Classical Cartesian dualism holds that psychological states and events belong to substances that are distinct in kind from ordinary physical substances. Though this view has few contemporary advocates, there is a claim about language that many today believe captures whatever truth there may be in Cartesian dualism of substances. According to this claim, assertions with psychological subject matter are sui generis, and psychological states are distinctive not because they are states of nonphysical substances, but rather because assertions about such states are of a special kind. On this view, any assertion about a psychological state that does not use this special kind of language must fall short of giving a full and adequate description of that state.

In this paper, I try to discredit arguments of the sort used to defend this claim about psychological language. My strategy will be to examine in detail the arguments used by Chisholm in 'Sentences about Believing', and to show that these arguments not only are unacceptable as they stand, but also cannot be revised or reworked so as to provide support for some such claim about psychological language. I adopt this plan because I believe that Chisholm's article comes the closest to success of any attempt I know to defend such a claim. But I also believe that the failures of this attempt will indicate the ways in which other attempts, including later ones by Chisholm, must also fail.

Chisholm's program in 'Sentences about Believing' is to attempt to establish an informative and nonanalytic connection between linguistic expressions that are about psychological phenomena, and those which have certain specified logical properties. The particular logical properties, or 'criteria of intentionality', that Chisholm offered there have provoked considerable discussion, and it have often been argued that given these criteria the connection Chisholm proposed does not in fact obtain. By contrast, little attention has been given to the precise nature of the connec-
tion, or to the specific claims Chisholm makes about it. In this paper, I shall try to give a precise formulation of the connection Chisholm hoped to establish, and to evaluate its usefulness.

In particular, I shall argue in Section I that Chisholm is not making the claims commonly attributed to him, for example by Cornman, Kenny and others. A consequence of this is that the criticisms presented in these discussions are for the most part misconceived. In Section II, then, I shall urge that the connection, as Chisholm did formulate it, must be importantly modified if it is to do the job Chisholm set for it. In Section III, finally, I shall argue that the connection, suitably modified, is unworkable as a device for nontrivially characterizing language used to talk about psychological subject matter.

I

Chisholm begins his discussion by proposing that we classify as intentional, among simple declarative sentences, all and only those which exhibit at least one of three logical characteristics. A sentence exhibits the first "if it uses a substantival expression – a name or a description – in such a way that neither the sentence nor its contradictory implies either that there is or that there isn't anything to which the substantival expression truly applies". (510) A sentence exhibits the second if it contain a verb governing a subordinate phrase, and "neither the sentence nor its contradictory implies either that [the indicative form of] the phrase following the principle verb is true or that it is false". (510) And the third characteristic is exhibited by a sentence containing a name, or description, with respect to which substitutivity of identity fails to preserve truth value. A compound (declarative) sentence, finally, is intentional if, and only if, it has at least one simple sentence component that, in its declarative form, is intentional.

Having presented this definition of intentionality for sentences, Chisholm goes on to formulate and defend a thesis about the relationship between intentional sentences and sentences with psychological subject matter. It is often assumed that this 'thesis of intentionality' can be expressed as

(1) A sentence is psychological iff it's intentional.
This assumption is not wholly unnatural, since intentionality has commonly been thought of in phenomenological and medieval discussions as a feature of acts, states or objects that they have just by virtue of being psychological acts, states or objects. Cornman, for example, speaks of intentionality as a property not only of sentences, but of mental activities as well. This apparently leads him to regard Chisholm's definition of intentionality as a criterion for a sentence to "express intentional activity," (52; see also 45, fn. 3) even though Chisholm makes no such claims for his definition.

Counterexamples to (1), however, are readily come by if one defines intentionality as above. It is not surprising, therefore, that the assumption that Chisholm's thesis of intentionality is expressible by (1) has led to arguments attacking his definition of intentionality as inadequate. What is surprising is that such critics have failed to notice that Chisholm is aware of the existence of counterexamples to (1). For, he explicitly discusses certain types of sentences that will, on his definition of intentionality, be both psychological and nonintentional, or both nonpsychological and intentional. And he is careful to formulate a thesis that will not conflict with the existence of these cases.

The particular sentences Chisholm considers, which would constitute counterexamples to (1), are

(S1) John is cat-perceptive.

(where 'cat-perceptive' is an atomic predicate true of one just when he is perceiving a cat), and

(S2) The patient will be immune from the effects of any new epidemics.

Although (S1) is clearly psychological, the unanalyzability of 'cat-perceptive' will prevent the sentence from being intentional on Chisholm's definition. And since neither (S2) nor its denial entails that there will, or that there will not, be any new epidemics, (S2) will be intentional by the first of Chisholm's three characteristics. But (S2) is clearly not psychological.

The thesis Chisholm does advance, and which he hopes will take account of cases like (S1) and (S2), is formulated in the following passage:
Let us say (1) that we do not need to use intentional language when we describe non-psychological, or 'physical', phenomena; we can express all that we know, or believe, about such phenomena in language which is not intentional. And let us say (2) that, when we wish to describe certain psychological phenomena — in particular, when we wish to describe thinking, believing, perceiving, seeing, knowing, wanting, hoping and the like — either (a) we must use language which is intentional or (b) we must use a vocabulary which we do not need to use when we describe non-psychological, or 'physical', phenomena. (511–512.)

In order to become clear on the precise claims Chisholm is making in this passage, it will be helpful to examine how he proposes to use this thesis to deal with sentences like (S1) and (S2).

Chisholm's strategy for handling (S1) is to argue that although it is nonintentional, its being psychological still results in its having a feature not shared by standard instances of nonpsychological sentences. For it contains a term, namely 'cat-perceptive', which as Chisholm points out "we don't need to use when we talk about non-psychological facts." (513) And in general, Chisholm argues that we can avoid having the psychological sentences we use be intentional, but only at the cost of having these sentences contain terms like 'cat-perceptive', which need not be used in nonpsychological discourse. Chisholm calls these terms 'technical terms', and they are evidently what he has in mind when he speaks of a special vocabulary in part (2) of his formulation of the thesis, quoted above. And his claim that a psychological, nonintentional sentence will always contain a technical term suggests that we might provisionally formulate part (2) of the thesis by

(2a) A sentence is psychological iff it's either intentional or contains a technical term.7

Chisholm's characterization of technical terms, that "we do not need to use [them] when we describe non-psychological, or 'physical', phenomena," cannot be used to provide an acceptable test for whether a particular term is technical. For, it would be surprising if any term whatever were indispensable for the description of phenomena of any kind. Chisholm also tells us, however, that "if we wish to tell anyone what our technical terms mean, we must use intentional language...," (513) that is, that a sentence containing a technical term cannot be 'explicated' (in some suitable sense of that word) without using at least one intentional sentence. This suggests the following as a provisional test for technical terms:
a term is technical if, and only if, every sentence containing it entails some intentional sentence. Entailment is used in this test because no stronger relation, such as meaning equivalence, seems called for. And the test is primarily one for sentences containing technical terms, and only derivatively for technical terms themselves, because the underlying idea is the need for a technical term to be 'explicated' by means of intentional language, and on Chisholm's definition language is intentional in sentence-sized units.8

Turning now to Chisholm's proposal for handling nonpsychological, intentional cases like (S2), his claim is that we can "readily transform them into conditionals which are not intentional". (512) For example, he argues that we can 'transform' the intentional sentence (S2) into the nonintentional conditional

If there should be any new epidemics, the patient would not be affected by them.

And in general, Chisholm argues,

any other ostensibly non-psychological sentence which is intentional can be transformed, in an equally obvious way, into... a sentence of one of two possible types: either (a) it will no longer be intentional or (b) it will be explicitly psychological. (512)

All genuinely nonpsychological sentences, therefore, will be either non-intentional to begin with, or 'transformable' into some nonintentional sentence.9 It is this which Chisholm seems to have in mind when, in part (1) of his formulation of the thesis, he writes that "we do not need to use intentional language when we describe non-psychological, or 'physical', phenomena."10 His claim that every genuinely nonpsychological sentence that is also intentional can always be replaced by a nonintentional 'transformation' suggests that we might provisionally formulate part (1) of the thesis by

(2b) A sentence is nonpsychological iff it's either noninten-
tional or expendable in favor of a nonintentional one.

Since Chisholm requires that a sentence be replaceable by a 'transformation' of it, it seems that a sentence and its 'transformation' must be meaning-equivalent. It will not be enough that the two sentences are about the same phenomena; they will have to say the same thing about
these phenomena as well. That Chisholm has meaning equivalence in mind is also suggested by his remark that "anyone who understands the language can readily transform" the sentences in the relevant way. (512) So it seems reasonable to adopt the following test for expendability: a sentence is expendable in favor of any sentence to which it is equivalent in meaning.\textsuperscript{11}

II

Although the foregoing may be an accurate representation of Chisholm's claims, it does not provide a satisfactory formulation of the thesis. In this section, I shall first propose ways of avoiding two objections to (2a) and (2b), and then examine systematically what conditions an acceptable formulation must satisfy. It will emerge that the thesis must be expressed in a way different from anything explicitly suggested by Chisholm.

The proposal to use (2a) and (2b) to state the thesis derived from Chisholm's discussion of two types of case:

(Case 1) Psychological, nonintentional sentences
(exemplified by (S1)), and

(Case 2) Nonpsychological, intentional sentences
(exemplified by (S2)). In particular,

(2a) A sentence is psychological iff it's either intentional or contains a technical term.
\[ (x)[P_x \equiv (I_x \lor T_x)] \]

was suggested as a way of permitting the existence of (case 1) sentences but providing special conditions that they must satisfy. And

(2b) A sentence is nonpsychological iff it's either nonintentional or expendable in favor of a nonintentional one.
\[ (x)[\neg P_x \equiv (\neg I_x \lor (\exists y)(\neg I_y. E_{xy})]|] \]

was intended to impose special conditions on (case 2) sentences, again without ruling them out altogether.

Although (2a) and (2b) are unlike (1) in setting special conditions for these two cases, their conjunction, like (1), is so strong as to rule both
cases out. For, while (2a) provides for (case 1), it excludes the existence of (case 2); and though (2b) is compatible with the existence of (case 2), it rules out (case 1). This defect can be avoided by suitably weakening (2a) and (2b). A formulation that accomplishes this is

(3a) A sentence is psychological iff it both is intentional or contains a technical term, and is not expendable in favor of a nonintentional sentence.

\[(x) [Px \equiv ((Ix \lor Tx) \cdot (\exists y)(-Iy. Exy))]\]

and

(3b) A sentence is nonpsychological iff it's both nonintentional or not expendable in favor of a nonintentional sentence, and doesn't contain a technical term.

\[(-Px \equiv ((-Ix \lor (\exists y)(-Iy. Exy))) \cdot Tx)\]

For this formulation permits the existence of (cases 1 and 2), and also requires them to satisfy the conditions that it was hoped would be imposed by (2a) and (2b).

There is another respect, however, in which (3a) and (3b) are still, like (2a) and (2b), overly strong. For, if a sentence contains a technical term, (3b) asserts that it is psychological; while if a sentence is expendable in favor of a nonintentional one, (3a) requires it to be nonpsychological. Their conjunction therefore entails that no sentence both contains a technical term and is expendable in favor of a nonintentional sentence. Any nonintentional sentence that contains a technical term, however, will be expendable in favor of a nonintentional sentence, namely itself. And altering the test for expendability to provide that no sentence be expendable in favor of itself will not help here. For it will always be possible to invent a new technical term equivalent in meaning to that contained in the original nonintentional sentence, and thereby construct a different sentence in favor of which the original one is expendable.

This consequence of (3a) and (3b) can be avoided by revising (3a) to provide not for expendability in favor of a nonintentional sentence, but rather for expendability in favor of a nonintentional sentence containing no technical term. And because this more elaborate expendability condition seems to reflect the needs of a statement of the thesis more accurately than does the condition actually mentioned by Chisholm, it
seems natural to introduce the same change in (3b) as well. The thesis will then be formulated by the conjunction of

\[(4a) \quad \text{A sentence is psychological iff it both is intentional or contains a technical term, and is not expendable in favor of a non-intentional sentence containing no technical term.} \]

\[(x)[Px \equiv ((Ix \lor Tx). (\exists y)(-Iy \cdot Ty \cdot Exy))]\]

and

\[(4b) \quad \text{A sentence is nonpsychological iff it's both nonintentional or not expendable in favor of a nonintentional sentence containing no technical term, and doesn't contain a technical term.} \]

\[(x)[-Px \equiv ((-Ix \lor (\exists y)(-Iy \cdot -Ty \cdot Exy))). -Tx])\]

(Cases 1 and 2) are the only ones Chisholm discusses in detail. In evaluating the adequacy of (4a) and (4b), therefore, it will be useful to consider a range of cases that is exhaustive on some scheme of classification. Four cases will be obtained by asking both whether a sentence is psychological and whether it is intentional, and another four by asking both whether a sentence is psychological and whether it contains a technical term. And in order to clarify the difference between what is asserted by (4a) and (4b), the eight cases will be discussed in three groups. The first three cases will have stronger conditions imposed on them by (4a) than by (4b); the next two will have the same conditions set by both; and (4b) will impose stronger conditions on the last three. Arranging the cases in this way will result in all four psychological cases being considered before the four nonpsychological ones.

(4b) requires that

(Case 1) Psychological, nonintentional sentences contain a technical term, and that

(Case 3) Psychological, intentional sentences either contain a technical term or not be expendable in favor of a non-intentional sentence containing no technical term. And (4b) imposes no condition at all on

(Case 4) Psychological sentences containing a technical term
A (case 1) sentence clearly must contain a technical term; for, this requirement is basic to the strategy of the thesis. But unless it is also not expendable in favor of a nonintentional sentence containing no technical term, the possibility will be left open that psychological descriptions need make no use of either intentional language or technical terms. And for the same reason, the psychological (cases 3 and 4), though they make use, respectively, of intentional language and technical terms, must also not be expendable in favor of a nonintentional sentence containing no technical term. Exactly these requirements, however, are imposed by (4a). Since the conditions set by (4b) are weaker, its conjunction with (4a) affords a satisfactory treatment of these three cases.

(4a) and (4b) impose identical conditions on both

(Case 5) Psychological sentences containing no technical term

and

(Case 6) Nonpsychological sentences containing no technical term

And for both cases the conditions are correct. For, in order to insure that no psychological descriptions will circumvent the need for either intentional language or technical terms, (case 5) sentences must both be intentional and not be expendable in favor of a nonintentional sentence containing no technical term. And a (case 6) sentence must either be expendable in this way, or be nonintentional. For, otherwise it could not be shown that the use of neither intentional language nor technical terms is needed to describe psychological phenomena. (4a) and (4b) each impose just these conditions.

The cases so far considered would not have received satisfactory treatment from a formulation that, like (3a) and (3b), uses the original condition of expendability simply in favor of a nonintentional sentence. For (S1) ('John is cat-perceptive.') is expendable both in favor of itself and in favor of other suitably constructed nonintentional sentences. Since (S1) exemplifies (cases 1 and 4), it is too strong to require, as (3a) would, that such cases not be expendable in favor of a nonintentional sentence. And if

(S3) John perceives a cat.

means the same as (S1), and this can be guaranteed by appropriate
stipulation of the meaning of ‘cat-perceptive’, then (S3) is expendable in favor of the nonintentional (S1). (S3) also exemplifies (cases 3 and 5). But (3a) would require (case 3) not to be expendable in favor of a nonintentional sentence, and both (3a) and (3b) would require this of (case 5). So there is conclusive reason to have revised both conjuncts of our formulation, and not merely the first, to speak of expendability in favor of a nonintentional sentence containing no technical term. For, neither (S1) nor (S3) is expendable in this way.13

Similar considerations apply to the nonpsychological (case 6). (3a) and (3b) would each require that unless such a sentence is itself nonintentional, it must merely be expendable in favor of a nonintentional sentence. But unless this nonintentional sentence is also required, as by (4a) or (4b), to contain no technical term, the thesis will not provide that the use of technical terms, like that of intentional language, is never needed to describe nonpsychological phenomena. And it can readily be seen that any other nonpsychological case also requires that the stronger expendability condition provided by (4a) and (4b) be used.

(4b) has stronger consequences than (4a) with the remaining three cases, namely

(Case 7) Nonpsychological sentences containing a technical term

(Case 2) Nonpsychological, intentional sentences

and

(Case 8) Nonpsychological, nonintentional sentences

For (4a) requires simply that the first two of these cases be expendable in favor of a nonintentional sentence containing no technical term, and that the third either be expendable in this way or itself not contain a technical term. (4b), by contrast, rules that the first is not a possible case. And while (4b), like (4a), requires that the second of these cases be expendable in the requisite way, it requires also that neither the second nor third case contain a technical term.

The strength of (4b) with these three cases results from its entailing that any sentence containing a technical term must be psychological. This same entailment, with (3b), was part of what led to the undue strength of (3b) conjoined with (3a). And it is most clearly exhibited by (4b) ruling out (case 7) altogether. It may seem that this consequence is not an unwel-
come one. For, the psychological content of technical terms will ordinarily make sentences containing them psychological. Nothing in Chisholm's statement or discussion of the thesis, however, suggests this result. For, the idea behind the thesis is that technical terms and intentional language, while both eliminable altogether in nonpsychological discourse, are in psychological discourse each eliminable only in favor of one another. And this will not prevent a technical term from occurring, albeit eliminably, in a nonpsychological sentence. Just this seems to take place, moreover, in sentences like

(S4) George is tall, and is cat-perceptive or not cat-perceptive.

For, the psychological content of the technical term is neutralized by its tautological occurrence in the sentence.

The temptation to rule out this possibility derives support largely from the necessity that technical terms be explicated by means of intentional language. This necessity is not, however, part of the thesis. Rather, it is the supplementary information about technical terms that enabled the construction of an independent test for such terms. Regardless of what this test may turn out to require, therefore, an acceptable formulation of the thesis should not, by itself, rule out the possibility of a nonpsychological sentence containing a technical term.

(4b), in ruling out (case 7) and requiring (cases 2 and 8) to contain no technical term, is therefore too strong. By contrast, the conditions imposed on these cases by (4a) are correct. For, since (cases 7 and 2) make use, respectively, of technical terms and intentional language, each must be expendable in favor of a nonintentional sentence containing no technical term if the use of neither sort of special language is to be needed in nonpsychological descriptions. And for the same reason, unless a (case 8) sentence itself contains no technical term, such expendability must be required of it as well.

Since it requires a sentence to be psychological if it contains a technical term, (4b) must be rejected. But (4a) taken alone imposes the desired conditions on all eight cases, and will therefore by itself provide a satisfactory formulation of the thesis. Since (4a) and (4b) are both biconditionals, it is not surprising that only one should be needed to state the thesis. For, each provides different necessary and sufficient conditions both for a sentence to be psychological and nonpsychological. And it is not un-
reasonable to expect that a pair of such biconditionals will be too strong.

This suggests that rather than having initially formulated the thesis by (2a) and (2b), the corresponding conditionals might have been used instead, namely,

If a sentence is psychological then it's either intentional or contains a technical term.

and

If a sentence is nonpsychological then it's either nonintentional or expendable in favor of a nonintentional one.

And it is arguable that this would have provided a formulation closer to Chisholm's actual words. For, Chisholm nowhere explicitly mentions both necessary and sufficient conditions either for a sentence to be psychological or nonpsychological. Rather, he provides only necessary conditions for each case separately.

This pair of conditionals, however, would have been too weak for all eight cases considered above, and for three of them would have no consequences at all. Finding appropriate ways to weaken (2a) and (2b), therefore, seems to have been a preferable strategy to that of finding ways to strengthen the corresponding conditionals. The only advantage of two conditionals over a single biconditional would be a more perspicuous representation of what the thesis provides for psychological and nonpsychological sentences considered separately. But this is readily obtained, for, (4a) is equivalent to the conjunction of

(5a) If a sentence is psychological then it both is intentional or contains a technical term, and is not expendable in favor of a nonintentional sentence containing no technical term.

\[ (x)[P_x \supset ((I_x \lor T_x) \land \neg (\exists y)(\neg I_y \land \neg T_y \land E_{xy})] \]

and

(5b) If a sentence is nonpsychological then it's either nonintentional and doesn't contain a technical term, or expendable in favor of a nonintentional sentence containing no technical term.

\[ (x)[\neg P_x \supset ((\neg I_x \land \neg T_x) \lor (\exists y)(\neg I_y \land T_y \land \neg E_{xy}))] \]

The thesis can be expressed, then, either by these two sentences or by (4a) alone.14
In seeking an acceptable statement of the thesis, the tests for technical terms and expendability have been put to one side. For, if the thesis is to be workable, these tests will have to be independent of it. There seems no objection, however, to a test for expendability that, like the one proposed above, permits a sentence to be expendable in favor of itself. For, the notion of expendability is simply a way to express whether some type of special language can or cannot be avoided in describing certain types of phenomena. If expendability is reflexive, however, this will have an interesting consequence for the thesis. For, it will follow that a sentence can fail to be expendable in favor of a nonintentional sentence containing no technical term only if the sentence itself either contains a technical term or is intentional. If a sentence is expendable in favor of itself, therefore, this will entail that (4a) is true just in case it is also true that

(6) A sentence is psychological iff it's not expendable in favor of a nonintentional sentence containing no technical term.

\[ (x)[P_x \equiv \neg (\exists y)(\neg I_y \cdot \neg T_y \cdot E_{xy})] \]

So if expendability is reflexive, this will result in a substantially simpler statement of the thesis.

This can be confirmed by again looking at the eight cases considered above. For the psychological (cases 3 and 4) and the nonpsychological (cases 2 and 7), (6) would impose exactly the desired conditions no matter what test for expendability is adopted. For the other two psychological cases, (6) by itself would be too weak. For, (case 1) must contain a technical term and (case 6) must be intentional. But these conditions will be guaranteed if such sentences fail to be expendable in the way provided by (6), and if expendability is reflexive. It is less readily seen how (6) can treat the two remaining, nonpsychological cases in a satisfactory way. For, it was argued above that the nonintentional (case 8) need be expendable in the way imposed by (6) only if it contains a technical term. But provided that expendability is reflexive, if a (case 8) sentence does not contain such a term, it will automatically exhibit such expendability in favor of itself. And while such expendability is not required of a (case 6) sentence, which contains no technical term, unless it also is intentional, if it is not intentional it will be automatically expendable in this way, again if a sentence is permitted to count as expendable in favor of itself. So expendability
being reflexive will be both a necessary and a sufficient condition for (6) to be satisfactory formulation of the thesis.

There are several features of Chisholm’s statement of the thesis that can be seen to be misleading, given the foregoing discussion. Though there is clarity in expressing the thesis by a pair of conditionals, as Chisholm does, the particular conditionals he uses wrongly suggest that technical terms are of concern only in connection with the necessary condition to be placed on psychological sentences. This is not to say that Chisholm intends this understanding. For, he does remark in part (2) of his statement of the thesis that such terms need not be used in describing nonpsychological phenomena. But the relevance of this remark to a necessary condition on nonpsychological sentences is obscured by the two-part formulation Chisholm offers. Similarly, while a notion of expendability is suggested by Chisholm’s discussion of nonpsychological sentences, no such notion seems needed for the necessary condition on psychological sentences, as Chisholm states it. For, it is tempting to suppose, given Chisholm’s words, that a psychological sentence will accord with the demands of the thesis if it is intentional, or if it contains a technical term. Nothing in part (2) of Chisholm’s statement of the thesis makes clear the need for such a sentence also to satisfy a particular nonexpendability condition.

By contrast, (4a) highlights the degree to which both the notions of expendability and of a technical term must appear ineliminably in the necessary conditions on both psychological and nonpsychological sentences. It is difficult to evaluate how much of the complexity of a formulation like (4a) Chisholm may have had in mind. And the need for such complexity is, in any event, obscured by his statement of the thesis. For, the burden of a single notion of expendability is carried, in Chisholm’s statement, by his speaking variously of what ‘must’, ‘can’ and ‘need’ be true of the language used to describe psychological and nonpsychological phenomena. And the notion of expendability not only permits considerable gain in clarity, but also the added simplicity afforded by formulating the thesis as (6). For, without a single expendability relation, the precondition that leads to (6) cannot be made explicit. While the notion of expendability, therefore, is what chiefly enables the clarity of (4a) to be achieved, the central role of technical terms in any acceptable formulation of the thesis is perhaps the most notable result of such clarification. For
this reason, the discussion in the following and final section will be an examination of the notion of a technical term.

III

There is no particular difficulty in determining whether a sentence is intentional on Chisholm’s definition, nor, it may be supposed for the present purposes, in applying a notion of expendability couched in terms of meaning equivalence. Unless there is also an effective way of telling whether a particular term is technical, however, it is hard to see how the truth of the thesis could be evaluated. For, the necessary conditions on both psychological and nonpsychological sentences cannot be applied without at least determining the absence of technical terms either in the given sentence or in those in favor of which it is expendable. And though the arguments in Chisholm’s article mostly lend support to his thesis not directly but by discussing putative counterexamples,15 the same is required for this strategy to be operative. There are serious obstacles, however, to finding a workable test for technical terms.

The test provisionally stated in Section I is expressed by

(T1) A term is technical iff every sentence containing it entails some intentional sentence.

One source of difficulty with this test is not hard to remedy. Since a compound sentence is intentional just in case it has an intentional component, the disjunction of any intentional sentence with any analytic one will be both analytic and intentional. But all sentences entail any analytic sentence, and therefore will entail one that is intentional as well. So any sentence whatever will trivially satisfy the condition set by (T1) for containing a technical term, and (T1) will therefore rule that all terms are technical.

It will not help here to stipulate that the intentional sentence entailed by one that contains a technical term must be simple. For, special terms can readily be coined to circumvent this condition by enabling the construction of a simple, analytic, intentional sentence. If, for example, ‘R’ is an atomic, two-place predicate meaning the same as ‘is tall or not tall, or is thinking of’, then every sentence will entail the intentional sentence ‘George R Vienna.’. The difficulty can be overcome, however, by pro-
viding directly that the entailed intentional sentence must be nonanalytic. But no analytic sentence entails any nonanalytic one. So to avoid the consequence that no analytic sentence contains a technical term, only nonanalytic sentences containing technical terms must be required to entail a nonanalytic, intentional sentence. (T1) can therefore be replaced by

\[(T2) \quad \text{A term is technical iff every nonanalytic sentence containing it entails some nonanalytic intentional sentence.}\]

A similar objection, which again capitalizes on the use of entailment in the test, is less readily met. For, any given nonanalytic sentence will entail the particular nonanalytic, intentional sentence constructed by disjoining the entailing sentence with some random intentional one. So every term will get counted as technical by (T2) as well. In this case, the only hope of meeting the objection seems to be to revise the test so that the entailed intentional sentence must be simple. But once again, this will not help. For, if \('R'\) is atomic and means the same as ‘is tall or is thinking of’, then every sentence of the form ‘... is tall.’ will entail an intentional sentence of the form ‘... R Vienna.’. And such terms can be invented so that sentences of other forms, that contain ‘tall’, will also entail a simple, intentional sentence. By this means, ‘tall’, and any other term, can be shown to count as technical on the condition provided by (T2).

When (T1) was suggested in Section I, no stronger relation than entailment seemed needed for such a test. But using the above technique, it seems possible to show that any test based on entailment will be so inclusive as to result in every term being technical. If entailment is replaced by a stronger relation, however, this outcome can be avoided. The natural choice of a suitable stronger relation is the notion of expendability, construed as above in terms of meaning equivalence.\(^{16}\) A test based on expendability was not suggested in Section I because of a desire to maintain the independence of the special notions needed in stating the thesis. The close tie between expendability and technical terms in the conditions set by an acceptable version of the thesis, however, makes such independence seem less important. And the sole merit of using a weaker relation such as entailment would be to reflect that only part of the meaning of a sentence containing a technical term needs to be captured by the intentional explication it is required to have. But since a conjunction that

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captured the full meaning would in any event be intentional if a conjunct were, this refinement is idle. A test based on expendability, then, can be stated by

\[(T3) \text{ A term is technical iff no sentence containing it is expendable in favor of a nonintentional sentence.}\]

\((T3)\) is strong enough to avoid the total inclusiveness of \((T1)\) and \((T2)\). As it stands, however, it is overly strong. For, if expendability is reflexive, every nonintentional sentence containing a technical term is expendable in favor of itself. And as noted in Section II, if expendability is nonreflexive, a nonintentional sentence containing a technical term is still expendable in favor of a nonintentional sentence. For, it is expendable in favor of any sentence that results from replacing the technical term by a different but meaning-equivalent one. \((T3)\) will therefore be so restrictive that no nonintentional sentence will count as containing a technical term. And if every psychological, intentional sentence means the same as one that avoids intentionality by using a technical term, \((T3)\) will be so restrictive that no term will count as technical. This difficulty suggests trying to repair the test by introducing the same alteration in the expendability condition that led from \((3a)\) and \((3b)\) to \((4a)\) and \((4b)\). The revised test will then be expressed by

\[(T4) \text{ A term is technical iff no sentence containing it is expendable in favor of a nonintentional sentence containing no technical term.}\]

It is clear that this test is unworkable. For, any particular application of \((T4)\) to determine whether some term is technical will require independent, prior knowledge of whether other terms are technical. It will not help to suppose that \((T4)\) would be usable if only an initial, finite set of technical terms were provided, which \((T4)\) could then refer to in testing other terms. For, the adequacy of subsequent applications of \((T4)\) could, at best, be no greater than that of the method used to select the initial set of technical terms. So there could be no reason to use \((T4)\) to add to the list of terms counted as technical, rather than simply continuing to use whatever method generated the initial list. And no finite set of technical terms could provide a basis for subsequent applications of \((T4)\) unless that set already included a great range of technical terms. For, to apply \((T4)\), one
has to know whether there is a technical term in each of the nonintentional sentences in favor of which every sentence containing the tested term is expendable. If any useful number of terms is to get ruled technical by (T4), therefore, the number of terms already known to be technical will have to be vast.

The greatest difficulty with trying to salvage (T4) in this way, however, would be to find some method for selecting the initial set of technical terms that would not itself fail because of the kind of circularity exemplified by (T4). For, the circularity of (T4) is not necessitated by some particular feature of (T3), such as the special nature of entailment. Nor does it result from using some seemingly ad hoc device, such as transforming compound sentences into simple ones. Rather, the circularity simply reflects that if any particular technical term is to avoided, either intentional language or a different technical term must be used instead. So it is natural to expect that any test for whether a sentence contains a technical term will have to be circular in just this way. Putting to one side, for example, other reasons why a test based on entailment must fail, such a test would also have to be modified in a way that makes circularity unavoidable. For, there is no reason to think a term is technical if sentences containing it merely entail intentional sentences that are expendable in favor of nonintentional sentences lacking technical terms. So a test like (T2) would have to be altered to read:

A term is technical iff every nonanalytic sentence containing it entails some nonanalytic, intentional sentence not expendable in favor of a nonintentional sentence containing no technical term.

And if expendability is construed as meaning equivalence, this circular modification of (T2) readily reduces to (T4). For, if a sentence, S, entails some nonanalytic sentence that is not meaning-equivalent to any nonintentional sentence containing no technical term, then neither will S itself mean the same as any nonintentional sentence free of technical terms.

In addition to being circular, there is another way in which (T4) leads to objectionable results. For, by (T4), the occurrence of a technical term in a sentence requires that the sentence not be expendable in favor of a nonintentional sentence devoid of technical terms. But by (4a), if a sentence both fails to be expendable in this way and itself contains a technical
term, then it must be psychological. It therefore follows from the conjunction of (T4) with the thesis that no nonpsychological sentence can contain a technical term. In Section II, it was noted that (S4) ('George is tall, and is cat-perceptive or not cat-perceptive.') seems to be a counterexample to this result. For, though it contains a technical term, (S4) does not seem to be psychological.

If (T4) is used to test for technical terms, however, it is not even clear that (S4) will count as containing such a term. For, it seems natural to suppose that (S4) is expendable in favor of ‘George is tall.’. If so, then since the latter sentence is both nonintentional and free of technical terms, (T4) will rule that no technical term occurs in (S4) itself. It would follow that (S4) is not a counterexample to the result that every nonpsychological sentence be devoid of technical terms, but only at the cost of ‘cat-perceptive’ no longer counting as a technical term. And similar arguments would show that (T4) results in no term whatever being technical.

These difficulties suggest revising (T4) so that a term is not tested by reference to any sentences that contain it in the vacuous way that (S4) contains ‘cat-perceptive’. For, then, the expendability of (S4) in favor of ‘George is tall.’ would not prevent ‘cat-perceptive’ from counting as technical. And the revised test conjoined with the thesis would not entail that no nonpsychological sentence contains a technical term, but rather that no nonpsychological sentence contains such a term vacuously. These results will be obtained if (T4) is restricted so that it tests terms only by reference to sentences in which the term occurs nonvacuously, where a term is understood to occur vacuously in a sentence just in case the sentence is logically equivalent to another sentence devoid of the term.

This notion of vacuousness is not sufficient to exempt from consideration certain other sentences that seem, like (S4), to lead to undesirable results. For, on the definition of vacuousness offered above, no term occurs vacuously in

(S5) George is tall, and is cat-perceptive only if he perceives a cat.

But if (S4) is expendable in favor of ‘George is tall.’, it seems equally natural to suppose that (S5) is as well; (S5) will, therefore, be wrongly ruled to contain no technical term. A different account of vacuousness, however, will handle this kind of case. In place of the above definition, a term may be said to occur vacuously in a sentence just in case it occurs in
a part or the sentence that either is, or is an instantiation of, an analytic sentence of the denial of one. On this definition, both (S4) and (S5) will be excluded on grounds of containing 'cat-perceptive' vacuously.

Still other sentences, however, are not adequately handled by this account of vacuousness. For, if hyphens are used to indicate that an expression is atomic, 'cat-perceptive' will occur nonvacuously in

\[(S6) \quad \text{George is-tall-and-cat-perceptive or is not cat-perceptive.}\]

But whatever can be said by (S6) can be equally well expressed by (S4); so if the latter is expendable in favor of 'George is tall.', (S6) will be also. (S6), as well as (S4) and (S5), each entails and is entailed by 'George is tall.' It might be suggested, therefore, that all three sentences can be discounted by adopting a definition of vacuousness parallel in structure to the first one suggested above, namely, that a term occurs vacuously in a sentence just in case the sentence entails and is entailed by another sentence devoid of the term. But on this definition, virtually every term will occur vacuously in every sentence. There seems to be no way, therefore, to prevent a test for technical terms from applying to sentences like (S6). And, since every term can occur in a similar sentence that seems expendable in favor of a nonintentional sentence free of technical terms, no term whatever will get classified as technical.

One response to these difficulties would be to deny that (S4), (S5) and (S6) are expendable in favor of 'George is tall.' But for this move to be persuasive, it would require an account of expendability that yields this result in a principled way. It seems doubtful that meaning equivalence can provide this; for, the availability of a useful notion of meaning equivalence is a matter of controversy. In particular, though it is clear that (S4), (S5) and (S6) contain words whose meaning goes beyond that of any words in 'George is tall.', it seems open to dispute whether these apparent contributions to the meaning of the whole sentence cancel one another out. And if some notion of meaning equivalence were sufficiently precise to enable isolating the contribution each word makes to the meaning of a containing sentence, it seems likely that this notion would also make possible a definition of vacuousness on which 'cat-perceptive' occurs vacuously in (S6). But it seems even more doubtful that such a definition could be constructed in terms of meaning equivalence. Nor does any
other account of expendability seem available that is sufficiently refined to help here.

These difficulties seem bound to affect any test that determines whether a term is technical by appeal to properties of sentences that contain the term. For, not all occurrences of a term in a sentence will have any effect on the relevant properties of the sentence. And there seems no effective way to isolate occurrences of terms that fail to affect the sentence in the relevant way, except simply by seeing whether the sentence gets wrongly counted as containing no technical term. But it would be clearly circular to use such information to prevent a test for technical terms from yielding mistaken results, unless the information is independently derived from some other test. The only hope for a usable test, therefore, seems to be one that applies not derivatively by way of sentences, but directly to the terms themselves.

Any test for technical terms will presumably be based on Chisholm's remark that intentional language is needed to explain what such terms mean. This idea seemed to be made somewhat more precise by formulating a test that appeals to the entailment relations or expendability of sentences containing technical terms. But the difficulties due to apparent vacuous occurrences of terms in sentences vitiate any gain in clarity that such a test might provide. If objections on grounds of vagueness are ignored, however, Chisholm's remark can itself be taken as a test for technical terms. So conceived, it will constitute a test based directly on the properties of the terms themselves, as against those of sentences containing them. Such a test will therefore circumvent the difficulties raised in connection with vacuous occurrences of terms. The earlier difficulty involving circularity, however, reappears in this test. For, intentional language seems necessary for explaining what a particular technical term means only if one does not instead use some other technical term in the explanation. And it seems that any other test, if constructed on the basis of Chisholm's remark, will be equally susceptible to some such charge of circularity.

Chisholm's discussion appears to suggest a way, however, in which this circularity might be avoided. For, technical terms are presented not as natural parts of a language, but rather as artificial coinages invented specifically to circumvent the need for intentional sentences. Such terms are perhaps seen, therefore, as needing to have their meaning explained...
in a way not required for familiar, 'ordinary language' terms. If this view of technical terms is correct, any explanation of what such a term means will itself require explanation if it appeals to another technical term. A satisfactory explanation of what any term means, therefore, will itself be devoid of technical terms. And if the use of such terms in an explanation is excluded, it is reasonable to suppose that a term will be technical if, and only if, its meaning cannot be explained without using intentional language.

This strategy for avoiding circularity is warranted, however, only if no language contains, as a natural part of its vocabulary, any term that makes it possible to describe psychological phenomena without using intentional sentences. But it is far from clear that this assumption is tenable. For, vocabularies of natural languages commonly expand in ways not involving explicit stipulations of meaning, and new entries to a vocabulary come to need explanation no more nor less than terms with longer histories. So there is no ground for thinking that any term that enables intentional language to be avoided must have its meaning explained as would some artificially invented word. Equally, there seems no reason why some natural languages might not contain a variety of technical terms, in addition to, or to the partial exclusion of psychological words that induce intentionality in sentences containing them. There is, moreover, reason to doubt that Chisholm intended otherwise. For, if all technical terms were, like 'cat-perceptive', acknowledged products of stipulative definition, it would be possible to dispense with all mention of technical terms in stating Chisholm's thesis. For, then, the need to refer to such terms could be obviated simply by excluding from consideration any terms known to be artificial coinages. But it is difficult to see why Chisholm would have formulated his thesis to take account of technical terms unless he believed that not all such terms could be so readily dismissed.

The possibility of technical terms belonging to the genuine vocabulary of some natural language can be explored more directly by examining what it is about such terms that enables intentional language to be avoided. Chisholm's definition of intentionality characterizes sentences both in terms of their entailment relations and their syntactic properties; for, a sentence's being intentional is a function of its entailment relations to sentences specified by reference to the syntactic properties of the sen-
tence under consideration. It is because technical terms are syntactically atomic, and therefore close off portions of psychological sentences from syntactic analysis, that intentional language can be avoided in favor of the use of such terms. (S1) ('John is cat-perceptive.') avoids being intentional because, unlike the meaning-equivalent (S3) ('John perceives a cat.'), it contains no noun phrase whose success in referring in (S1) is independent of the truth value of that sentence. For, though 'cat-perceptive' is related to 'cat' in respect of meaning, the latter does not occur as a syntactic part of the former; nor is the intentionality-inducing verb 'perceives' syntactically related to 'cat-perceptive', though the two are related semantically. Whether a sentence counts as intentional, therefore, and whether it contains a technical term, both depend on what its correct syntactic analysis is. And it is only because a sentence cannot be intentional without having a specified syntactic form that it is possible to avoid intentional language by using a special sort of vocabulary.19

Unless the syntactic form of all psychological sentences is that specified in Chisholm's definition of intentionality, therefore, some psychological sentences will contain technical terms. So if there are psychological sentences in a natural language that contain no artificially introduced words, and yet fail to have the requisite syntactic form, technical terms will belong to the genuine vocabulary of the language. In the absence of arguments to the contrary, there is no reason not to believe this is possible. For, there is no ground for thinking that, in general, the syntactically atomic parts of one natural language must correspond to those of another.20

Given any particular corpus of sentences, different syntactic analyses are presumably possible. It is therefore reasonable to judge the adequacy of a proposed analysis on such grounds as the degree to which it reflects, and makes possible a general formulation of, patterns of inference among the various sentences. In particular, one might hope that many inferential relations among sentences would be describable as a function of the syntactic form of the sentences. If suitably strong constraints of this sort were imposed on the syntactic analysis of psychological sentences, this might render unacceptable any analysis that rules technical terms to be atomic. For example, one might insist that 'cat-perceptive' cannot be regarded as atomic if the syntactic form of (S1) is to reflect the inferential relations (S1) has to certain other sentences. And if 'cat-perceptive' is
analyzed so that 'cat' appears as a syntactic part of it, (S1) will no longer be nonintentional.  

Not all inferences, however, will be explained in terms of syntactic form, no matter how powerful a syntactic analysis is employed. For, many inferences are explainable solely by reference to the semantic features of atomic terms such as 'bachelor' and 'male'. In order to argue that 'cat-perceptive' must be regarded as nonatomic, therefore, it is not merely necessary to produce inferential relations between (S1) and other sentences that cannot be captured syntactically if 'cat-perceptive' is atomic. It must be shown also that these inferential relations are of the sort that should be reflected in the syntax of the sentences, and not explained instead by semantic features of the relevant terms. And it is not readily seen how this might be done.

One way of trying to show this is suggested by an argument of Davidson's. If the expression schema '...-perceptive' is regarded as resulting in an atomic term for any replacement of '...' by a noun phrase, then there will be indefinitely many predicates in the language whose meaning cannot be understood as a function of the meaning of some finite vocabulary. And if this consequence is taken to be unacceptable, '...-perceptive' cannot be regarded as atomic. But this argument, at best, seems to show not that no technical terms can belong to a natural language, but rather that only some psychological terms can be syntactically unstructured in the way envisaged. For, if '...' in '...-perceptive' can be replaced only by a restricted list of noun phrases, finite in length, no difficulty about having indefinitely many atomic terms ensues. And if some term corresponding to 'perceives' is also in the language, or if that function is served by several words used together, the restriction on '...-perceptive' will not diminish the descriptive power of the language. One might object that if the language contains a term corresponding to 'perceives', it would be unfounded to claim that instances of 'is...-perceptive' cannot be analyzed into instances of 'perceives [a]...'. But nothing in the above argument supports this, and natural languages are commonly redundant in their resources for saying essentially the same thing using different numbers of atomic terms. And the weaker argument that a more powerful, and therefore more adequate syntax would treat such terms as analyzable is unconvincing unless it is shown that instances of '...-perceptive' and its kindred are all among the terms whose meaning should be represented as a func-
tion of some syntactic parts. For, clearly not all terms of a language can satisfy this condition. In the absence of additional argument, then, there seems no reason to rule out the possibility of technical occurring as genuine parts of the vocabulary of some natural language. And if this is so, it appears that any test for such terms will be subject to a charge of circularity.

Without a noncircular test for technical terms, it will be impossible to apply Chisholm's thesis. For no argument seems available that would justify dismissing such terms from consideration. And if attention is restricted to languages in which no such terms occur, this would deprive the thesis of most of its interest; nor is there any reason to think that Chisholm had such a limited claim in mind. For, the thesis would then, at most, assert merely that there are languages, perhaps English among them, in which all and only psychological sentences fail to be expendable in favor of nonintentional ones. But if this were so, it would be no more than an accidental feature of those languages; for, a change in vocabulary could easily render the claim false of any particular language. And even less interest attaches to the weaker claim that languages might exist in which all and only psychological sentences fail to be expendable in favor of nonintentional ones. For, languages are also possible that contain nonpsychological, intentional sentences, such as (S2) ('The patient will be immune from the effects of any new epidemics.'), but have no resources for translating these sentences into nonintentional ones.

Given anything like the understanding of technical terms assumed above, any test for such terms, if it worked at all, would readily pick out not only terms like 'cat-perceptive', which enable one to avoid intentionality, but also those like 'thinks' and 'believes', which render intentional sentences containing them. This is not surprising; for, common-sense psychological words like 'perceives' will need to be explained, if at all, no less by means of intentional language than will more esoteric words like 'cat-perceptive'. So if there were an acceptable test for technical terms, intentionality would be superfluous. For, then, the thesis could characterize psychological sentences solely by reference to technical terms. This could not be done simply by asserting that all and only psychological sentences contain technical terms, for, some nonpsychological sentences may contain such terms vacuously. The expendability of
those sentences in favor of ones devoid of technical terms, however, would permit the thesis to be formulated by

\[(7) \quad \text{A sentence is psychological iff it's not expendable in favor of a sentence containing no technical term.} \]

\[(x)[P\neg (\exists y)(\neg Ty.Exy)]\]

Quine, in fact, discussing Chisholm, reports his thesis of intentionality as being "roughly that there is no breaking out of the intentional vocabulary by explaining its members in other terms," where the 'intentional vocabulary' presumably consists of technical terms, including intensionality-inducing psychological words.

Lacking an effective test for such terms, however, the best that can be done in applying Chisholm's thesis is to determine which terms are technical on the basis of knowing what they mean. But this will amount to picking out such terms simply by reference to whether the term is used only in talking about psychological phenomena. And if terms are shown to be technical solely by reference to their psychological meaning, then (7) will be equivalent to the wholly trivial claim that

A sentence is psychological iff it's not expendable in favor of a sentence containing no psychological word.\[25\]

As noted above, most of Chisholm's discussion is intended to support his thesis by arguing against putative counterexamples. No such argument can be useful, however, without an independent means for picking out technical terms. For, in the absence of such means, the thesis reduces to a claim that logically excludes the possibility of counterexamples. The inability to find a satisfactory test for technical terms, therefore, is the most serious obstacle to any program of delineating psychological subject matter by a nontrivial characterization of psychological language.\[26\]

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NOTES


3 Chisholm does not explicitly provide that one or another of these three features is necessary for a simple declarative sentence to be intentional. He does seem to presuppose this, however, and following Cornman (op. cit., 49) I shall assume Chisholm has this in mind.

4 Most explicitly by Brown (op. cit., 126); but also implicitly by Kenny (op. cit., 198), Clark (op. cit., 124) and Marras (op. cit., 259).

5 I shall speak of sentences that describe psychological phenomena as psychological sentences, and of all other (declarative) sentences as nonpsychological. Chisholm talks of sentences that describe nonpsychological phenomena, rather than those which fail to describe psychological phenomena; if attention is restricted to declarative sentences, however, the difference vanishes.

6 Brown (op. cit., 127–130), Clark (op. cit., 124–128), Cornman (op. cit., 52), Kenny (op. cit., 198, 201) and Marras (op. cit., 257–259). Heidelberger, though he advances counterexamples to (1) taken in conjunction with the above definition attributes this definition and statement of the thesis not to Chisholm but to Cornman (op. cit.). See Herbert Heidelberger, 'On Characterizing the Psychological', Philosophy and Phenomenological Research XXVI, 4 (June 1966), 529–530.

7 (2a) provides a condition to be satisfied by any psychological, nonintentional sentence. It is important to distinguish this provision from Chisholm’s response to certain putatively psychological, nonintentional sentences that have been proposed as analyses of certain standard (and intentional) kinds of psychological sentences. For Chisholm’s response to these proposals is to argue that the analyses fail, and that the analysants are therefore not genuinely psychological sentences at all. (Op. cit., 514–519). So if Chisholm is correct, the nonintentionality of these proposed analysants will not require that they contain technical terms.

As stated, Chisholm’s thesis applies only to “certain psychological phenomena”, some of which he mentions, and others like them. It seems clear, however, that the psychological phenomena he has in mind are those which can sensibly be said to be about something or other, in the way in which this can be said of speech acts. If this is so, then sentences about sensations, such as ‘I itch.’, will not be counterexamples to the thesis even though they are nonintentional. See Heidelberger, op. cit., 530.

8 It might be objected that this test is overly inclusive. For, since entailment is reflexive, not only such nonstandard terms as ‘cat-perceptive’ will be technical, but also such terms as ‘thinks’, ‘believes’ and ‘perceives’, which ordinarily render the containing sentence intentional. This feature of the test does not interfere with its independence, however, and it seems that counting such ‘ordinary language’ terms as technical has certain advantages. For it will provide a way of dealing with some putative counterexamples to the thesis. Kenny, for example, presents ‘Diogenes knows an honest man.’ as a
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counterexample because though psychological it is not intentional. (Op. cit., 198) And Brown advances 'John is thinking.' as a psychological, nonintentional counterexample. But it is possible to answer these claims by arguing that 'knows' and 'thinking' (in the relevant senses) are technical terms. To show this it would be sufficient, on the above test, to show that the two sentences entail, respectively, such intentional sentences as 'Diogenes knows that he has met an honest man.', and 'John is thinking about some thing.'; and similarly for other sentences containing these terms.

Other kinds of cases can also be handled by invoking technical terms. For example, let 'R' be an atomic two-place predicate meaning the same as 'is tall and not tall and is thinking of'. Since a contradiction entails every sentence, 'George R Vienna.' will entail that Vienna exists (and that it does not). And the result of substituting a coreferential expression for 'Vienna' will, like the original sentence, always be false. Though 'George R Vienna.' is therefore both psychological and nonintentional, since 'R' will clearly count as a technical term, the sentence is not a counterexample.

The other possibility, that an apparently nonpsychological sentence gets 'transformed' into an explicitly psychological one, is invoked by Chisholm to handle cases such as sentences about "the meanings and uses of words." (516) For, while such sentences are often intentional, Chisholm claims that when they are it can be shown that they are implicitly psychological. It would seem that Chisholm's strategy could be used to deal with putative counterexamples involving de dicto modalities (see Cornman (op. cit., 52), Heidelberger (op. cit., 530) and Marras (op. cit., 259)) and deontic notions (see Heidelberger (ibid.) and Marras (ibid., fn. 6)). For, it is reasonable to think that, depending on one's understanding of such sentences, they will be replaceable by nonintentional translations, or they will turn out to have psychological import. Chisholm does use this strategy in discussing intentional sentences about probabilities. (512)

See also an earlier passage in which Chisholm speaks of "the 'intentional use' of language" as one use "which we need to... [make of] language when we talk about certain psychological states and events.... It is a kind of use we can avoid when we talk about non-psychological states and events." (510)

Kim recognizes that Chisholm's thesis is expressible as (2a) and (2b), and also argues that a 'transformation' of a sentence must be meaning-equivalent to it. See Jaegwon Kim, 'Materialism and the Criteria of the Mental', Synthese XXII, 3/4 (May 1971), 326–328. O'Conner also takes note of Chisholm's claims about expendability and technical terms, and assumes that expendability is to be understood in terms of meaning equivalence. See D. J. O'Conner, 'Tests for Intentionality', American Philosophical Quarterly IV, 2 (April 1967), 175. Sanford formulates part (1) of the thesis in a way that is equivalent to (2b) if meaning equivalence is taken as the test for expendability, and argues that this is necessary to avoid some commonly advanced counterexamples. He formulates part (2) of the thesis in a way that takes no account of technical terms, as "No intentional psychological sentence is equivalent to a non-intentional sentence," which is false if (S1) means the same as 'John perceives a cat.' See David Sanford, 'On Defining Intentionality', Proceedings of the XIVth International Congress of Philosophy II, Vienna, 1968, 218–219.

The tests for expendability and technical terms proposed above permit the conceptual economy of expressing these notions, along with that of intentionality, entirely in terms of entailment relations among sentences.

In order to make perspicuous the logical relations among the versions of the thesis that I consider, each formulation will be accompanied by an abbreviation using quan-
tificational notation. In these abbreviations I use 'P' for 'is psychological', 'I' for 'is intentional', 'E' for 'is expendable in favor of', and 'T' for 'contains a technical term'; and I assume the universe of discourse limited to (declarative) sentences.

13 It was the fact that sentences like (S1) both contain a technical term and are expendable in favor of a nonintentional sentence that led, above, to the replacement of (3a) and (3b) by (4a) and (4b). But even though only the replacement of (3a) by (4a) was necessary there, it was motivated by the undue strength of the conjunction of (3b) with (3a). Here it is the undue strength of (3a) and (3b) taken separately that requires their rejection in favor of (4a) and (4b).

14 The thesis can also be expressed by the result of transforming (5b) into a biconditional, since this also is equivalent to (4a).

15 Chisholm writes: "I do not pretend to be able to show that... [the thesis] is true in its application to believing. But I think that there are serious difficulties... which stand in the way of showing that it is false." (Op. cit., 512).

16 Or, if another satisfactory test for expendability were obtained, it could be used here as well.

17 By not specifying that the part of the sentence be a proper part, this definition rules that every analytic sentence or instantiation of one contains all of its terms vacuously. This result is useful, since it is arguable that 'George is cat-perceptive only if he perceives a cat.' is expendable in favor of 'George exists.' And it is not a disadvantage that the definition counts every term as vacuous in such sentences as 'Some cat-perceptive object is tall or not tall.' For, though 'cat-perceptive' occurs nontrivially in this sentence, excluding such sentences from consideration would not hinder a test for whether 'cat-perceptive' is technical.

18 Kim accepts the idea that all technical terms are "artificially defined expressions" introduced merely "as a way of avoiding" intentional language, and so concludes that an acceptable statement of Chisholm's thesis need make no mention of technical terms. (Op. cit., 326)

19 The dependence of intentionality on the syntactic properties of sentences, and the consequent need to characterize technical terms, is circumvented in later definitions of intentionality put forth by Chisholm. The first defines an expression as an intentional prefix if the result of prefixing it to any sentence whatever is a contingent sentence, and no proper part of the expression is equivalent to a sentence or sentence function. A sentence, then, is intentional if it is the result of prefixing some intentional prefix to some sentence. (See 'Believing and Intentionality: A Reply to Mr. Luce and Mr Sleigh', Philosophy and Phenomenological Research XXV, 2 (December 1964), 269.) On the second definition, a two-place predicate, 'R', is intentional if some substitution instance of the two schemata $\Gamma a=b. cRb\gamma$ and $\Gamma a=b. cRa\gamma$ fail to entail each other, and no proper part of the substitution instance of the first schema is noncontingent. (This is a reformulation of Chisholm's statement of the definition, designed to clarify the condition involving noncontingency.) And a sentence, then, is intentional if it contains such a predicate, and in addition only quantifiers and singular terms. (See 'Brentano on Descriptive Psychology and the Intentional', in Phenomenology and Existentialism, ed. by Edward N. Lee and Maurice Mandelbaum, Baltimore: John Hopkins Press, 1967, 22-23.) In both proposals, Chisholm enlarges the range of intentional sentences beyond the limits imposed by the syntactic requirements by adding that any sentence, whatever its syntactic form, is intentional if it is consistent and entails some intentional sentence. (The qualification about consistency, though stated only with the second proposal, is clearly needed for both. An essentially identical proposal is put forth by Marras.
as a way to use only the first two marks of intentionality from ‘Sentences about Believing’, and still have cognitive sentences be intentional. (Op. cit., 262))

The thesis of intentionality accompanying these definitions is that every intentional sentence is psychological, though not the converse. As Sanford notes, (op. cit., 219) this thesis is significantly weaker than that of ‘Sentences about Believing’. For, it allows the possibility of psychological sentences that exhibit no special traits, save that of having a common subject matter. A stronger claim than Chisholm makes, however, seems warranted in connection with the first definition. For, on that definition it appears that only noncontingent psychological sentences will fail to be intentional. The second definition is more difficult to appraise in this respect. But it is worth noting that the syntax-dependent part of that definition seems to rule intentional all and only those two-place predicates that induce failure of substitutivity in a containing sentence, save that predicates involving the alethic modalities might be excluded by the qualification about contingency. Except for this difference, then, it is difficult to see how that definition could accomplish more than the third mark of intentionality in ‘Sentence about Believing.’

While the need for a notion of technical terms is avoided by defining as intentional any consistent sentence that entails an intentional one, this move has an important drawback. For, every psychological sentence that fails to have the requisite syntactic form will be intentional, if at all, by virtue of entailing another sentence already ruled intentional. But this entailment will hold because of the psychological subject matter of the two sentences. So determining the intentionality of such sentences will not be independent of knowledge that the sentence is psychological. The cost of circumventing technical terms in this way, therefore, is that the connection Chisholm can establish between psychological subject matter and intentionality is no longer informative and nontrivial in the case of any sentence not having the specified syntactic form. And it is not clear what interest might attach to defining intentionality for such sentences in this way.

Such considerations apply not only to such relatively straightforward technical terms as ‘cat-perceptive’, but also to the two-place predicates introduced as atomic in the discussion of vacuousness, above. It seems justified, therefore, to introduce such atomic predicates in the context of any argument concerning technical terms.

Moore seems to be relying on some such argument as this when he rejects Chisholm’s claim that intentional sentences that are psychological can be translated into nonintentional ones. For, he argues that the special terms needed for such a translation are unacceptable because the orthographic resemblance of terms like ‘cat’ and ‘cat-perceptive’ ‘is quite insufficient to explain why’ a sentence containing the latter entails a sentence containing the former. See Asher Moore, ‘Chisholm on Intentionality’, Philosophy and Phenomenological Research XXI, 2 (December 1960), 252.

Donald Davidson, ‘Theories of Meaning and Learnable Languages’, in Logic, Methodology and Philosophy of Science: Proceedings of the 1964 International Congress, ed. by Yehoshua Bar-Hillel, Amsterdam: North-Holland Publ. Co., 1965, 383–394. Davidson argues that it is unacceptable because, “on a number of empirical assumptions,” which seem unobjectionable, such a language would be unlearnable. (Op. cit., 388) But being able to represent the truth conditions of all possible sentences of a language as depending on the semantical features of a finite atomic vocabulary seems a reasonable demand to place on a theory of a natural language even without appeal to learnability.

W. V. Quine, Word and Object. Cambridge and New York: The Technology Press
This conclusion is similar to that suggested by Church: "And it would seem that intentionality is merely that special case of obliqueness in which the oblique context is introduced by a word (such as believe) that has a psychological reference." See Alonzo Church, 'Logic and Analysis', Proceedings of the XIth International Congress of Philosophy, Venice, September 12–18, 1958, Florence: Sansoni Editore, 1960, Vol. IV, 80.

I have profited from discussion with Richard E. Grandy and with Robert Schwartz while this paper was being written.