The Relation Between Knowledge and Belief: an Examination of the Entailment Thesis

An Honors Thesis (ID 499)

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# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>1. The thesis of mutual exclusion</td>
<td>5</td>
</tr>
<tr>
<td>2. The non-entailment thesis</td>
<td>17</td>
</tr>
<tr>
<td>3. The Radford example and criticisms thereof</td>
<td>20</td>
</tr>
<tr>
<td>4. Another example of knowledge without belief</td>
<td>28</td>
</tr>
<tr>
<td>5. Lehrer: criticism of Radford and a proof that knowledge implies belief</td>
<td>33</td>
</tr>
<tr>
<td>6. Criticism of Lehrer</td>
<td>36</td>
</tr>
<tr>
<td>7. Annis: rationality and the entailment thesis</td>
<td>41</td>
</tr>
<tr>
<td>8. A reformulation: the thesis of rational entailment</td>
<td>50</td>
</tr>
<tr>
<td>9. Rationality and knowledge without belief</td>
<td>55</td>
</tr>
<tr>
<td>10. Epistemology without the entailment thesis</td>
<td>61</td>
</tr>
</tbody>
</table>

Bibliography | 65 |

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-R.K.S.-
INTRODUCTION

For thousands of years the controversy has raged as to the question, what is knowledge? If viewed in a very broad perspective, one might even claim that this type of quest pre-dates historical records; after all, the Eastern minds have asked what is enlightenment, and how is it achieved (certainly quests related to ours in spirit if not in exact meaning), for countless centuries. Nonetheless, questions concerning the nature and meaning of knowledge within a western philosophical context date back at least as far as Plato, e.g., his Theaetetus.

Since that time many philosophers have endeavoured to define knowledge in many different ways. However, the one definition which has been, and continues to be, the most influential states that knowledge is justified true belief. Put according to its epistemological conditions:

\[
\text{(JTB) } \quad \text{S knows that } P \quad \text{if and only if,}
\]

(a) \( P \) is true (or, it is true that \( P \)),
(b) \( S \) believes that \( P \), (and)
(c) \( S \) has complete justification for "\( P \)."

Of course, "\( S \)" stands for any human subject whatsoever, and "\( P \)" stands for any proposition (or any assertive sentence in a particular language) whatsoever.

As we have stated, this particular definition of knowledge was, to our knowledge, first suggested by Plato. Plato himself rejected it as circular, and since that time philosophers in legions have taken at least a few shots at it as well. Considering its long and somewhat controversial history, many philosophers consider it somewhat surprising that it has endured for such a long period of time. But
endured it has, and many other philosophers point to its longevity as a sign of its enduring and universal truth.

As one might well guess, conditions (a) and (c) have traditionally represented prime targets for the detractors of this definition. Condition (c) has been attacked because of the difficulty involved in deciding just what represents justification. When do we say S has proper justification? What evidence does he need? If one holds that justification must provide certainty, then one is apt to be lead to skepticism since propositions which admit of any certainty are very, very few in number. Likewise, condition (a) has also come under fire. Of course, it seems perfectly obvious that in order for S to know that P, P must be true, but the possibility of knowing that P is true, that is, the possibility of verifying P, introduces another matter.

Oddly enough, condition (b) has not come under too much fire -- until recently. Of late many highly respectable philosophers have attacked (b). When stated singularly, that is, without its two companion conditions, (b) reads as follows:

If S knows that P, then S believes that P.

For the sake of clarity we must also add the stipulation of time. Let "T" represent any specific time, or period of time.

(ET) If S knows that P at T, then S believes that P at T.

We have labeled this statement (ET) because it has been
referred to as the entailment thesis.

Our paper is an attempt to refute the entailment thesis. We shall consider a number of alternative attacks and defenses. As we have stated, most of the work which has to do with the entailment thesis has been done quite recently, most in the last quarter-century. Thus, our topic lacks the luxury of a historical perspective. It does, however, contain the freshness of current thought. In a sense, our topic partially represents the state of philosophy, and particularly epistemology, at this point in time.

Before passing on to a discussion of the arguments and evidence for and against the entailment thesis, we are advised to consider one further matter. What does it mean to say that $S$ knows that $P$, or $S$ believes that $P$? After all, how are we to decide whether one implies the other or not unless we know what we are talking about in the first place?

Of course, the definition of knowledge which we intend to examine states that knowledge is justified true belief (JTB). Hence, it must be from this position that we go forward. One way of looking at it is to allow (JTB) to represent a hypothesis which bears examination. As such, one might in turn think of our paper as an examination of one of its conditions.

As regards belief, we wish to keep the term itself from becoming the subject of our thesis so that we might be able to actually examine the issue of whether or not the
entailment thesis as a whole obtains. For this reason, we shall not endeavour to introduce a pile of other terms such as opinion, conviction, assurity, or faith. We shall instead define belief very weakly. When we say that S believes that P, we merely mean to refer to a cognitive state in which S holds that P. Whether or not S's belief is a conviction or merely an opinion, then, will be of no significance to us.

We are now ready to begin. Whether or not the reader finds our case against the entailment thesis persuasive, a careful evaluation of the evidence is nonetheless in order. Much of the information herein comes as a result of research, but parts, especially section 4 and 8-10, are original thought. Thus, it is most likely upon these sections that our thesis stands or falls.

Robert K. Stanley
The question of whether or not knowledge implies belief can, of course, be viewed in one of two ways, for either it does or it does not. The thesis we defend here is that knowledge does not imply belief, and it is our intention to begin by examining the ways in which it has been held that one can know what one does not believe.

On one hand we have a view which states that knowing and believing are mutually exclusive acts, which is to say that if S knows that P, then S cannot possibly believe that P, and if S believes that P, then S does not know that P. The arguments supporting this view are somewhat diverse. We shall examine two such arguments, one holding that the processes of knowing and believing are mutually exclusive, and the other contending that the incompatibility is due to impossibility in knowing and believing one and the same object.

The second approach, and one which has been more successfully argued of late, is often characterized as a somewhat "weaker" or less ambitious position, if you will. Rather than contend that knowledge and belief are exclusive terms, many present-day epistemologists have come to hold the view that knowledge does not necessarily imply belief. In other words, S's knowing that P does not necessarily imply that S believes that P. While they are willing to admit that in many, perhaps even most, cases that an individual may have knowledge of, and simultaneously believe that P, they point to certain examples, or cases, where it is plausible to ascribe knowledge of P to
to $S$, where $S$ might lack any particular belief about $P$ either pro or con.

The first view which has been briefly outlined above, states that knowing and believing exclude each other, or that if $S$ believes that $P$, then $S$ cannot know that $P$. Also, if $S$ knows that $P$, then $S$ cannot believe that $P$. What we have described here, then, constitutes a set of necessary conditions. Believing necessarily excludes knowing, and knowing necessarily excludes believing as well. Furthermore, there is at least one sense in which a condition of sufficiency is involved; for $S$'s believing that $P$ is sufficient grounds for concluding that $S$ does not know that $P$.

One type of example which is used to further the above view concerns statements such as, "Mr. Carter believes that he is President." and "I believe that I am a student at Ball State." The difficulty arises in the irony of these statements, after all, one might quite normally think that Mr. Carter would be prepared to testify to his knowledge of his occupational status, and that I would be equally as qualified to know where I study. Why, then, the statement of belief rather than one of knowledge?

Jonathon Harrison suggests that statements such as the ones before us are misleading in terms of the impression which the speaker gives the listener.¹ By stating

"S believes that \( P \)', where \( P \) represents some proposition which the listener would deem clearly evident, the speaker thus creates an impression that the subject, \( S \), does not know that \( P \), but merely believes it.

Of course, in certain cases such deception is intentional, but in others the difficulty is a matter of faulty communication, language being the vehicle for communication in this instance. Where there is no corrupt intent, though, the matter can be quite easily put to rest by a simple clarification of terms. Suppose the speaker says, "Mr. Carter believes that he is President." In such a case the listener might respond, "But does he merely believe it, or does he know it as well?" If, as the nature of the example suggests, Mr. Carter is in a position to know that he is President, and the speaker is likewise in a position to know that Mr. Carter knows that he is President, then the answer must be that he does know it as well. (However, should either Mr. Carter or the speaker fail to be in a position of possible knowledge, the matter must remain unresolved. This does not mean, then, that on this basis one would be able to defend the thesis of mutual exclusivity, it merely leaves the matter in question due to ignorance of the situation.)

Another common example involves the statement, "I don't believe it, I know it", or "He doesn't believe it, he knows it." Here again the impression of a lack of connection between belief and knowledge is created. How-
ever, this situation also arises due to a lack of communication and specific language on the speaker's part. As Professor Lehrer suggests the speaker ought to say, "I not only believe it, I know it." Or perhaps, "He not only believes it, he knows it." Having then made the language more precise, we have likewise exorcised any notion of mutual exclusivity from the situation as well.

Another sort of attempt which is made to sever the ties between knowledge and belief results from an attempt to view knowledge "performatively," rather than "descriptively." One of the more famous of such attempts has been made by J.L. Austin. At one point Austin compares "I know" with "I promise" in order to point out that each is an example on a performatory statement. Paraphrasing Austin's argument, when S says, "I promise that P," he not only makes a statement of intention, he goes beyond that and in fact binds himself and his reputation to the listener in an entirely different manner than had he said, "It is my intention that P." Thus, when S says "I promise", he has done something, bound himself and his reputation, but S has not said that he has done it. Likewise, when S says,


"I know that P," S has taken a step in binding himself and his reputation in a "new way" distinct from simply being sure or even being quite sure. Furthermore, knowing is not merely a superior claim than being sure or even being quite sure, just as promising is not superior on the same scale to intending or even fully intending. For, on these respective scales there is nothing superior to being quite sure or fully intending.

What this argument boils down to is that when S says, "I know that P," he is not describing his epistemic state; rather, he is performing a certain act. Thus, by making a statement of knowledge, S does not describe himself as being one who believes that P since by doing so he fails to describe himself at all.

There does, however, seem to be a basic flaw to Austin's account, or at least to those interpretations of it which attempt to deny the entailment thesis. The charge is that Austin has created a "false dichotomy." While it may very well be the case that in saying, "I know that P," S performs some feat, it does not follow that he has not described himself as well.⁴ Consider an act of ordering dinner. S says, "I would like a vegetable, carrots." In so doing, S has performed the ritual, or act, of ordering something to eat, and has, moreover, been quite specific therein. However, he has at the same time described him-

self as one who would like to have that particular vegetable. Thus, it is not warranted to assume that a statement must be either performative or descriptive, but not both. Clearly, when S says, "I know that P," he in turn describes himself as one who knows that P. If, then, we can take "S knows" to be descriptive, we can hold the entailment thesis, that is, given the evidence so far presented.

Perhaps at this point we should say a few words about pragmatic theories of knowledge in general, and their effect, if any, upon the entailment thesis. Pragmatists tend to tie knowledge inseparably to action and evaluation. That is, if S knows that P, S must act or react in some manner concerning P, and S must synthesize or otherwise evaluate at least some aspects or implications of P. In other words, S does not know that P until S is prepared to take some sort of stand in respect to P.5

However, a belief carries no such requirements. In merely believing that P, S may never act upon, or evaluate any aspect concerning P. In effect, action and evaluation serve to draw a clear line between knowing and believing -- a distinction that is quite clear to the pragmatist, and never the twain shall meet. Although I know of no specific reference to the following position, it seems

5For the best explanation of pragmatism, see C.I. Lewis, An Analysis of Knowledge and Valuation, (La Salle: The Open Court Press, 1945).
at least conceivable. That is, since there exists such a clear and distinct line between knowledge and belief, and since a pragmatic view of knowledge need not include a belief condition, knowledge need not imply belief.

Note, though, that even the pragmatist has no reason to claim that knowledge and belief are mutually exclusive. Which is to say, eventhough given this interpretation of knowing, S's knowing that P does not necessarily entail that S not believe that P; S could both know and believe that P nonetheless. So, in some sense the pragmatist might hold the sort of view that we will begin discussing in Section 2 -- that S could know that P and not believe that P due to the possibility of S's having no belief about P whatsoever. Thus, a counter-example to the entailment thesis is required, and since this will be the task of this paper beginning with Section 2, we shall defer any further discussion on the matter until then.

Another account of the argument claiming that knowledge and belief exclude each other has been offered by Zeno Vendler. Vendler's argument, which is perhaps more ingenious, and certainly more complicated than those above, stems not from a claim that the processes of knowing and believing exclude each other, but from a claim that the objects of knowledge and belief, respectively, can never

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be the same.

Vendler's evidence for the claim that it is impossible to know and believe the same thing stems from the claim that the that-clause (for instance, S knows that P, or S believes that P) which follows "S knows" can be replaced by a wh-nominalization whereas such a transformation from a that-clause following "S believes" cannot take place without rendering the sentence unintelligible. For, if I know that Tom lied, I know what he did, and if I know that he went to work, I know where he is.

An example will clearly indicate Vendler's meaning. If:

(1) S knows that Tom went home,
then
(2) S knows where Tom went.
But
(3) S believes that Tom went home,
and
(4) S believes where Tom went,
are not compatible in the same way since (4) is not a grammatical sentence. If a third party were to announce any of the first three sentences to us, then we should at least have a clear idea as to their meaning, but we would find (4) to be unintelligible and devoid of any meaning.

From such cases Vendler concludes that there is a marked difference between that-clauses which follow know(s) and those which follow believe(s). The difference, he feels, is that that-clauses which follow know(s) are objective, while those which follow believe(s) are subjective. That is to say, if S knows that P, then what S knows is a fact; P is a fact. However, if S believes that P, then what S believes is merely S's belief; P, then is
merely some opinion or such, but not a fact. Facts are objective, while beliefs, like suspicions, suggestions, and opinions, are thoroughly subjective.

The transformation potential of the that-clause in (1) is much different than that in (3); which is to say, (1) has a potential for transformation into a wh-nominalization which does not exist in (3). Thus, Vendler concludes that owing to this difference, that which one knows and that which one believes can never be identical. In that case we never know and believe the same thing.

If Vendler's argument is sound, then the claim of the mutual exclusivity of knowledge and belief, which we found to be unwarranted by virtue of an examination of the processes of knowing and believing, will be established instead due to necessary differences in their respective objects. Of course, no "proof" which uses language as its calculus may escape an examination for possible ambiguities, and this case is much the same. O.R. Jones has written an article which performs the function of just such a detailed scrutinization.7

The best reply to Vendler's example takes the form of a counter-example. Vendler has neatly divided object clauses into those which are subjective and those which are objective. In such a case, how should we consider the

following?

(5) Jones says that it is correct.
If we follow Vendler's reasoning, the that-clause in (5) must be subjective. Clearly just because Jones says something does not make it an established (or for that matter, unestablished) fact. On the contrary, just as in the case of beliefs suspicions, etc., the that-clause following statements like (5), where S says that P, represents the subjective that-clause. But what of the following?

(6) Jones says what is correct.

Here we encounter a grave dilemma as far as Vendler is concerned. In (5) we have a subjective that-clause; however, in (6) we succeeded in forming a wh-nominalization of that same clause around the same subject and verb. Thus, Vendler's distinction becomes a great deal more ambiguous than he had originally stated it. As it now stands, the ability for transformation from a that-clause to a wh-nominalization cannot remain the sole property of so-called objective P-clauses (those of the form S verb that P), but must in at least this case, and therefore in some cases, become a property of so-called subjective P-clauses as well.

Of course, as one might argue in Vendler's defense, the difference between the P-clauses following knows and believes stems at least partially from the verbs themselves. Thus, using the verb "sees" introduces a different object, and has nothing whatsoever to do with the
transformation potential of P-clauses which follow "knows" or "believes." However, such an example (argument) is not open to Vendler's defense.

Vendler's entire claim rests on his ability to demonstrate a clear distinction between the objects of belief and knowledge in themselves. Should Vendler resort to the claim that the difference in the verbs of "S knows" and "S believes" somehow contributes to the difference in the P-clauses, then he has failed to show a difference in the P-clauses themselves. Rather, he has succeeded in saying that "S knows that P" is different from "S believes that P." That much there is no problem with. Clearly there is a difference, the verb is different in each case. From this position we contend that Vendler cannot pass through the horns. On one hand he must admit that there is no clear distinction between the transformation potential of "objective" and "subjective" P-clauses, and on the other he must admit that the difference he points out exists due to the type of verb used. In the former case, Vendler's case becomes no more than an example of an oddity of our language, our reluctance to hitch certain P-clauses (specifically wh-nominalizations) to certain verbs. In the latter, Vendler makes camp with those who argue that the processes of knowing and believing, exemplified by the verb in each case, exclude each other. Such arguments fail, of course, for reasons sighted earlier.

Finally, consider the following.
Here we have an example of the type of transformation Vendler thought impossible. Of course, (10) does not follow from (9), but that does not really matter. The important thing to note is that just as the transformation from (7) to (8) was possible without rendering the sentence meaningless, so was just such a transformation from (9) to (10) possible. This possibility is all that is required to show that Vendler's grammatical distinction does not reflect a logically necessary difference in the respective objects of knowledge and belief.

On this account we reject the necessity of different objects in each case. As it so happens, we who speak the English language are not "in the habit of" making the transformation the same way with one verb (knows) as with another (believes). But should this discount the possibility of knowing and believing one and the same object? Furthermore, since the possibility of such a transformation does exist, only a slight modification in syntax would serve to abolish any such claim altogether.
Thus far we have examined the claim that belief and knowledge are mutually exclusive; that is to say, the possibility of knowing P excludes the possibility of believing P as well, and visa versa. There is no doubt that the two types of arguments, exclusion by process and exclusion by object, have been ingeniously and painstakingly arrived at. What is more, the way in which our language is employed seems to lend weight to these claims. However, we have found that the arguments against the claims of the exclusivists have succeeded admirably in showing the "evidence" presented to be no more than the trappings of linguistic confusion.

Jonathoa Harrison, among others, in arguing for the entailment thesis, felt that only two possibilities existed as to the selection of a solution. The first alternative consisted of the acceptance of the entailment thesis, and the second of the doctrine of mutual exclusion. Therefore, he concluded that by refuting the exclusivists, he had logically affirmed the entailment thesis. If this were the case, our task would be quite finished.

However, such is not the case. Rather, such a view is a brilliant example of an either/or fallacy; for there does exist a third alternative. Most of the remainder of this paper will deal with that third alternative. In order to specify its goals and claims, let us compare its logical structure with those of both the entailment thesis and the

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1Harrison, op. cit., p.322.
exclusion thesis.

If we let "K" stand for "S knows that P at T" and "B" stand for "S believes that P at T", the entailment thesis is exemplified by the following structure:

(a) \((K \supset B)\).

However, the exclusion thesis reads as follows:

(b) \((K \supset B) \cdot (B \supset K)\).

Although (a) and (b) are generally thought to be incompatible, that is, contrary to one another, notice that there is no way (deductively) of deriving the contradiction of (a) from (b), nor visa versa. As we have seen, then, the establishment of (b) in order to counter (a) has proven unfruitful. It is for this reason that some contemporary philosophers have attempted to attack (a) instead by arguing for its contradictory counterpart, (c):

(c) \(- (K \supset B)\).

These attempts to demonstrate (c) have been labeled counterexamples since they consist of examples or arguments which eventually lead to the contradiction of (a). The way in which (c) is generally arrived at is through another statement:

(c1) \((K \cdot -B)\).

Notice that (c1) is logically equivalent to (c). The slogan which is attached to these claims as exemplified by (c1) is knowledge without belief. By demonstrating cases wherein an individual knows that P, and at the same time fails to believe that P, (c1) is achieved. In turn, deductive reasoning evolves (c1) into (c), and the entailment thesis is contradicted.
Of course, providing a counterexample which is capable of satisfying the defenders of the entailment thesis is much easier postulated than performed. Whether or not such a counterexample can or does succeed depends heavily on whether or when one is willing to grant that, in fact, S knows that P. Here, the ground becomes shaky, and perhaps even faulty on certain occasions. After all, the controversy over whether or not one should accept the entailment thesis is actually no more than one component of a larger controversy -- the question, what is knowledge? If, in order to decide whether or not knowledge implies belief, we are firstly required to decide whether or not a given individual actually has certain knowledge, must we not rightly possess the answer to the question we seek before we ask it? We are, then, well advised to keep this question close at hand when such questions as we examine draw upon the above distinction. Surely neither I nor anyone else desires to see the question begged in this manner.

Let us now proceed to the counterexamples, and the objections and counterexamples they give rise to.
The most famous counterexample of the entailment thesis has been submitted by Colin Radford.\(^1\) Radford's example is still a topic of controversy, the object of which involves a bet between Jean and Tom. In this example Tom questions Jean as to certain dates in English history. Jean protests at first saying that he does not "know" any English history. Nonetheless, Tom persists and the quiz gets underway.

All in all Jean does not fair too badly considering his earlier statement of belief concerning what he thinks he does not know. To be sure, Jean answers more questions incorrectly than correctly, but he does show a certain consistency in correctly answering those questions concerning certain dates of the Tudor and Stuart monarchs. For instance, he correctly answers that Elizabeth I died in 1603, and that James I (of England) died in 1625.

Jean's consistency in correctly replying to these questions leads both Jean and Tom to doubt that Jean lacked knowledge in this area. In fact, they concluded that Jean must have at one time learned these dates, and that he must have simply forgotten that he had. From this example Radford concludes that "at some stage he (Jean) must have learned that James I died in 1625, etc. He did not get these answers right by mere fluke or chance (a possibility they did

not even bother to rule out -- as a result of some mysterious intuition)." Furthermore, since "he remembers some history, and hence he knows some history, including, e.g., that P."\(^2\)

The way in which the example, if sustained, contradicts the entailment thesis is easily seen. Since Jean does not believe that he knows that P, it does not necessarily follow that he believes, or is even aware, that P. Therefore, having no reason to believe that P, it is logically possible that he does not believe that P. Thus, since it is possible to know that P and not believe that P (simultaneously), we can conclude that it is not the case that knowing that P entails believing that P. It is of particular importance to note that in order to refute the entailment thesis, one must provide an example whereby S both knows that P and fails to believe that P in one and the same time. Radford's example succeeds in this regard, although with some ambiguity.

However, if we let "T" stand for the time between Jean's response to Tom's question about James' death and Tom's confirmation of Jean's correct reply, we can state that at T Jean knows that P and does not believe that P.

Radford's example of Jean, an alleged case of knowledge without belief, illicitated a number of replies which

\(^2\)Ibid., p. 5.
objected to the validity of his example in many different ways and on differing grounds as well. We shall consider three such objections; those of L. Jonathon Cohen and O.R. Jones are to be dealt with in this section, and Keith Lehrer's contribution to this discussion is the subject of the following section.

All of Radford's detractors attempt to prove one thing -- that Jean does not really know that P. Cohen attempts to accomplish this by distinguishing between long- and short-term belief.\(^3\) It is Cohen's contention that Radford's example fails because the criteria for knowing which is applied in this case is of long-term knowing, but of short-term believing.

"On the short-term view we may say that the examinee did know some time ago that P, but did not know that P when the questioning began: later, when the questioning resumed, he did know that P. On the first and third occasions he must have had a short-term belief that P, and on the second not."\(^4\)

Cohen's distinction, then divides Jean's period of knowledge into three segments:

\begin{enumerate}
\item[(A)] the time in which Jean originally learned and therefore knew that P, at which time he must also have believed that P.
\item[(B)] the time of Jean's memory lapse at which time he did not know that P. In this case
\end{enumerate}


\(^4\) \textit{Ibid.}, p.12.
whether or not he believed that \( P \) stands irrelevant to our question.

(C) the time of Jean's recovery of the dates and his reply that \( P \). At that time if Jean knew that \( P \), then he believed it as well.

Cohen's distinction is very helpful here. As we stated before, no counterexample succeeds unless we can conclude that \( S \) knows that \( P \) and does not believe that \( P \) at \( T \) (some specific period of time). I have no quarrel as to Cohen's specification of (A) and (B), or to his observations about the relation of knowledge to belief during those periods. However, I find Cohen's breakdown of (C) to be lacking.

Cohen assumes that there exists no interval between Jean's stating that \( P \) and his receiving confirmation of his reply. But as Radford points out, this need not be the case. In fact, there could exist a great deal of time in between Jean's reply that \( P \) and the quizmaster's confirmation. In fact, it is this very period of time in between \( S \)'s reply and the quizmaster's confirmation which we should like to designate as "\( T \)" when we say that "\( S \) knows that \( P \), but does not believe that \( P \) at \( T \)." Quite contrary to Cohen's assertion, if we take \( T \) to be our period of investigation, it is quite possible that \( S \) would not believe that \( P \). As Radford himself puts it:

"...because he (Jean) believes that he is just guessing -- and because there are so many years in which she (Elizabeth) might have died -- he may very well be pretty
sure that not-P. I.e., he will think it highly probable that each of his answers is incorrect...

By specifying the exact time he is concerned with, Radford has dealt successfully with Cohen's objection. The second of our objections, offered by Jones, concerns the validity of Radford's claim that, in fact, Jean knows that P when Jean so replies. It is Jones' view that Radford's example is somewhat incomplete. He feels that Radford is assuming too much when he assumes that Tom, who in this example represents the judgement of English speaking persons, would simply accept Jean's correct replies as cases of genuine knowledge without doubting or otherwise further exploring his reply.

In other words, Jones feels that we would not be justified in concluding that S knows that P unless S is willing to stick by his response. At this point Jones feels that he can present a dilemma from which Radford cannot escape unharmed. Jones feels that when asked whether or not he felt his response to the question about Elizabeth was correct, Jean would reply in one of the following ways:

(1) "Yes it is correct. I remember it."

(2) "No,...I doubt it. How about 1605?"

(3) "I don't know. I told you I was only guessing."

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If Jean's response falls along the lines of (1), then we do not have a case of unwitting knowledge. In this case we would say that S knows that P, and S believes that he knows that P; therefore, one would also say that S believes that P.

If Jean responds in a manner similar to (2), which is to say, if Jean's reply denies his original response and fails to uphold it, then he doesn't know that P. When a challenge to his response arises, he is willing to change. In this case we would conclude that Jean was correct in the first place, he did not know that P; he merely guessed. On the basis of (1) and (2) we conclude that if Jean affirms his response, he knows as well as believes, and if he denies his response, he never knew in the first place.

By replying akin to (3), Jean would again, as he had in (2), admit that he did not really know that P. We would then dismiss his correct response as no more than a lucky guess, and lucky guesses do not count for knowledge. Jones, by utilizing (1) and (2), has presented Radford with a dilemma. Furthermore, by accounting for (3) as well, he has apparently covered the space between the horns as well. If Jones' remarks stand, the entailment thesis stands along with it, as least as far as this example is concerned. Is there an exit?

That there is. Radford's charge is that Jones has not covered enough replies in order to conclude that his example does not represent knowledge without belief. In
fact, Jones alternative replies do not cover the one reply that some in Jean's position would utilize.  

Firstly, let us grant that in both (2) and (3) Jones is correct, but we can easily lay aside both responses. Jean answers that P because he remembers it. He would not trade P in for another response that he had not remembered; in effect, he would stay with his response that P because no other date had occurred to him. Secondly, even should he reply with (3), that would not prove that he did not know, only that he did not know that he knew, and that much is admitted from the outset. It was his amazing consistency that convinced us that he knew, and it was his own lack of awareness of his own knowledge that made us curious as to his basis as well as beliefs. We can also rule out (1); Jean did not know that he knew, and he would be less than honest to say so (surely we must assume honesty or any example fails).

What Jones assumes, and I think wrongly assumes, is having replied that P, S would not stick by his reply unless he knew that P, and if he did not know he would forfeit it. However, consider this response:

(4) "I'm not sure..., but I'll let it stand."

Here, S has affirmed his stand without proving that he knows that he knows.

Concerning these two objections, I would like to

7Radford, "On sticking to what I don't believe to be the case", Analysis 32, No. 5 (Oxford, 1972) 170-73.
make the following comment. Both objections prove false, but they are nonetheless quite plausible objections. As it seems to me, one of the chief problems we have associated with the Radford example is not that it fails in the light of objection, but that it is ambiguous in their regard. Cohen's objection points to an ambiguity of time; Radford has, in effect, left very little space between Jean's answer and Tom's confirmation. The time which we must designate as T, then, is less than one second perhaps, a fact that does not lend clarity to be sure since such minute periods are difficult to speak of. Secondly, as Jones' objection so clearly states, Radford has failed to note just how Jean could have remained an unwitting knower in the face of further pursuit.

Of course, Radford's replies to these objections, as we have noted, demonstrate that he could have avoided these ambiguities, and thus dispelled the sort of objections herein covered. For this reason I have taken the liberty of formulating an example based on the Radford model which will clearly avoid such controversies.
Two objections which have been launched against the Radford example are that (1) Jean does not know the dates (that P), but merely guesses them, and (2) even should one grant Jean's knowledge of these dates, the entailment thesis still remains because Jean's knowledge that P and his lack of belief that P occupy two different time periods. I have given defense to both of these charges, and we have found that they do not hold. Nevertheless, I have formulated the following example, based primarily on Radford's example, with particular attention given to illusidating any ambiguities that may exist in this regard, and thereby refuting charges (1) and (2).

Miles is a freshman at State University, and is currently enrolled in a course entitled "Introduction to Philosophy." For the last two days Professor Pain has lectured on Descartes with particular attention paid to his Meditations. However, Miles has not paid one wit of attention to what Prof. Pain has so brilliantly lectured about, nor has he read any of the readings, nor has he had any past (or present) contact with the works of Descartes. To put it bluntly, it appears that Miles has learned nothing.

On this particular day Prof. Pain is interested in seeing if any of his students can provide him with a three-step proof representing Descartes' famous proof for his own existence. Spotting Miles as he gazes aimlessly out the classroom window, Pain calls on Miles, who somewhat shoc-
kedly turns his attention toward Pain. The good Professor then requests that Miles go to the blackboard and write a three-step proof of Descartes' own proof.

Miles replies, "I'm sorry, but I don't know the answer." Nonetheless, Prof. Pain persists and commands Miles to comply with his request whether he thinks he knows the answer or not. Miles, not wishing to quarrel further, goes to the board and writes:

1. Doubt implies thought.
2. Thought implies mind.
3. Mind implies existence.

Just as Miles is finished the bell rings, and Prof. Pain dismisses the class -- all except Miles. Pain turns to Miles and asks, "Is what you have written the correct answer?"

Miles replies, "I don't know, but I seriously doubt it."

"Do you believe that this is the exact proof I requested?" queries Pain.

"No, I think not." replies Miles.

"Would you like to change it? I mean, is this your answer...once and for all?" challenges Pain.

"Yes, sir. I'll let it stand." At this point Pain reveals to Miles that his proof is correct and goes ahead to question him further about his answer.

On the basis of this example we can now dismiss any charges of guessing. Unlike the Radford example of Jean, Miles needed to relay not only data, but structure as well.
In such a case a wild guess can safely be ruled out of the picture. Furthermore, when challenged, Miles remained with his original response. But how did he know? Well, the success of the example does not in any way depend on our ability to respond to such a question, but perhaps Miles, by simply sitting in class, absorbed the information eventhough he himself failed to realize it.

Also, within this example we have provided a clear amount of time in which Miles, having already written his response, denies his belief in it. What is more, supposing that his replies to Pain are honest (as we said earlier, an assumption necessary in any example), we can safely conclude that at T (any specific time between Miles' work on the blackboard and Pain's informing him of his correct response), Miles knows that P and does not believe that P.

In another sense our counter-example has cleared-up another of the ambiguities of the Radford example. D.M. Armstrong¹ has argued that Radford's example of alleged knowledge without belief fails because of the possibility of holding contradictory beliefs. That is, even if one assumes that, in a case such as the Radford example, S knows that P, and that S believes that not-P, it still does not follow that it is not the case that S believes that P. Bs-p (S believes that not-P), then, does not entail that -Bs-p

(not: S believes that P) because people can, and do, hold contradictory beliefs. That is, it is quite possible that Bs-p and Bsp could occur at one and the same time.

Radford objects that in order to reason as such, one must beg the question.\(^2\) That is, the Radford example begins with a case of non-belief, and then goes ahead to show knowledge (Ksp), although it may be unwitting knowledge. If, as Radford charges Armstrong, one assumes that each case of unwitting knowledge entails unconscious belief (an undemonstrable accusation since one need not act on one's beliefs), then one changes the example. Clearly, in order to formulate an example of knowledge without belief, one must either start with Ksp and go ahead to show that -Bsp, or one must start with -Bsp and go ahead to show that Ksp. Radford has chosen the latter. Thus, if one dogmatically asserts that for every case of Ksp, there follows some sense of Bsp, eventhough unconscious and thereby undemonstrable, one fails to allow the very question, can one know and not believe, to ever come into question.

We stated earlier that our example was clearer than Radford's in this regard, and so it is. In the Radford example it is not clear whether he means -Bsp or Bs-p. If one can draw Bs-p from his example, then one might be able to raise the sort of serious objections akin to the sort Arm-

strong has attempted. However, our example clearly has
Miles in a situation of epistemic neutrality as regards
belief. It is not the case that Bs\neg p, neither is it the case
that Bsp. Rather, it is simply a case of \neg Bsp. Thus, Ksp
and \neg Bsp.
The Radford example received replies from many sides. We have saved the objections of Keith Lehrer, though, for a section to itself because he not only proposes to refute the Radford example, but offers a proof that knowledge does entail belief as well, a new aspect of our discussion. Lehrer schematically summarizes Radford's argument as such:

(1) Jean knows the correct answer to the question.
(2) The correct answer to the question is that Elizabeth died in 1603.
(3) If Jean knows the correct answer to the question and the correct answer to the question is that Elizabeth died in 1603, then Jean knows that Elizabeth died in 1603.
(4) Jean knows that Elizabeth died in 1603.

Lehrer also formulates the opposing argument which he schematizes as follows:

(1) Jean does not know that his answer is correct.
(2) Jean's answer is that Elizabeth died in 1603.
(3) If Jean does not know that his answer is correct and Jean's answer is that Elizabeth died in 1603, then Jean does not know that Elizabeth died in 1603.
(4) Jean does not know that Elizabeth died in 1603.

Lehrer contends that "...the two arguments are equally persuasive, and, moreover, there is no equivocation in the word 'know' in the conclusions of these arguments to lessen

2Ibid., p. 495.
3Ibid.
the force of the contradiction. Thus, the only way Lehrer can hold that his proof in favor of the entailment thesis is correct in stating that Jean does not know that P is to reject at least one of the premises of the Radford argument. He thusly rejects premise (3) of the first argument.

Lehrer firstly reasons that premise (3) of Radford's argument is false due to the claim that Jean, who did not believe that he knew the answer, merely guessed at it. A correct guess, he contends, does not count as knowledge. In order to bolster his claim, Lehrer formulates the example of George, a participant in a quiz show. George is asked the same question that was put to Jean regarding the date of Elizabeth's death. In exchange for the correct response, he is offered an automobile. When asked the question, George replies, "1603." He answers correctly, thus he drives away in a new car.

In short, Lehrer claims that George did not know the answer; he merely replied, and his reply was a guess. Lehrer, then, draws a distinction between answering correctly and knowing the correct answer. A lucky guess that P does not constitute an instance of knowing that P. (We shall not at this point argue against Lehrer's objection. We shall instead do so in the next section.)

Lehrer does not stop here though. Having offered an argument of refutation versus Radford, Lehrer goes ahead

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4Ibid., pp. 495-96.
to offer a proof that he feels demonstrates that knowledge implies belief. The argument that follows is Lehrer's own schematization.

(1) If S does not believe that P, then S does not believe that he knows that P.

(2) If S does not believe that he knows that P, then, eventhough S correctly says that P, and knows that he has said that P, S does not know that he has correctly said that P.

(3) If, eventhough S correctly says that P, and knows that he has correctly said that P, then S does not know that he has correctly said that P.

(4) If S does not know that P, then S does not believe that P. 5

When (4), Lehrer's conclusion, is exposed to the logical rule of implication, it reads:

(5) If S knows that P, then S believes that P.

If we add the component of time (at T), this statement is the exact expression of the entailment thesis.

5Ibid., p. 498.
Lehrer's reply to Radford's example is of particular interest since he not only presents a case which purports to disable this one example, but goes ahead to utilize the basis for his criticism in order to construct a proof which, if sound, would secure the entailment thesis from further attack. Of course, philosophers do not desert their respective positions without firstly taking great pains to keep them. It is no surprise, then, that not everyone became defenders of the entailment thesis as a result of Lehrer's remarks.

The key point of Lehrer's objection, as well as his subsequent proof, is that if $S$ does not know that $P$ is correct when $S$ states that $P$, then $S$ does not know that $P$. In other words, Lehrer is contending that because Jean does not know that he is correctly stating that $P$ when he in fact does so, he therefore fails to know that $P$. Radford, however, objects to Lehrer's "twist" of his argument. Lehrer, due to his requirement of believing that one knows that $P$, follows then by assuming that Jean must be guessing.

To the contrary, Radford holds that Jean's only mistake is in believing that he is guessing. Jean does, like Lehrer, believe that he is guessing, and because of the overwhelming odds against him, he also fails to believe that $P$.

Granted, should we isolate only one of Jean's answers, say his answer to the question about Elizabeth, there would be no means of detecting whether or not Jean was gues-
sing at the answers. We might, though, be very inclined to say that he was. It is, though, not merely his correct answers, but more precisely his amazing consistency in correctly replying to a certain set of questions which bolsters our claim that Jean does know that P. This point, his consistency, most detractors do not wish to be bothered with.

Again, though, we must turn away from Radford's example for the moment and look elsewhere for a reply to Lehrer. In order to do so, we shall sight an example directed against the thesis that if S knows that P, then S knows that he knows that P. E.J. Lemmon\(^1\) writes of Alan, a man who claims to have forgotten much of what he learned about mathematics. When asked the expansion of \(\pi\) to four decimals, Alan replies that he does not know. He, then, suddenly remembers and says, "Yes I do, it is 3.1416." To make the example even more solid, Alan might even go on to give the expansion of \(\pi\) to ten decimals, 3.1415926536 (a suggestion made by Lehrer himself). \(^2\)

What we have, then, is an example which refutes both premises (2) and (3) of Lehrer's argument. Certainly for the sake of consistency one who argues that knowledge implies belief would likewise be obligated to affirm that if S knows that he knows that P, then S believes that he knows as

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\(^2\) Lehrer, Knowledge, op. cit., p.61.
well. Lemmon's example thus refutes (2). Likewise, premise (3), which directly entails that S must know that he knows in order to know, is done in as well. Of course, along with premises (2) and (3) falls Lehrer's entire proof of the entailment thesis.

We might also revert for a moment to the example of our own which we presented in Section 4. In this case the answer which Miles writes on the board is far too complicated to involve a guess. Yet, he knows and he sticks by (defends) his claim. He does not, though, know that he knows.

At this point the arguments for and against the entailment thesis can become either mind-boggling or meaningless. Lehrer contends that this confusion is due to what he likes to call "borderline cases of knowledge." To wit, Lehrer points out that the central issue which surrounds all examples aimed against the entailment thesis is whether or not the subject does at some time in fact know that P. Lehrer's point here is well taken, and should not go unnoticed. In effect, it deals with the point we made earlier about the danger involving begging the question in terms of defining knowledge. To be sure, the major question which precludes any debate about the entailment thesis is, what is knowledge? If, in order to settle a particular dispute within epistemology, in this case the question of entailment, we must firstly decide whether or not S does know that P, then

\[^3\text{Ibid.}\]
in some sense the larger question has to be begged.

Furthermore, the controversy which surrounds these "borderline cases" is so great, and the arguments of each side so equally balanced, that any general agreement as to whether or not one of these cases actually constitutes a state of knowledge in its subject seems out of the question. Thus, Lehrer feels that we should, in the course of our discussions, confine ourselves to cases where there can be reached a general agreement as to the subject's epistemic state.

The problems with this sort of requirement, though, are two in number. Firstly, what is to constitute general agreement? As all students of epistemology must at some point come to realize, there exists an epistemological position, respectable in many circles throughout the ages, which is known as "skepticism." The skeptics, because they hold that no cases of knowledge exist, or in some more stringent cases they hold that a case of knowledge is impossible. Thus, they would not be willing to grant anytime that S knows that P in any case one might wish to examine. In order to attain any general agreement of sorts, Professor would have to be willing to exclude the skeptics from such a discussion as well. (This is not to say that Prof. Lehrer would be willing to exclude the skeptics. Lehrer himself, at certain points, has defended a skeptical viewpoint. We only mean to say that in order to accomplish what has been suggested, excluding extremist viewpoints becomes essential.)
We are now led to our second point, one which was originally suggested to me by Dr. David Annis: in the context of conversation. If one wishes to carry out a certain investigation, one must at times be willing to disregard the extremes and proceed in the most general way possible. However, if cases of the extreme circumstances begin to crop up with some degree of regularity, one must re-examine one's criteria for deciding what is, in fact, a general case. When investigating an empirical or scientific matter, generalizations are far easier determined than in logical matters. In matters of science a frequency chart can be prepared beforehand so that one might be able to aptly detect that which constitutes the mainstream. One can then conclude that for most cases, or even for almost all cases, a particular conclusion holds.

In our particular endeavour, though, the actual empirical occurrence of S's knowing that P is undeterminable and, what is more, of no significance. What does it mean to say that if we rule out "borderline" cases of knowledge and disregard skepticism, then knowledge implies belief? Surely, that still leaves us to ask whether or not knowledge implies belief in all cases, which is to say given the very notion of logical entailment, whether or not knowledge implies belief at all?
At this point we may have arrived at a stalemate. From one point of view we might say that those presenting arguments against the entailment thesis have succeeded in casting a doubt, or at least a formidable shadow of one, upon the entailment thesis. Some of their examples seem to be internally consistent and quite damaging. Some, as Radford himself argues, even seem humanly possible, a characteristic not necessarily required of logical counterexamples, but certainly to their credit.

On the other hand, the defenders of entailment do not seem willing to budge the tiniest bit. Whenever an alleged counterexample to their thesis is presented, they return prepared to refute the subject's claim to knowledge, or at least to cast serious doubt about it. Having seen to it that S cannot be said to know that P, whether or not S also believes that P becomes a matter of not even academic importance. Have we reached, then, the proverbial brick wall? As we have noted, not even the kind of exit proposed by Leh- ner, that of confining our discussion to certain "general" cases, has proven successful.

If arguments against the entailment thesis have not proven persuasive, we might be inclined to conclude that the entailment thesis still holds. After all, it is the duty of the challenger to beat, not merely tie, the champion. Likewise, any thesis which hopes to contend with as established

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1 Radford, Analysis 32, op. cit., p.173.
a tenant as the entailment thesis must not only bring about allegedly "borderline" conflicts of the older theory, but must offer a clear and distinct alternative to the relation between knowledge and belief as well. If the relation between knowledge and belief, respectively, is not one of logical implication, then what is it?

The answer which comes to mind immediately is that if the entailment thesis is proven false, then no relation obtains between knowledge and belief, save one of coincidence. It is most likely the case that philosophers have worked so diligently in the past, and continue to do so in the present in order to save epistemology from this "horrible" fate. Although I personally think that the shock of such a discovery would be somehow less than earth-shattering, others have fought such a possible revelation with both hands and feet. After all, most theories of knowledge somehow involve themselves in belief somewhere along the line, and of course the justified true belief definition is a prime example.

In order to appease this bitter conflict, David Annis has proposed an explanation of the relation between knowledge and belief which in some manner intends to bridge the gap. This "alternative account" of the relation between knowledge and belief is designed to explain why we basically tend to conclude that one who does not believe that P, does not know that P, and at the same time provide
an account of the extraordinary cases of knowledge which
counter-entailment philosophers have found so interesting. 2

Annis begins by listing an account of the evidence
necessary for knowledge. He states that "...S's nonbasic
belief that P 3 is epistemically justified if and only if
there is a set of propositions E1, E2, ... En such that

(1) For each Ei (i = 1, 2, ... n) S believes
that Ei.

(2) For each Ei, S is justified in believ­ing Ei.

(3) S believes that P on the basis of E1, E2, ... En.

(4) The set E1, E2, ... En provides adequate
support for P.

(5) There is no other set of propositions
E'1, E'2, ... E'n such that S believes
the elements of the set and the conjunc­tion of these elements with E1, E2, ... En
does not provide adequate support
for P. 4

We shall designate this set of requirements the
condition of adequacy. Of this list it is condition (3)
which draws our attention. As Annis sees it, it is "... a
complex condition for which it is difficult to provide
an analysis. It is intended to ensure that there is a
certain relationship between S's belief in P and his evi-


3Annis uses "h" here, but we shall use "P" for our own consistency of reference.

4Annis, op. cit., p. 213.
For instance, in examining a certain position we might conclude that reasons A, B, and C constitute good reasons for holding that position. However, S might hold that position for completely different reasons, say D, E, and F, which are very poor reasons for holding that position; which is to say, they fail to provide proper justification for S's position. What this comes down to, of course, is that one must not only hold the right belief, one must also do so for the right reasons, whatever they might be.

Notice that all along we have talked of holding the evidence in support of some belief, and in fact condition (3) entails that S believes that P. As Annis views it then, the task is to develop a replacement for condition (3), one which performs the necessary function of assuring that there exists a relationship between a position and the proper evidence for that position, but at the same time, it must remain neutral with respect to entailment.

Consider Annis' "counterfactual analogue",

(3') If S were to believe that P, then his belief would be based on E1, E2, ...En. 6

In Annis' words, "The counterfactual analogue is meant to capture the same epistemic conditions relevant to P as the original analysis of justification except for the condition of S's believing(that) P." 7

5Ibid.
6Ibid., p.219.
7Ibid.
Annis provides us with an example of what he means. Let us suppose that we have two men, Smith and Jones, who are police investigators. While investigating a murder, both Smith and Jones uncover certain evidence, E₁, E₂, ... Eₙ, which all indicates that Jones' father, Jones, Sr., committed the crime. In this case both Smith and Jones, Jr., are in the same epistemic position; which is to say, they both are in possession of the same evidence, all of which implicates Jones, Sr., and all of which is very convincing. According to the conditions of adequacy previously listed, both Smith and Jones, Jr. know that Jones, Sr. committed the murder (P). However, in this particular case, Jones, Jr. fails to believe that P. Annis suggests that he does so out of some ethical obligation that he feels to his father. But no matter, he has the evidence, and he does not believe.

We are by now quite aware of the usual objection to this type of example, and that is that if Jones, Jr. fails to believe that P, it is because he does not really know that P. Surely he must have some evidence contrary to E₁, E₂, ... Eₙ, or some portion thereof, or he must otherwise think the evidence to be unconvincing or incomplete in some manner. Annis, though, assures us that the evidence is quite compelling as well as complete, and that Jones, Jr. is painfully aware of this. Furthermore, Jones, Jr. has absolutely no evidence to the contrary of any evidence implicating his father.

For all intents and purposes it is clear that Jones,
Jr. (S) knows that P. Why, then, does he fail to believe that P? The answer quite simply is that S fails to believe that P because he is irrational. A person is said to be irrational, either in thought or in deed, when he fails to take the necessary steps toward a desired goal despite the fact that he realizes what the necessary steps are. In this instance the desired goal is finding out who committed the murder. Jones, Jr. does find out who did it, which is to say, he knows that P. But because he does not wish to see his father punished, perhaps, he fails to take the normally ordinary epistemic step of committing himself to believe that P. It is, then, Jones, Jr.'s irrationality which prevents him from believing that P, and it is due to his failure to do so, which we as third parties observe, that we say that he is irrational.

In another example involving a mother and her child, the child is hit and killed by an automobile right before its mother's eyes. The mother clearly sees the accident, she screams in horror upon its occurrence, she runs to the child's side. Furthermore, other witnesses at the scene confirm the mother's position; she (S) knows that the child is dead (P). Yet, she nevertheless fails to believe that P. She fails to do so perhaps because to take that epistemic step would be psychologically too much for her. At any rate she fails to do so because her state of mind is one of irrationality, and thus her behavior is irrational as well.

These examples, following from Annis' proposed amendment of condition (3), provide examples where S knows that
P, but at the same time S fails to believe that P due to S's irrationality and evidenced by S's irrational conduct. It is precisely because we have assumed rational procedure on behalf of humans that we have likewise felt that if S knows that P, then he will believe it as well. We are surprised when an inspector such as Jones, Jr. fails to believe something he knows to be the case. We are surprised because we as epistemologists, like economists, have assumed that people such as inspectors, or just "plain, ordinary people", will behave rationally. However, many have blamed the failure of economic theory to consistently predict certain turns and trends on the failure of the assumption of rationality to obtain. Likewise, Annis has noted that the problem of borderline cases and their continual defiance of the entailment thesis has resulted from our assumption that the subject is in a rational state of mind and is likewise behaving rationally. In other words, when the subject reacts in a manner we deem irrational, which indicates the subject's irrational state of mind, the entailment thesis fails.

There still remains yet one hurdle left to clear before we can effectively state the preceding. That is, it might be argued that if S is not rational, then S cannot know that P; which is to say, knowledge implies rationality. Annis answers this claim by way of example, the idiot savant. Such persons show amazing consistency in arriving at correct solutions to immensely complicated problems by irrational and unexplainable methods. Such behavior, like-
wise, indicates an irrational state of mind.

Consider Annis' example of a man who, having no formal knowledge of mathematics whatsoever, nevertheless arrives at the correct answers to these problems by running around the room, beating his head on the walls, and thus producing a trance-like state. During this state his answers to the problems are consistently correct, so much so that it would be a very good bet to wager on his being correct in the future. Yet his method remains irrational, and as far as we can tell, incomprehensible. If knowledge implies rationality, then the idiot savant would not be able to answer with such accuracy, would he? Thus, if such a case is possible, it would be incorrect to say that knowledge implies rationality.

It would also be a mistake to dismiss this example on the grounds that idiot savants constitute an empty set, bolstered by the claim that examples such as the preceding are plainly impossible. In order to dispel this objection, one need only refer to Edgar Casey, a man of our own century. Casey was known to go into a "trance", and formulate the correct answers to questions so complicated that even the most advanced minds of that time who dealt professionally with that particular subject could not arrive at some of them until years later. In his normal state, though, Casey was virtually illiterate, and thus could not very well have been simply a very learned and exceptional man in many fields. What is more, he himself could not remember what went
on during his trances, and thus he relied on others' reports of his own doings. Amazing!

Others have noted that rationality played a part in our defense or attack of the entailment thesis, but no one before Annis has succeeded in drawing conclusions that have proven as damaging to the entailment thesis. Since we cannot assume that knowledge implies rationality, and since it has been demonstrated that the entailment thesis fails to hold for cases in which the subject fails to be rational but knows nonetheless, (ET)

(ET) If S knows that P at T, then S believes that P at T.

fails to hold for all cases. On this account it seems that the entailment thesis is subject to rejection, and unless it is somehow reformulated, it cannot stand.

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8Jonathon Harrison, op. cit., p.332.
As yet no one has attempted to reformulate the entailment thesis in order to meet the specifications laid down by Annis. Annis himself thought that he had disproven the entailment thesis, and, as it had been traditionally defined, I myself can see no other way out for its defenders other than to admit to a relationship more complicated than mere entailment. However, it is quite possible that the entailment defenders should opt for limiting the sphere of the entailment thesis. Remember, one of the solutions offered by the defenders included limiting the object of our discourse to "general", that is, excluding borderline, cases. As such, we see no obstacle which could prevent such philosophers from separating rational cases of knowledge from irrational cases of knowledge.

It is clear that the entailment thesis runs into difficulty when confronted with cases of irrational knowledge, e.g., the idiot savant. Even such cases as the Radford example, and along with it our example modeled on his, do not represent clearly rational matters of knowledge. After all, when asked on what basis his responses stand, Jean would be without reply. Thus, whether or not one is willing to conclude that Jean is justified in his assertion that P in part depends on whether or not one requires that S be able to sight rational reasons in defense of P in the light of accusation, or merely have some justification to which S stands unwitting. Clearly the latter is Radford's position since he contends that Jean remembers, but does not...
know that he is remembering. However, should one adopt the former position, it would be possible to label S's method of knowing irrational since it escapes his own explanatory powers. (Radford himself once employed the term "mystical" to the way in which Jean and Tom justify Jean's correct responses, and for many westerners the term "mystical" is virtually one and the same with "irrational".) On the other hand, even if one contends that Jean's method is irrational, that does not imply that Jean's state of mind is irrational as well. Thus, once again we emphasize that whether or not one chooses to accept the Radford example is a matter of predisposition more than anything else.

Thus far we have spoken of the possibility of a reformulation of the entailment thesis. But what form would such a reformulation take? Clearly, the new form would wish to apply itself as the old form did to all cases where S is rational. That is to say, if S is rational, then the entailment thesis should follow.

(ET2) If S is rational at T, then if S knows S knows at T, S believes that P at T.

Let us call (ET2) the rational entailment thesis, or the thesis of rational entailment. Suppose we let the following symbols stand for (ET2):

R: S is rational at T.
K: S knows that P at T.
B: S believes that P at T.

(ET2) R > (K > B)

Notice that if we contraposition (ET2) we arrive at:
(a) \(-(K \rightarrow B) > -R\) or,
(b) \((K \cdot -B) > -R\).

Statement (b) above represents a very well put version of (ET2). In words, if S knows that P and fails to believe that P, then S fails to be rational. Thus, (ET2) aptly explains irrational cases of knowledge by failing to consider them. In effect, when we began, the context of our discussion was limited only to propositional knowledge. Now however, we have seen that the entailment thesis cannot be applied to the entire sphere of propositional knowledge; rather, it has become necessary to limit it to the sphere of propositional knowledge where the subject represents a case of rational thought.

Since all objections to the entailment thesis have thus far been at least partially based on irrational methods, it seems that (ET2) has succeeded in escaping from them. Is this new formulation beyond reproach then? Hardly. First of all, whenever you speak of "rationality", there arises some ambiguity. It seems quite easy to say, "That is irrational", "This is rational" or even "That seems (rational) irrational." However, is it as easy to set down a specific criteria for rationality?

In effect, a full-blown discussion of the matter would take us far outside of our own question, whether or not a definition of knowledge ought to include a belief condition, and into a discussion of methods of detecting rationality in a subject. Actually, we have no intent of doing anything of the sort. To be honest, not that much
hangs on a precise formulation of rationality where we are concerned. Like almost all discussions in philosophy, this one too would take us into the fringe areas where we should be required to sort out examples of "borderline" behavior and borderline rationality.

Instead, we shall speak of rationality in the broadest sense possible. Rather than attempt to specify some particular system of logic, or some scientific method, we shall simply consider any method which fairly evaluates the evidence at hand as being rational. On the other hand, whenever anyone allows their emotions or dogmas to override their proper appraisal of the evidence (as did Annis' inspector), or whenever anyone proceeds in an unexplainable or contradictory fashion, we shall designate such behavior irrational. In doing so, we feel that we have been more than charitable with the defenders of (ET2). By speaking of irrationality so broadly, we have ruled out a great number of possible cases. Consider the following case.

A scientist (S) amasses a great deal of information which comprises evidence indicating that P. According to certain objective standards set down by his discipline, the evidence is substantial enough to justify S's claim to know that P. Since S himself conducts the experiments, and since he himself is fully aware of the standards for knowing set down by his discipline, and since he is also in full agreement with those standards, it is clear that S knows that P. However, because of his personal beliefs, perhaps a religious
conviction of some sort, S cannot bring himself to believe that P. Of course, S is greatly troubled by such behavior on his part. Nevertheless, the evidence is beyond dispute, and he admits to knowing this and to knowing that P, but he cannot bring himself to believe that P.

Given the notion of rationality we have offered, such a case would show that S was irrational since he allowed his dogmatic convictions to stand in the way of his proper appraisal of the evidence. Given this notion of rationality, the question is, can any example of knowledge without belief where the subject is also rational be found? We contend that it can, and the following section shall contain just such an example. In keeping with our notion of rationality, our example will involve a case where there exists little, if any, room to doubt our subject's rationality.
For quite some time now psychologists and other interested parties have been awed by the enormous portion of the brain which apparently lies dormant. Within the last decade or so, there have been numerous experiments with unconscious learning. Whether and how learning relates to the domains of the brain is a matter for the psychologists, but the implications of unconscious learning, in this case at least, form an interesting study for the epistemologist—especially those who stand against the entailment thesis.

There have been numerous reports of unconscious learning floating about. For instance, I once heard of a foreign languages instructor who taught her subjects while her students leaned back and listened to soft classical music. Since the students' attention was focused on the music, they did not, in many cases, remember having learned any new language. When tested, however, they did quite well. Much like our own example of Miles, the poor philosophy student, such examples involve unwitting absorption of knowledge. Also, like our example, such cases are suspect.

Whether or not one is willing to admit that $S$ knows that $P$, where $S$ has been the subject of a learning process akin to the above, is again a matter of disposition. However, one need not admit that the method of learning employed was a rational one, or it could be said that due to this method, $S$ was induced into an irrational state. If either of these examples is correct, no harm can come to
the rational entailment thesis in terms of these examples. However, if these methods of learning were carried out in a scientific manner, that is, if they were to be performed in such a manner as to allow empirical methods of measurement and confirmation to be made possible, and if this method were substantiated and explained by a plausible scientific theory, then one would be incapable of denying the credentials of rationality belonging to such a method.

Fortunately, such studies have been done, and their results positively substantiate such claims to knowledge. In particular, there have been studies on the ability to learn while in a state of consciousness that exists between waking and sleeping. In this "transitional" state the subject would answer if talked to, but his memory of such events would in most cases be negligible to non-existent. Thomas H. Budzynski,¹ who holds degrees in electrical engineering as well as psychology, has developed a biofeedback technique which allows a person to be trained to remain in this transitional state for possibly long periods of time. During this period one can absorb and retain a great deal of information. Nevertheless, it would not necessarily be the case that that same person would remember having learned anything in particular, or for that matter, anything.

at all. Let us suppose, then, that $S$ learns that $P$ at $T_1$, and let $T_1$ stand for the period of transitional state learning. It is reasonable to state, then, that $S$ knows that $P$ at $T_1$. However, immediately following $T_1$, let us suppose that the instructor awakens $S$. While $S$ is sitting there, having awaken, he need not, and in fact probably would not, remember having learned that $P$. In other words, we have arrived at a familiar claim: that $S$ does not know that he knows that $P$. In this case, though, such a claim is not merely logically possible, but it is empirically possible as well.

During the period following $T_1$, $S$ would not be in a position to believe that $P$ (necessarily). Here, we would find a situation not wholly distinct from the Radford example, except it is clear in this case that $S$ knows that $P$. Even though $S$ has learned that $P$, $S$ does not know that he knows that $P$. Thus, $S$ could fail to believe that he knows that $P$, and in fact fail to believe that $P$ as well. In this case it would be indefensible to claim that $S$ does not know that $P$. $S$ is simply not yet in a position to realize that he knows what he does. Consider a man who is in a certain financial position, let us say that he has just inherited a sum of money, but he does not yet realize it; he nonetheless occupies that position. Similarly, even though $S$ does not yet realize his epistemological position (knowing that $P$), he nonetheless occupies it. Thus, $S$ knows that $P$. However, there still exists the logical
as well as empirical possibility (probability?) that S should fail to believe that P due to his lack of epistemic awareness. Thus, S knows that P and S does not believe that P.

There remains just one more point to be investigated on this matter, the question of rationality. We have already touched upon this matter, and an investigation of the empirical sources cited will yield justification for the following statement. Since S has learned that P, and thereby knows that P due to a verifiable scientific procedure, and since this procedure is explainable in terms of the phenomena of brain lateralization, a natural human brain function, the method employed is rational.

Even though, could it be that such a method, while itself rationally comprehensible, reduces its subjects to an irrational state? While it is true that many functions of the brain are overloaded here, the brain still retains certain "protective defenses", critical judgement thus remaining at least a possibility. This point, though, has not yet been fully substantiated. Nevertheless, whether or not one admits to this point, that is, whether or not one admits to S's rationality at T1, the time of learning, the objection stands.

Clearly, the time at which S knows but does not believe need not be T1. In fact, we should like to designate it as T2, the time after T1 and before any re-evaluation by S of the subject matter with which P is concerned,
that is, before $S$ realizes that he knows. At $T_2$ even should $S$ have been irrational during $T_1$, there can be no obstacle to $S$'s rationality. $S$ has learned by a rational procedure, at $T_2$ $S$ is rational, at $T_2$ $S$ knows that $P$, and at $T_2$ $S$ does not believe that $P$. Notice, then, what has occurred. We have refuted the rational entailment thesis.

The rational entailment thesis, using the symbolization set down in Section 8, is as follows:

$$(ET_2) \quad R \supset (K \supset B).$$

What we have stated in the preceding paragraph, again symbolized as before, reads:

$$(-ET_2) \quad R \cdot (K \cdot \neg B)$$

thus: $R \cdot (\neg K \lor B)$

$R \cdot (K \supset B)$

$\neg (R \lor (K \supset B))$

concl. $\neg (R \supset (K \supset B))$.

Notice that the conclusion is the exact contradictory of $(ET_2)$.

In effect, if our argument is accepted, and we think that it is compelling indeed, then $(ET_2)$ has failed, and we ourselves can see no other obvious alternative for the defenders of the belief condition at this point. Owing mostly to Annis, as well as Radford, we saw that the entailment thesis $(ET)$ could not apply universally. Thus its essence of logical entailment was lost. Now $(ET_2)$, even though it was limited to rational subjects, has failed as well. At this point we have no other choice than to claim that on the basis of the evidence presented, knowledge fails to imply belief. If in the future a reformulation
of the belief condition which can escape our objections comes to light, then the matter must be re-opened once more. But such a reformulation escapes our powers of anticipation. Having accomplished our prime goal, we now pass on to the final section in which we shall speculate as to the possibility of a theory of knowledge without a belief condition.
It is our position, and clearly so, that on the basis of our evidence the entailment thesis, and the rational entailment thesis as well, have been refuted, or at least been put in a position of the utmost dubitability. Many philosophers who have defended entailment, have done so at least partially because they felt that such a notion was essential to any theory of knowledge. If so, the part we have played has been one of a "destroyer". While some might consider such a role to be void of any positive qualities, that is, without any positive contribution to our quest of defining knowledge, we do not agree. Clearly, our quest should not be merely to define knowledge, there have been countless definitions, and almost anyone can define knowledge in some manner. Our quest should primarily be to understand what is meant by knowledge, and from this should we derive a definition. Thus, if a task such as ours succeeds in demonstrating that a certain claim is false, then such a claim should no longer be made. In our case it should no longer be maintained that knowledge implies belief, and future theories of knowledge should refrain from using belief as a building block for a definition.

We contend, then, that by eliminating any logical connection between belief and knowledge, we have in some small manner benefited epistemology. Having discovered that such a connection is lacking, future philosophers should at least have the advantage of knowing where not to look! And when one considers that so much of epistemology
has been headed in this direction, by pointing out that it is wrong-headed, one serves to save philosophers a lot of time and effort.

David Annis⁠¹ is one of the few philosophers who does not feel any special loss at the passing of the entailment thesis. Annis states that even though the belief condition fails, we still have the justification and truth conditions, and these two are by themselves sufficient for knowledge. However, whether or not knowledge can continue to be defined as it is without reference to belief is a matter for another discourse, and we cannot rightly say at this point. Perhaps we must tentatively reject all three conditions in favor of an unprejudiced beginning anew. This, of course, remains to be seen.

However, there is one further point, or more properly, possibility that we would like to discuss. We have for some time now been interested in a theory of knowledge which fails to include belief as one of its conditions. On this account we recall that a Zen Buddhist master⁠² once divided enlightenment into three topics, practice, attitude, and understanding. In his book proper practice, attitude, and understanding comprise necessary and sufficient conditions for enlightenment.

⁠¹Annis, op. cit., p. 225.
Strangely enough, or not so strangely if you accept our thesis, Zen, the traditional higher path to enlightenment, makes no matter about what one believes or ought to believe. If we may be so bold as to speculate as to the reason for this, it seems that Zen is able to disregard belief for two reasons. (1) Zen is essentially grounded in its practice; understanding and attitude, while they are conditions of enlightenment, follow eventually from proper practice. (2) Long ago the Buddhists realized what only a handful of philosophers admit today, that arriving at full justification, and thus an assurance of certainty, is impossible.

While all of this may sound far removed from the analytic approach of the bulk of our thesis, it still holds some common ground. After all, we are now speculating as to the possibility of a western system of epistemology which holds belief to be coincidence, and not necessity where knowledge is concerned. Certainly if (1) and (2) above are characteristics of such a system, our attention as westerners ought to be directed toward the more pragmatic systems and theories. When we spoke briefly about pragmatism in Section 1, we noted that two essential characteristics of knowledge were action and evaluation. Clearly without too much trouble one could find distinct parallels between action and practice, and evaluation and understanding. Furthermore, we are reminded that Charles L. Stevenson, himself a noted pragmatist, introduced the notion of attitude as a term...
applicable to states we might ordinarily term belief. Of course, such comparisons do not in any way prove that pragmatism is identical with Zen, or that pragmatism is a western version of Zen, and we do not intend them to since they are obviously distinct. However, it does seem reasonable to assert that it would be possible to attempt to construct a plausible theory of knowledge which holds belief to be a matter of mere coincidence using a pragmatic approach.

Enough of this though. We have no more to say about the entailment thesis, and any more speculation of the sort we have engaged in would certainly be unwarranted. This last section has been included merely to serve as a guide to the possibility of epistemology without the entailment thesis. Perhaps some time in the future we shall find this to be a subject worth investigating.

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