and the associated item of which the predicate ⌜*F*⌝ is true. For example, 'that'-clauses might be contextually defined singular terms. Nevertheless, it would still be the case that ⌜*F*[*A*]⌝ would be true only if there is an appropriate entity semantically associated with ⌜[*A*]⌝, and ⌜*F*⌝ has an appropriate semantical relation to that entity. This semantical point is what will matter later on in my disproof of nominalism.

suffice. If the referential approach were adopted, however, it would be easy to give general truth conditions for sentences of the form ⌜*F*-ly,*A*⌝ for arbitrary ⌜*F*⌝: ⌜*F*-ly,*A*⌝ is true iff ⌜[*A*]⌝ designates something to which ⌜*F*⌝ applies.

Suppose, contrary to appearances, that general truth conditions for sentences of the form ⌜*F*-ly,*A*⌝ can be given without recourse to the referential approach. The sentential-operator approach still faces difficulties, for the kind of truth conditions its second step would yield (i.e., ⌜*F*[*A*]⌝ is true iff ⌜*F*-ly,*A*⌝ is true) breaks the logical connections that atomic intensional sentences ⌜*F*[*A*]⌝ have to other sentences involving the predicate ⌜*F*⌝ and the singular term ⌜[*A*]⌝. To show why, I must make a preliminary grammatical point. To wit, strings of the form ⌜*Ft*⌝, ⌜$t = [A]$⌝, ⌜$t \neq [A]$⌝, and so forth are well-formed, where ⌜*t*⌝ is a name or a definite description. (E.g., ⌜*t*⌝ might be 'the reflexivity of identity', 'Murphy's Law', 'quantum mechanics', 'Buddhism', 'romanticism', 'Marxism', etc; or 'the simplest logical law', 'the most controversial theory', 'that which is most worth knowing', etc.[16]). The problem is compounded by the fact that, evidently, there are not type restrictions on the singular terms ⌜*t*⌝ that can meaningfully occur in the indicated sentences. (The following examples illustrate the point: 'Abstract expressionism is neither true nor false; it is an artistic style'; '*Modus ponens* is neither true nor false; it is a rule of inference'; 'Mere sounds are neither true nor false'.) It appears that there is no general technique for extending nonreferential sentential-operator truth conditions to sentences of the form ⌜*Ft*⌝, ⌜$t = [A]$⌝, ⌜$t \neq [A]$⌝, and so forth. So, some other style of truth conditions is needed for these sentences (e.g., referential truth conditions of the type I would advocate, or some new style of truth conditions, perhaps like that to be discussed in a moment). But, in this case, the truth conditions for sentences such as ⌜*Ft*⌝, ⌜$t = [A]$⌝, and ⌜$t \neq [A]$⌝ would float free of the truth conditions for atomic intensional sentences ⌜*F*[*A*]⌝. But how, then, is one to explain why elementary arguments like the following are logically valid:

$$\begin{array}{ll} & Ft \\ & \underline{t = [A]} \\ \therefore & F[A] \end{array}$$

For example,

Leibniz's Law is necessary.

[16] There is no assurance that, for each singular term ⌜*t*⌝ of the indicated kind, there will always be a sentence ⌜*A*⌝ that makes ⌜$t = [A]$⌝ true. For example, perhaps there is no sentence ⌜*A*⌝ that makes ⌜Romanticism = [*A*]⌝ true.

Leibniz's Law is that identical items have the same properties.

∴ It is necessary that identical items have the same properties.

The standard-style explanation is in terms of truth conditions: an argument is logically valid if and only if wholly general semantical considerations, based entirely on the truth conditions of the premises and conclusion, ensure that the premises cannot be true unless the conclusion is also true. On the sentential-operator approach, this standard-style explanation breaks down: the truth conditions of the premises float free of the truth conditions of the conclusion. At the same time, there appears to be no alternative style of explanation to take the place of the standard-style explanation. Unless one can be found, the validity of a large family of elementary arguments would be a complete mystery on the sentential-operator approach. By contrast, the referential approach provides a simple, straightforward explanation.

We come now to the second nonreferential approach to atomic intensional sentences. According to it, sentences of the form ⌜*F*[*A*]⌝ are likened to ordinary vacuous-name sentences such as 'Apollo is a Greek god': in both cases the singular terms—⌜[*A*]⌝ and 'Apollo'—are deemed not to refer to anything at all. The sentence 'Apollo is a Greek god' is true, not because 'Apollo' designates something (e.g., a Meinongian object) to which the predicate 'is a Greek god' applies, but rather because the sentence is suitably "backed" by relevant beliefs on the part of the ancient Greeks (e.g., the beliefs that initially generated and then perpetuated the Apollo myth).[17] On analogy, perhaps an atomic intensional sentence ⌜*F*[*A*]⌝ is true, not because ⌜[*A*]⌝ designates something to which ⌜*F*⌝ applies, but because the sentence is "backed" by some relevant body of beliefs. There are several problems with this proposal. Here are two. First, we standardly use 'that'-clause constructions to talk about beliefs, so this

[17] Cf. my *Quality and Concept* (New York: Oxford, 1982), sect. 39, for a sketch of an analogous treatment of Geach's problem of intentional identity. Incidentally, Meinongians advocate an entirely different approach to proper names like 'Apollo'. They hold that such a name genuinely designates something, viz., something that has being but not existence. In this way, Meinongians are the most extreme advocates of referential semantics. (Indeed, contemporary Meinongians accept a full ontology of universals and so are in agreement with the main conclusion of the paper. But Meinongianism is incompatible with actualism.) The nonreferential theory under discussion in the text is *anti*-Meinongian inasmuch as it treats names like 'Apollo' as genuinely nondesignating. Throughout the discussion, I shall assume for the sake of argument that vacuous-name sentences like 'Apollo is a Greek god' are strictly and literally true. If they are not, then so much the worse for the supporter of a nonreferential theory for atomic intensional sentences.

approach would appear to trigger a vicious regress. Second, there are not "enough" beliefs to "back" every true atomic intensional sentence. After all, by Gödel's theorem, we know that true atomic intensional sentences of the form ⌜It is necessary that A⌝ are not even recursively enumerable; however, our beliefs surely are recursively enumerable. Therefore, there is evidently no way in which our beliefs, just on their own, could serve to separate these sentences into true and false. The problem is even more recalcitrant when it comes to contingently true atomic intensional sentences such as: ⌜It is causally necessary that A⌝, ⌜It is probable that A⌝, ⌜It is causally possible that A⌝, ⌜That A is explained by the fact that B⌝, and so forth. Here it seems plain that the world, above and beyond our mere beliefs, is needed in order to separate these sentences into true and false. Of course, it would do no good to "modalize" the proposal, for the resulting modal sentences would themselves be atomic intensional sentences. The outcome seems inescapable: the truth of atomic intensional sentences must be "backed" by reality. The only stateable truth-backing relation holding between reality and such sentences, however, must depend in some way on reference. But, given this dependence, problems of generality (see, e.g., fn. 11) require that such sentences have referential truth conditions.

Atomic intensional sentences are in this way significantly different from atomic proper-name sentences ⌜Fa⌝. For given that it is at least plausible that there is a general nonreferential technique for giving the truth conditions for *vacuous* proper-name sentences (e.g., 'Apollo is a Greek god'), it would be at least plausible to advocate the following "mixed" referential-*cum*-nonreferential truth conditions for atomic proper-name sentences generally: ⌜Fa⌝ is true iff either ⌜a⌝ designates something to which ⌜F⌝ applies, or ⌜a⌝ is vacuous and ⌜Fa⌝ satisfies the truth conditions specified by the nonreferential technique. Consequently, there is no general assurance that true atomic proper-name sentences ⌜Fa⌝ have any referential significance. In this respect, true atomic intensional sentences are quite distinctive, for there is a general assurance that they have referential significance.

I have tried to motivate the premise that atomic intensional sentences have referential truth conditions. If correct, these remarks generalize in the obvious way to atomic intensional formulas containing free variables, for example: x satisfies the formula ⌜$x = [A]$⌝ iff ⌜$[A]$⌝ designates something and x is identical to that thing.

Given that there are true atomic intensional sentences ⌜$F[A]$⌝, what kind of entity do 'that'-clauses ⌜$[A]$⌝ designate? The nominalist answer is that they designate particulars or entities that are somehow constituted out of particulars (e.g., mereological sums or sets or sequences of particulars). On the most common version of nominalism, these particulars are linguistic tokens—either tokens of expressions in some natural language or in some hypothesized "language of thought." In the latter case, these "tokens" are to be thought of as being "inscribed" in the brains of cognitive agents. Conceptualists and realists, by contrast, hold that 'that'-clauses do not designate particulars, but instead some kind of universal. Conceptualists hold that they designate mind-dependent universals (e.g., "general ideas") or kindred nonparticulars that are somehow ontologically dependent on mental activity. The realist answer is that they designate mind-independent universals. On the *in re* version of realism, universals are ontologically dependent on relevant sorts of particulars (i.e., it is not possible that universals exist when relevant sorts of particulars do not exist). On the *ante rem* version of realism, universals are not ontologically dependent on relevant sorts of particulars. I shall now argue that the nominalist answer is mistaken. Following that, I shall adapt the argument to support the conclusion that the conceptualist and *in re* realist are also mistaken. The result will be *ante rem* realism.

IV. THE ARGUMENT AGAINST LINGUISTIC-TOKEN NOMINALISM

In this section, I shall begin by discussing the most familiar version of nominalism according to which 'that'-clauses designate linguistic tokens—particular marks, sounds, and the like—or items somehow constituted out of linguistic tokens.

I have concluded:

(1) $\ulcorner F[A] \urcorner$ is true iff there is something that $\ulcorner [A] \urcorner$ designates and $\ulcorner F \urcorner$ applies to that thing.

And analogously, something satisfies $\ulcorner x = [A] \urcorner$ if and only if there is something that $\ulcorner [A] \urcorner$ designates and x is identical to that thing. The latter fact plus the standard unpacking of the standard objectual truth conditions for the existential sentence $\ulcorner (\exists x)(x = [A] \;\&\; Fx) \urcorner$ yields the following:

(2) $\ulcorner (\exists x)(x = [A] \;\&\; Fx) \urcorner$ is true iff there is something that $\ulcorner [A] \urcorner$ designates and $\ulcorner F \urcorner$ applies to that thing.[18]

Hence, (1) and (2) tell us that the truth conditions of $\ulcorner F[A] \urcorner$ and $\ulcorner (\exists x)(x = [A] \;\&\; Fx) \urcorner$ are identical. Therefore, by the standard truth conditions for biconditionals, we obtain:

[18] By explicitly invoking objectual truth conditions here, I guard against an accusation later that the quantifiers used at relevant points in the ensuing argument are merely substitutional.

(3) $\ulcorner F[A] \leftrightarrow (\exists x)(x = [A] \;\&\; Fx)\urcorner$ is true.

The foregoing are wholly general semantical considerations concerning the canonical truth conditions of the indicated sentences. According to the standard conception of logical truth, a sentence is logically true if its truth is guaranteed by wholly general semantical considerations concerning the canonical truth conditions of its constituents. So, given this standard conception of logical truth, it follows that:

(4) $\ulcorner F[A] \leftrightarrow (\exists x)(x = [A] \;\&\; Fx)\urcorner$ is logically true.

Suppose now that we modalize both sides of this logically true biconditional. For the left-hand side we have:

$\Box F[A]$.[19]

For the right-hand side there are two alternatives:

(a) $\Box(\exists x)(x = [A] \;\&\; Fx)$
(b) $(\exists x)(x = [A] \;\&\; \Box Fx)$

These two alternatives correspond to the two different ways of taking the scope of the singular term $\ulcorner[A]\urcorner$: (a) narrow scope and (b) wide scope.[20] Given that $\ulcorner F[A] \leftrightarrow (\exists x)(x = [A] \;\&\; Fx)\urcorner$ is logically true, we may be assured that, if $\ulcorner\Box F[A]\urcorner$ is true, then either (a) or (b) or both must be true. This will serve as the main "lemma" in my argument.

Let $\ulcorner A\urcorner$ be some necessarily true sentence (e.g., '$(\forall x)x = x$'). Then, necessarily, it is possible that A. This sentence has the form $\ulcorner\Box$ Possible $[A]\urcorner$. So, by the above conclusion, it follows that either

(5a) $\Box(\exists z)(z = [A] \;\&$ Possible $z)$

or

(5b) $(\exists z)(z = [A] \;\&\; \Box$Possible $z)$

or both must be true, depending on the scope of $\ulcorner[A]\urcorner$. Suppose that $\ulcorner[A]\urcorner$ has narrow scope and, hence, that (5a) holds. Simplifying, we get:

[19] The reader may take $\ulcorner\Box S\urcorner$ as a primitive-operator sentence of the form $\ulcorner N$-ly,$S\urcorner$ or as an abbreviation for $\ulcorner N[S]\urcorner$, where 'N' is the one-place necessity predicate.

[20] Special thanks go to Stephen Leeds for pointing out that nominalists might be able to exploit the wide-scope reading to their advantage. Incidentally, in place of writing $\ulcorner(\exists x)(x = [A] \;\&\; \Box Fx)\urcorner$ I could write $\ulcorner(\exists x)(x = [A] \;\&\; N[Fx])\urcorner$ where 'N' is the one-place necessity predicate and $\ulcorner[Fx]\urcorner$ is a 'that'-clause containing a free occurrence of an externally quantifiable variable. Thus, insofar as the nominalist insists on the possibility of the wide-scope reading, it is the nominalist who is responsible for introducing quantifying-in into the debate.

(6) $\Box(\exists z)z = [A]$

Now, suppose that the above linguistic-token version of nominalism holds; that is, suppose that $[A]$ is a linguistic token or something constituted out of linguistic tokens. Like many other philosophical theories, this is the sort of theory that is necessary if true.[21] Therefore, on the supposition that linguistic-token nominalism is true, it would follow that, necessarily, if $[A]$ exists, linguistic tokens exist. From this and (6) it follows that, necessarily, linguistic tokens exist —a manifestly false conclusion. This forces nominalists to take ⌜$[A]$⌝ as having wide scope in ⌜$\Box$ Possible $[A]$⌝ and, hence, to accept (5b). Nothing seems wrong with this. So far, then, nominalism is in the clear.

Nevertheless, there are slightly more complex cases for which this way out fails. For example, we know that, necessarily, everything is self-identical. This implies that, necessarily, everything is such that it is at least possible that it is self-identical. In symbols:

(7) $\Box(\forall y)$ Possible $[y = y]$[22]

By the above argument, we know that nominalists cannot hold that the singular term '$[y = y]$' has narrow scope. That is, nominalists must reject '$\Box(\forall y)(\exists z)(z = [y = y]$ & Possible $z)$'. For it is not necessary that there exist tokens of '='. (The problem recurs for ever more complex formulas.) So the nominalist must find some way of giving '$[y = y]$' a wide-scope reading. Of course, '$(\exists z)(z = [y = y]$ & $\Box(\forall y)$ Possible $z)$' is out of the question: it is not even a sentence since 'y' occurs free. Evidently, the nominalist needs a new sort of quantificational device which may occur within modal contexts and which nevertheless has the force of indicating the existence of things that are now actual. I see no grounds for deeming such devices illegitimate, so let us accept them at least for the sake of argument.[23]

[21] Look at the matter this way. Suppose that nominalists are right in holding that $[A]$ is actually a linguistic token (or something constituted out of linguistic tokens). Is it possible that $[A]$ could be something else? If so, what? No plausible answer presents itself. Nominalists could try to escape this conclusion by invoking the distinction between accidental predicates and essential predicates. Such nominalists would hold that $[A]$ is only *accidentally* a linguistic token and that it is *essentially* a particular graphite mark with a certain shape (or that it is a particular kind of physical sound blast or something of the sort). Rather than debate the issue, I could satisfy these nominalists and, at the same time, preserve my argument simply by replacing all occurrences of the (allegedly) accidental predicate 'linguistic token' with an appropriate essential predicate, e.g., 'graphite mark'.

[22] 'If y exists, $y = y$' could replace '$y = y$' here and below. Likewise, '$y = y$' could be replaced by 'If y exists and there exists a linguistic token that designates y, then $y = y$' or any kindred formula.

[23] For discussion of this topic, see G. Forbes, *The Metaphysics of Modality* (New York: Oxford, 1985), pp. 89ff.

In this case the nominalists' "wide-scope" reading of (7) might be represented thus:

(8) $\Box(\forall y)(\mathcal{E}z)(z = [y = y]\ \&\ \text{Possible}\ z)$

This is read as follows: necessarily, for all y, there is an actually existing object z such that $z = [y = y]$ & z is possible.

But what could these actually existing objects z be? According to our nominalist, they are linguistic tokens or entities somehow constituted out of linguistic tokens. Here, then, is one nominalist proposal: z might be the concatenation "n"⌢"="⌢"n", where "=" is some actual token of the identity symbol and "n" is an actual token of a name n that in relevant possible circumstances would name relevant items y that exist in those circumstances.[24] Stated somewhat more carefully, the idea is that (8) would be equivalent to:

(9) $\Box(\forall y)(\mathcal{E}z)(\mathcal{E}\text{``}n\text{''})(z = \text{``}n\text{''}\frown\text{``}=\text{''}\frown\text{``n''}\ \&\ \text{``}n\text{'' names}\ y\ \&\ \text{Possible}\ z)$

By simplification, (9) implies that, necessarily, every object (including objects that are not now actual) is named by an actual token "n" of some actual name n. On its face, this is entirely implausible. But the situation might be even worse. On Saul Kripke's[25] theory of names, this could not be more mistaken. Indeed, on that theory, it is not possible that there could exist even one object that is not actual that is named by some actual name (*ibid.*, pp. 23–4, 156–8). According to Kripke, names are rigid designators; that is, in every possible situation in which a name n refers at all, it always refers to the same thing. For Kripke, the problem is that there is no reference-fixing mechanism by which we could fix the semantics of a name n so that: n in fact refers to nothing; but, nevertheless, if various things that are not actual were to exist, n would, without any modifications in the conventions of the language, apply uniquely to one of them. The reason is this. For any reference-fixing description d that we might invoke in an effort to introduce the name n, if there is a possible situation in which d picks out an object that is not now actual, then there is another possible situation in which d would pick out some other object. Since n must be rigid, however, if in the first possible situation n were to name the item that fits d there, then in the second situation n would not name the item that fits d there. Likewise, if in the second situation n were to name the item that fits d,

[24] For brevity I omit mention of the specific language to which n belongs. I assume that a language is a kind of contingent particular brought into existence by the conventional behavior or mental activity of contingent agents like ourselves. Later I discuss an abstract set-theoretical conception of language.

[25] *Naming and Necessity* (Cambridge: Harvard, 1980).

then in the first situation, *n* would not name the item that fits *d* there. The point is that we have no way to overcome this indeterminancy. All we can ever do is to offer vainly some more elaborate description *d*, but this only leaves us with essentially the same sort of difficulty.

Kripke's point seems cogent. But even if it were not, the nominalist proposal would still be in trouble. For, plainly, the supply of names in our actual languages is too sparse. Surely, it is logically possible for there to be things that are not named by some actual name. Indeed, there are any number of actual things that right now have no names.

A variation on the nominalist proposal is to let definite descriptions play the role that names played in the first proposal. According to this new proposal, (8) would be equivalent to:

(10) $\Box(\forall y)(\mathcal{E}z)(\mathcal{E}\text{“}d\text{”})(z = \text{“}d\text{”}{}^\frown\text{“}=\text{”}{}^\frown\text{“}d\text{”}$ & “d” uniquely describes y & Possible y)

Here “*d*” is intended to be some actual token of some actual definite description *d*. By simplification, (10) implies that, necessarily, for any *y*—including any *y* that is not now actual—*y* is uniquely described by an actual token “*d*” of some actual definite description *d*. This seems preposterous. Our languages are just too sparse.

For those wishing an argument for this negative assessment, I offer the following. On the received view of identity, necessarily, for all *x* and *y*, it is either necessary or impossible that $x = y$.[26] That is, $\Box(\forall x)(\forall y)$ L-determinate $[x = y]$. According to the nominalist description-proposal, this would be equivalent to:

(11) $\Box(\forall x)(\forall y)(\mathcal{E}z)(\mathcal{E}\text{“}d\text{”})(\mathcal{E}\text{“}e\text{”})(z = \text{“}d\text{”}{}^\frown\text{“}=\text{”}{}^\frown\text{“}e\text{”}$ & “d” uniquely describes x & “e” uniquely describes y & L-determinate z)

Notice, however, that the L-determinacy condition in (11) would not be met—and so (11) would be false—*unless the descriptions d and e are rigid.* Therefore, to be adequate, (11) must be understood that way. In this case, (11) would by simplification imply:

(12) $\Box(\forall x)(\mathcal{E}d)$ d is a rigid description that uniquely applies to x.

But (12) implies that, necessarily, for all *x* that are not presently actual, there is an actually existing rigid description *d* that would apply uniquely to *x*. There are two problems with this (besides its patent implausibility). First, it clashes with Kripke's theory of names.

[26] If you wish, replace '$x = y$' with 'If x and y exist, $x = y$'. Or for that matter with '$((\exists u)(\exists v)(\text{Token } u \ \& \ \text{Token } v \ \& \ u \text{ designates } x \ \& \ v \text{ designates } y) \rightarrow x = y)$'.

According to that theory, there can be *no* actual rigid descriptions *d* like those just posited; for, if there were, they could be used to fix the semantics for the kind of names Kripke deems to be impossible. (That is, names which are in fact vacuous but which in some possible situation would—without any change in the semantical conventions of the language—name an object which exists in that situation but which is not now actual.) Second, quite independently of Kripke's theory, there are certain traditional logical possibilities that serve as counterexamples to (12). For example, the logical possibility of a qualitatively symmetrical universe in which all of the contingent objects are "new" (i.e., not now actual). In such a situation, none of the objects there would be uniquely identified by *any* actual description that is rigid. The reason is that in such a situation the objects would possess their identifying qualities and spatiotemporal locations contingently: each of those objects *could* have had different qualities and different spatiotemporal locations.

The conclusion is that the foregoing nominalist proposals are doomed. The referential resources of language are too sparse. I am not raising one of the familiar cardinality points from the philosophy of mathematics (e.g., that the points of physical space are more numerous than the linguistic tokens); I am prepared to concede to nominalists that such cardinality claims are question-begging or at least inconclusive. The point is that our actual definite descriptions and names cannot do the job even for small finite logical possibilities.

This assessment is likely to be accepted even by nominalists. There are, however, a number of more sophisticated proposals that nominalists might offer in an attempt to save their view. (For example, they might try to overcome the referential deficiencies of our actual languages by falling back on such devices as autonyms, variables-with-fixed-assignments, etc.) Below, in a more general setting, I shall argue that such proposals are deficient.

V. THE ARGUMENT AGAINST LINGUISTIC-TYPE NOMINALISM

In the above argument, I made use of the fact that it is logically possible that there exist no linguistic tokens. This suggests a way in which nominalists might try to escape our conclusion. They could admit linguistic types into their ontology. Linguistic types are a kind of *ante rem* universal: it is possible for them to exist even in circumstances in which they have no instances. This kind of linguistic-type nominalism falls short of full *ante rem* realism, for linguistic types are the *only* universals it countenances.

There is, however, a more sophisticated version of our argument which faults linguistic-type nominalism. The argument points to an infinite family of intuitively true sentences that linguistic-type nominalism is in principle unable to accommodate. The following is the example I shall consider: every x is such that, necessarily, for every y, either it is possible that $x = y$ or it is impossible that $x = y$.[27] In symbols:

(13) $(\forall x)\Box(\forall y)(\text{Possible } [x = y] \vee \text{Impossible } [x = y])$

By my earlier considerations, this implies one or both of the following:

(13a) $(\forall x)\Box(\forall y)(\exists z)(z = [x = y] \;\&\; (\text{Possible } z \vee \text{Impossible } z))$
(13b) $(\forall x)\Box(\forall y)(\mathcal{E} z)(z = [x = y] \;\&\; (\text{Possible } z \vee \text{Impossible } z))$

By simplification (13a) implies:

(14a) $(\forall x)\Box(\forall y)(\exists z)z = [x = y]$

And (13b) implies:

(14b) $(\forall x)\Box(\forall y)(\mathcal{E} z)z = [x = y]$

So, the nominalist must provide a way for (14a) or (14b) or both to come out true. The problem for the nominalist is to find a way to take '$[x = y]$' which is compatible with nominalism. I shall now argue that there is none. Specifically, I shall argue that all nominalistic construals of (14a) and (14b) come out false.

I begin by considering concatenations. On the one hand, (14a) cannot be equivalent to:

(15a) $(\forall x)\Box(\forall y)(\exists z)z = x^\frown\text{'='}^\frown y$

(It might help to think of x and y as autonyms. Of course, '=' is the identity symbol, *ex hypothesi* an *ante rem* linguistic type.) The reason is that, necessarily, a concatenation of objects exists only if those objects exist. Therefore, (15a) implies that, for all x, necessarily, x exists. A clear falsehood, for some things x exist contingently. On the other hand, (14b) cannot be equivalent to:

(15b) $(\forall x)\Box(\forall y)(\mathcal{E} z)z = x^\frown\text{'='}^\frown y$

The reason is that, necessarily, a concatenation of objects actually exists only if those objects actually exist. Therefore, (15b) implies that, necessarily, for all y, y is already actual. A clear falsehood, for it is logically possible that there exist items y that are not now actual.

[27] My argument will go through if '$x = y$' were replaced *mutatis mutandis* with 'If x and y exist, $x = y$'. It would also go through if 'It is impossible that $x = y$' were replaced *mutatis mutandis* with 'It is possible that $x \neq y$'.

Next, consider ordered sets. On the one hand, (14a) cannot be equivalent to:

(16a) $(\forall x)\Box(\forall y)(\exists z)z = \langle x, `=\text{'}, y\rangle$

(Again, it might help to think of *x* and *y* as autonyms.) For, necessarily, an ordered set exists only if its elements exist. Therefore, (16a) implies that, for all *x*, necessarily, *x* exists. A falsehood. On the other hand, (14b) cannot be equivalent to:

(16b) $(\forall x)\Box(\forall y)(\mathcal{E}z)z = \langle x, `=\text{'}, y\rangle$

For, necessarily, an ordered set actually exists only if its elements actually exist. Therefore, (16b) implies that, necessarily, for all *y*, *y* is already actual. A falsehood.[28]

Next, consider assignments of values to variables. On the one hand, (14a) cannot be equivalent to:

(17a) $(\forall x)\Box(\forall y)(\exists z)(\exists \alpha)(z = \langle `x\text{'}^\frown`=\text{'}^\frown`y\text{'}, \alpha\rangle$ & α is an assignment that assigns '*x*' to *x* & '*y*' to *y*)

(*Ex hypothesi*, '=', '*x*', and '*y*' are *ante rem* linguistic types.) The reason is that nominalists must treat assignments extensionally as sets of argument-value pairs (e.g., argument-value pairs such as $\langle `x\text{'}, x\rangle$). But, necessarily, a set of pairs exists only if the elements of those pairs exist. Therefore, (17a) implies that, for all *x*, necessarily, *x* exists. On the other hand, (14b) cannot be equivalent to:

(17b) $(\forall x)\Box(\forall y)(\mathcal{E}z)(\mathcal{E}\alpha)(z = \langle `x\text{'}^\frown`=\text{'}^\frown`y\text{'}, \alpha\rangle$ & α is an assignment that assigns '*x*' to *x* & '*y*' to *y*)

As I just indicated, nominalists must treat assignments extensionally as sets of argument-value pairs. But, necessarily, a set of pairs actually exists only if the elements of those pairs actually exist. (E.g., necessarily, for all *y*, a set α that contains the pair $\langle `y\text{'}, y\rangle$ actually exists only if *y* actually exists.) Therefore, (17b) implies that, necessarily, for all *y*, *y* is already actual. A falsehood.

Finally, let us consider languages and rigid designating expressions (names and rigid descriptions). On the one hand, (14a) cannot be equivalent to:

(18a) $(\forall x)\Box(\forall y)(\exists L)(\exists z)(\exists e)(\exists e')(z = \langle e^\frown`=\text{'}^\frown e', L\rangle$ & *L* is a language in which *e* rigidly designates *x* & *e*′ rigidly designates *y*)

For what, according to nominalists, are languages? There are two conceptions available to nominalists. First, nominalists might treat

[28] This style of reasoning completes the reductio promised in fn. 11.

languages as a special sort of contingent particular brought into existence by the conventional behavior or mental activity of contingent agents (such as human beings). The problem is this. It is logically possible that there could exist items *y* even if *no* contingent agents ever existed. So, it is logically possible that there could exist items *y* when no language *L* exists. Therefore, it is logically possible that there could exist items *y* but no expression *e* that designates *y* in any language *L* that exists in the circumstance. Hence, (18a) would be false on this conception of what a language is. We come now to the second conception, the set-theoretical conception. On this conception, a language is nothing but an ordered pair consisting of a set *E* of well-formed expressions and an extensional interpretation ϑ that assigns to each element in *E* an appropriate value. For example, if an expression $e \in E$ is a name or definite description, ϑ would assign to *e* an appropriate designatum. On this conception of what a language is, the linguistic-type nominalists would be free to hold that, necessarily, languages exist. But on this conception, the nominalists would have the same sort of problem they had when they tried to make use of assignments α: languages *L* and interpretations ϑ must be treated extensionally as sets; however, necessarily, sets exist only if their elements exist. Therefore, for all *x*, necessarily, if there exists an expression *e* and language *L* such that *e* designates *x* in *L*, then *x* exists. So (18a) implies that, for all *x*, necessarily, *x* exists. A falsehood. The conclusion, therefore, is that (18a) is false on both the conceptions of language which are available to the nominalists.

For much the same reason, (14b) cannot be equivalent to:

(18b) $(\forall x)\Box(\forall y)(\mathcal{E}z)(\mathcal{E}L)(\mathcal{E}e)(\mathcal{E}e')(z = \langle e^\frown\text{'='}^\frown e', L\rangle$ & *L* is a language in which *e* rigidly designates *x* & *e'* rigidly designates *y*)

Suppose the nominalist adopts the first conception of language, according to which a language is a certain kind of contingent particular brought into existence by the conventional behavior or mental activities of agents such as us. In this case, the considerations from section IV come to bear. The referential resources of language are too sparse. In principle, our languages cannot contain a supply of rigid designators such that, necessarily, every object *y* (including all objects *y* that are not now actual) would be rigidly designated by one of them. On the other hand, suppose the nominalist adopts the second conception of language, according to which a language *L* is a mere set-theoretical object consisting of a set *E* of well-formed expressions and an extensional interpretation ϑ that assigns to each expression in *E* an appropriate value. The problem is that, as I have noted, nominalists must treat interpretations ϑ extensionally as sets.

But, necessarily, a set is actually existing only if its elements are actually existing. Therefore, necessarily, for all *y*, if there is an actually existing expression *e* in an actually existing language *L* such that *e* designates *y*, then *y* is actually existing. Hence, on this conception of language, (18b) implies that necessarily, for all *y*, *y* is already actual. A falsehood. The conclusion is that (18b) is false on both conceptions that are available to nominalists.

Summing up, we began with a true sentence (13). We saw that (13) implies that either (14a) or (14b) or both are true. On the most promising nominalistic construals of (14a) and (14b), however, both of these sentences would be false. The difficulties evident in these construals fall into a distinct pattern. It seems that this pattern of difficulties generalizes to other nominalistic construals of (14a) and (14b). If this is right, it follows that linguistic-type nominalism is mistaken: 'that'-clauses do not denote linguistic entities (either types or tokens); they must denote some other type of entity. Given this, it would be odd in the extreme if our other types of intensional abstracts—namely, gerunds ⌜being *F*⌝ and infinitives phrases ⌜to be *F*⌝—were to denote linguistic entities. So, I conclude that these intensional abstracts also denote some other type of entity.

But, then, what type of entity do intensional abstracts denote? Given the failure of nominalism, it is natural to turn to the traditional answer, namely, that they denote universals (propositions, properties, relations). The traditional answer can be defended by examining in further detail the logical behavior of intensional abstracts. The above argument against nominalism, however, already gives us reason to accept the traditional answer. Notice that the argument turned on the fact that nominalists must take entities such as sequences, assignments, interpretations, and the like *extensionally*. If such objects could instead be construed as *intensions*, the argument would not go through. This option is, however, not available to nominalists, for intensions are universals. The deeper philosophical point revealed by the argument, then, is this. Intensions are uniquely equipped to be the vehicles of a kind of "transmodal" information whose existence is implied by the use of certain intensional abstracts within modal contexts. As long as the use of such intensional abstracts forces us to admit some intensional entities into our ontology, however, it would be mere perversity to deny the natural generalization, namely, that intensional abstracts, generally, make a commitment to—and, indeed, denote—associated intensional entities.

The intended moral of Church's translation-test argument is something like this. The use of intensional abstracts in statements of assertion and belief seems to imply the existence of vehicles of information that do not belong to any one natural language and that are in that sense "translingual." Because natural-language sentences standardly belong only to one natural language, Church concludes that the requisite translingual vehicles of information must be something nonlinguistic, namely, intensional entities. Church's argument neglects the idea that the requisite translingual vehicles of information might be sentences, not in a natural language, but in the "language of thought" hypothesized by philosophers of mind. Therefore, as it stands, Church's argument is inconclusive. My argument, like Church's, also aims to show the need for vehicles of information that are in a sense translingual, but in a sense much stronger than Church's. These vehicles of information must be "transmodal": they must be equipped to reach across all logically possible situations. The argument is designed to show that linguistic entities could fulfill their requisite semantical function relative to a certain type of logically possible situation only if those situations could be realized simultaneously. But some of these very same possible situations are logically incompatible with one another. Therefore, it is logically impossible for linguistic entities—even linguistic entities in an hypothesized language of thought—to fulfill the requisite semantical function for all logically possible situations. Thus, modality provides a way to establish the insight that lies at the core of Church's picture. The conclusion is that the requisite vehicles of information cannot be linguistic entities; they must be intensional entities—that is, universals.

VI. THE ARGUMENT AGAINST CONCEPTUALISM

It remains to determine the ontological status of universals. Are they mind-dependent, as conceptualists (and many constructivists) believe? Do they depend for their existence on the existence of instances, as *in re* realists hold? Or do they exist independently of the mind and independently of their instances, as *ante rem* realists maintain?

I begin by showing how the above argument can be reworked into an argument against those versions of conceptualism which identify the designata of 'that'-clauses with (entities constructed out of) *ideas,* where ideas are identified with contingent entities that depend for their existence on the mental activity of contingent agents such as ourselves. Suppose for a reductio that ideas have this ontological status. The argument requires that ideas have two features. First, it should *not* be the case that, necessarily, for all *y,* there exists an idea *i* that applies uniquely to *y.* This feature is an immediate consequence of the version of conceptualism under discussion, for *ex hypothesi* ideas depend for their existence on the mental activity of contingent agents (such as ourselves). (On this score, then, the conceptualist's ideas resemble linguistic tokens.) It is logically possible, however, that some things *y* exist when *no* contingent agents exist. Therefore, it is logically possible that some things *y* exist when *no* ideas exist. So, it is logically possible that some things *y* exist when there exists no idea *i* that applies uniquely to *y*.

The second feature that ideas must have is this: it should *not* be the case that, necessarily, for any *y*, there is an actually existing idea *i* that rigidly singles out *y*. This feature is guaranteed by the same sorts of considerations I invoked in section IV to show that it is logically possible that there exist items *y* that are not actual such that no presently actual name *n* or definite description *d* would rigidly designate *y*. (For example, if there were a qualitatively symmetrical universe in which all of the contingent objects are "new"—i.e., not actually existing here—none of our already actual ideas would apply rigidly to any contingent object there.)

Given these two features, the argument goes through much as our previous argument did. Moreover, there is an analogous argument to show that gerunds (e.g., ⌜being *F*⌝) do not designate concepts of the sort that depend for their existence on the mental activity of contingent beings. Hence, the associated conceptualist theory of general ideas is flawed. (See the close of the next section for an indication of how this argument would go.)

A caveat is in order. It will have been noticed that arguments against nominalism and conceptualism have relied on certain restrictions concerning contingency. Specifically, in my discussion of nominalism, when I was considering the conventional-behavior/intentional-activity conception of language, I restricted myself to languages instituted by contingent beings and their intentional activity. In my discussion of conceptualism, I restricted myself to the sort of conceptualistic ideas that would depend for their existence on the mental activity of contingent beings. What would happen if I dropped these restrictions? Would my argument go through? To focus the question, suppose that, necessarily, God exists and is the sole necessary being. In this case, the answer to my question depends on God's epistemological make-up. I have noted that it is logically possible for there to exist things *y* that are not now actual such that none of our own actual ideas would rigidly single out *y* in that situation. Moreover, our epistemological make-up is such that in principle there is a barrier to our having ideas that would do this. Now, suppose that the epistemological make-up of God does not differ from ours in this respect. Then my arguments would still go through. Otherwise, they would fail. That is, my arguments would fail if, for every logically possible circumstance, every object there—in particular, every object that is not among the objects that actually exist—is nevertheless such that God right now has an actual idea that would apply uniquely and rigidly to that object. Thus, a necessary condition for the truth of nominalism or conceptualism is not only that God exist but also that God have ideas of a kind that in principle we could not have and, indeed, that we could not know what it is like to have. (This is not a sufficient condition for the truth of nominalism or conceptualism; on the contrary, this condition is consistent with the truth of *ante rem* realism.) As far as I am aware, however, there is not a good philosophical model that explains how this condition could be met. Moreover, it is certainly not clear that orthodox theology implies that this condition can be met; there is a plausible case that it cannot. And even if orthodox theology were to imply that this condition can be met, orthodox theology might on its own already imply the truth of *ante rem* realism (e.g., for reasons related to those Leibniz gave in section II of *Discourse on Metaphysics*). In any event, most contemporary nominalists and conceptualists are minimalists who have no wish to save nominalism or conceptualism at the price of invoking a controversial theory of the divine mind. Indeed, from an epistemological point of view, realism is far less controversial than the contemplated theological versions of nominalism and conceptualism. So, until strong evidence for the latter emerges, realism is better justified.

VII. THE ARGUMENT AGAINST *IN RE* REALISM

According to this version of realism, necessarily, a property exists only if instances of it exist. Analogously for relations: necessarily, a relation exists only if there exist things related by it. When *in re* realists extend their view to propositions, the result is this: necessarily, a proposition exists only if its "constituents" exist.[29] (The metaphor of constituents is incidental; by using the device of quantifying-in, one can give a literal formulation of this doctrine. This is important, for as Gottlob Frege observes in "Gendankengefüge": "We really talk figuratively when we transfer the relation of whole and part to thoughts [i.e., propositions].") My argument against linguistic-type nominalism can be reworked into an easy argument against the *in re* theory of propositions. Recall the obviously true sentence that figured in my argument:

(13) $(\forall x)\Box(\forall y)(\text{Possible } [x = y] \vee \text{Impossible } [x = y])$

[29] Alvin Plantinga calls this doctrine *existentialism*. See "On Existentialism," *Philosophical Studies*, XLIV (1983): 1–20.

By our earlier considerations, we saw that (13) implies that either

(14a) $(\forall x)\Box(\forall y)(\exists z)z = [x = y]$

or

(14b) $(\forall x)\Box(\forall y)(\mathscr{E}z)z = [x = y]$

or both are true. If the *in re* theory of propositions were true, however, (14a) would imply that, for all *x*, necessarily, *x* exists; likewise, (14b) would imply that, necessarily, for all *y*, *y* is already actual. But both of these consequences are false. Therefore, the *in re* theory of propositions is inconsistent with a plain truth, namely, (13). So the *in re* theory is false.

At this point, I could go on to construct an analogous argument to show that the *in re* theory of properties is mistaken as well. This argument would focus on gerundive phrases (⌜being an *x* such that *A*(*x*)⌝) rather than on 'that'-clauses. Since *in re* realists welcome properties and relations into their ontology, they can hardly deny that properties are what these gerundive phrases designate. I shall not state this argument here. Instead, I shall give a somewhat looser argument for the sake of brevity.

I begin with a question. Which is true (14a), (14b), or both? Consider (14b). The interesting thing that (14b) tells us is that, for all *x*, it is necessary that, for each *y* that is not now actual, the proposition that $x = y$ is already actual. Call it a *transmodal proposition.* If in our actual situation the indicated propositions already exist, it would be odd in the extreme if in other logically possible situations analogous transmodal propositions did not exist as well. But this is the interesting thing that (14a) is telling us: each contingent object *x* is such that in every logically possible situation in which *x* does not exist it is nevertheless the case that, for all *y*, the transmodal proposition that $x = y$ exists in that situation. But if this holds, (14a) would hold in its full generality: for any *x* (contingent or necessary), it is necessary that, for all *y*, the proposition that $x = y$ exists. The conclusion is that, if (14b) is true, it would be odd in the extreme if (14a) were not true as well. Analogous considerations indicate that the converse implication holds as well: that is, if (14a) is true, so is (14b). As noted, the interesting thing that (14a) tells us is that in every logically possible situation in which an item *x* that is now actual fails to exist, it is nevertheless the case that, for all *y*, the transmodal proposition that $x = y$ exists. Given this, it would be odd in the extreme if there did not already exist the kind of transmodal proposition implied by (14b). But if such transmodal propositions already exist, surely (14b) holds in its full generality: for all *x*, it is necessary that, for any y (either a y that is not now actual or a y that is), the proposition that $x = y$ is already actual. The conclusion is that (14a) is true if and only if (14b) is true. Given that one or the other or both must be true, it follows that both are true. Given this, we obtain:

$$(\forall x)\Box(\forall y)(\exists z)(\mathcal{E}z')(z = z' \ \& \ z' = [x = y])$$

In this case, the following essentially simpler conclusion would hold, too:

$$(\forall x)\Box(\exists z)(\mathcal{E}z')(z = z' \ \& \ z' = [x = x])$$

But this is equivalent to:

$$(\forall x)(\exists z')(z' = [x = x] \ \& \ \Box(\exists z)z = z')$$

That is, for all x, the proposition that $x = x$ is something that necessarily exists. Given that this conclusion holds for the 'that'-clause 'the proposition that $x = x$', the same thing ought to hold for analogous gerundive phrases, for example, 'the property of being an instance of x'. Accordingly, for all x, the property of being an instance of x is something that necessarily exists. In symbols,

$$(\forall x)(\exists z')(z' = \text{being an instance of } x \ \& \ \Box(\exists z)z = z')$$

After all, according to realism—which is the only position still in the running—structurally analogous intensional abstracts denote intensional entities that have analogous ontological status. Thus, if the proposition that $x = x$ exists necessarily, then the property of being an instance of x also exists necessarily. Now, let me instantiate this conclusion by putting the property name 'red' in for 'x':

$$(\exists z')(z' = \text{being an instance of red} \ \& \ \Box(\exists z)z = z')$$

That is, the property of being an instance of red is something that necessarily exists. But it is logically possible that nothing is red. Hence, it is not the case that, necessarily, the property of being an instance of red exists only if there exist instances of it. Thus, *in re* realism fails for properties.

Notice that the property red and the property of being an instance of red are necessarily equivalent. Given that the latter property exists necessarily and given that it is necessarily equivalent to the former, what motivation could there be for denying that the former exists necessarily? After all, the property red is of the same ontological type as the property of being an instance of red: they are both universals. If this is right, then, since red is a purely qualitative property, it would follow that *in re* realism also fails for purely qualitative properties.

VIII. CONCLUDING REMARKS

If the above argument is correct, nominalism, conceptualism, and *in re* realism are untenable. The argument seems to show that only *ante rem* universals are equipped to be the vehicles of a certain kind of transmodal information that is woven into our thought and talk about necessity and possibility. This gives support to the general thesis that *ante rem* universals must be the fundamental vehicles of information.

Although this line of reasoning might seem far removed from the insights that traditionally have led philosophers to posit universals, it is hoped that this is only an appearance.[30] In the case of Church's insight, the connection is rather clear. Church's translation-test argument was thought to prove the existence of extralinguistic vehicles of information. The argument is inconclusive, however, because it neglects the idea that sentences in a "language of thought" might be able to do the work that Church believed could be done only by universals. In a kind of extended analogy, my argument closes this gap by uncovering a kind of transmodal information and showing that no linguistic entities, not even sentences in the language of thought, are equipped to be vehicles of that kind of information.

This conclusion does not show that a "language of thought" has no philosophical role to play. A language-of-thought advocate might reason thus: "Granted, your argument shows that the propositional attitudes have propositions as objects, but it does not show that propositional-attitude statements do not involve a commitment to a language of thought. For example, ⌜x believes that A⌝ might imply that x stands in a ternary relation Bel^3 holding among the subject x, the proposition that A, and some sentence in Mentalese that is synonymous to ⌜A⌝. A reason for thinking that this is so is that propositional-attitude statements exhibit a fine grainedness that is not in evidence in any other intensional statements, a fine grainedness that can be explained in terms of Bel^3 and distinctions among relevant sentences in Mentalese." This reply overlooks the fact that all the fine grainedness present in propositional-attitude statements is already present in statements having nothing to do with

[30] In this connection, it should be noted that this argument has implications for the philosophy of mathematics. For example, the argument, if correct, seems to cause trouble for "modal" attempts to eliminate Platonic entities—for example, modal "if/then"-ism and modal interpretations of mathematical quantifiers. The reason is that the relevant sentences with putatively modal force must be at least equivalent to associated atomic intensional sentences ⌜It is F that A⌝, where ⌜F⌝ is 'necessary', 'possible', 'logically true', 'logically consistent', or something of the sort. If not, what could these putatively modal sentences mean? But once these atomic intensional sentences are available, I am evidently able to restage my argument, albeit in a slightly more complex form.

psychology—for example, statements in pure logic. Illustration: 'An immediate logical consequence of the reflexivity of identity is that Hesperus = Hesperus' is a true sentence whereas 'An immediate logical consequence of the reflexivity of identity is that Hesperus = Phosphorus' is false.[31] Given that fine-grained propositions are already in evidence here, it would be extraneous to tack on Mentalese to a philosophical account of the propositional attitudes.

Such examples remind us of the need of a closing qualification. Before the informal theory of *ante rem* universals can be deemed fully acceptable, we must have a general treatment of the phenomenon of fine grainedness, one that neither succumbs to the mystery of primitive *haecceitas* nor abandons good actualist principles.[32]

GEORGE BEALER

University of Colorado/Boulder

[31] If you wish, replace 'Hesperus = Hesperus' with 'If Hesperus exists, Hesperus = Hesperus' and 'Hesperus = Phosphorus' with 'If Hesperus and Phosphorus exist, Hesperus = Phosphorus'. Here is another illustration of the point being made in the text: 'It is a truth of logic that all triangles are triangles' is true whereas 'It is a truth of logic that all triangles are trilaterals' is false. It is a truth of geometry, not logic, that all triangles are trilaterals.

[32] Steps toward such a treatment are suggested in my "A Solution to Frege's Puzzle."