Module #2: The Gettier Problem

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1. Introduction

In 1963 an important and brief article was published in *Analysis* by Edmund L. Gettier. The article argued against the view that propositional knowledge is justified true belief. In this module, Gettier's argument is presented, analyzed, and a number of responses to it are articulated.

If Gettier's or related objections are successful then the traditional definition of knowledge as justified true belief is not sufficient. If such objections are unsuccessful, then the traditional definition stands.

2. Gettier's Two Assumptions

Gettier's objection is to the definition of knowledge as justified true belief. Namely, Gettier claims that

> (3a) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, and (3) *p* is epistemically justified for *S*.

is insufficient for an analysis of knowledge. Gettier's argument has two assumptions. First, Gettier assumes that it is possible that *p* is epistemically justified for *S* yet *p* is not true. That is, Gettier assumes that while S may not know that *p*, condition (3) can be satisfied even though condition (1) is not.

In the previous module, we considered an example where you have good evidence for the truth of *p* but *p* is nevertheless false. In that example, you might have good evidence that the sun will rise tomorrow but it might turn out that it doesn't. In the other case, you are walking under a bridge, and the bridge collapses on you. You then see your arch-enemy running in the distance. You may have good reason to believe 'My arch-enemy caused the bridge to collapse' but this may be false since it was a coincidence. Examples abound. For example, suppose that you see your best friend in a room, he smiles at you and says hello. In this case you would (1) believe that someone is in the room, and (3) have epistemic justification for someone being in the room, but if the perceptual image of your friend was a hologram and it was only an audio recording of him/her saying 'hello', then you would not know that 'someone is in the room' since *p* would be false. In sum, one of Gettier's assumptions is

> $\mathbf{A1_G}$: It is possible for *p* to be epistemically justified yet *p* is not true.

Gettier makes a second assumption. This assumption is the principle of *epistemic deductive closure*. Gettier writes,

> For any proposition P, if S is justified in believing P, and P entails Q, and S deduces Q from P and accepts Q as a result of this deduction, then S is justified in believing Q (1963:121).

This is a species of a more general *closure principle*.

> A set of objects, *O*, exhibits *closure* under an operation *R* provided that for every object *x*, if *x* is a member of *O*, and *x* is *R*-related to any object *y*, then *y* is a member of *O*.

There is propositional closure in propositional logic, i.e. if *P* is a set of propositions, and *p* is a member of *P* and *p* is related to *q* under the operation of syntactic entailment ($\vdash$) such that $p \vdash q$, then *q* is a member of *P*.

The basic idea in the case of epistemic deductive closure is that if a speaker *S* is justified in believing in a proposition *p* and *p* logically entails q then *S* is *also* justified in believing *q*.

Here is an example:

> **Example #1 of Epistemic Deductive Closure**: Suppose that John is a professional accountant and unmarried. If it is true that John is a professional accountant *and* unmarried, it must be both the case that case that (1) John is a professional accountant and (2) John is not married. Now suppose that Frank is epistemically justified in believing the sentence 'John is a professional accountant and unmarried'. If Frank is epistemically justified in believing this, then he is also justified in believing whatever is logically implied by this proposition. So, for instance, Frank is justified in believing that John is not married since John is not married is logically implied by John is a professional accountant and unmarried.

So, Gettier's second assumption is the following:

> **$A2_G$:** If *p* is epistemically justified for *S*, and *p* logically entails *q*, and S deduces *q* from *p*, then *q* is also epistemically justified for *S*.

3. Gettier's Objection & His Two Cases

Gettier presents two cases where all three conditions hold for (3a) but that *S* does not know that *p*. That is, Gettier presents a case where

> (1) *S* believes that *p*,
> (2) *p* is true, and
> (3) *p* is epistemically justified for *S*.

all hold, but ***S* does not know that *p!***

3.1 Case #1

Smith and Jones both apply for a job. Smith has strong evidence for the following proposition:

> (a) Jones is the man who will get the job, and Jones has ten coins in his pocket.

Proposition (a) entails

> (b) The man who will get the job has ten coins in his pocket

And suppose that Smith sees that (a) logically entails (b). Thus, Smith believes (b), and (b) is epistemically justified since (a) is epistemically justified and so (b) is epistemically justified because of the epistemic closure principle.

But suppose that Smith gets the job, and that Smith unknowingly had ten coins in his pocket. In this case, (b) is true even though (a) from which Smith inferred (b) is false. Thus, all of the following hold

(1) Smith believes (b)
(2) (b) is true
(3) (b) is epistemically justified for *S*

Nevertheless, Smith does not know (b) since Smith does not know how many coins are in Smith's pocket. So, since conditions (1)–(3) hold but Smith does not know that *p*, the conditions (1)–(3) are not sufficient for knowledge.

3.2 Case #2

Suppose Smith has strong evidence following:

(c) Jones owns a Ford

Suppose that Smith has a friend named 'Brown', and Smith does not know where Brown is. The proposition expressed by (c) logically implies the following:

(d) Either Jones owns a Ford, or Brown is in Boston.
(e) Either Jones owns a Ford, or Brown is in Barcelona.
(f) Either Jones owns a Ford, or Brown is in Brest-Litovsk.

Suppose that Smith realizes that (c) entails (d)–(f) and so believes (d)–(f). Thus, propositions (c)–(f) are epistemically justified for Smith under the epistemic closure principle.

But suppose that (i) Jones does not own a Ford (his car is a rental), and (ii) by sheer luck Brown is in Barcelona. If (i) and (ii) are the case, then (e) is true, and so all of the conditions are satisfied for knowledge (1) Smith believes (e), (2) (e) is true, and (3) (e) is epistemically justified for Smith, but Smith does not know (e) since Smith's knowledge of (e) is by sheer luck.

So, again, Smith does not know that *p*, but the conditions specified by the definition of justified true belief are active. Thus, the definition of knowledge as justified true belief is **not** be *sufficient* for knowledge.

4. Responses to the Gettier Problem

Since the Gettier's objection relies on two assumptions, one tactic you might take in defending the view that propositional knowledge is justified, true belief is that one of Gettier's assumptions is false. Remember the two assumptions:

$A1_G$: It is possible for *p* to be epistemically justified yet *p* is not true.
$A2_G$: If *p* is epistemically justified for *S*, and *p* logically entails *q*, and S deduces *q* from *p*, then *q* is also epistemically justified for *S*.

The first assumption claims that *p* can be epistemically justified for *S*, yet *p* fails to be true. Objecting to this assumption is difficult because there are a variety of cases in the history of science and in everyday experience where well-evidenced, well-reasoned, and widely-accepted views turned out to be false.

The second assumption is also difficult to reject since one needs to explain *why* it might be the case that one is justified in believing in *p* but not *q* when *q* is logically entailed by *p*.

4.1 No False Lemmas/Grounds Response

The false lemmas/grounds argues that Gettier-style objections fail because they rest upon the following false principle:[1]

> **$A2_G$:** If *p* is epistemically justified for *S*, and *p* logically entails *q*, and S deduces *q* from *p*, then *q* is also epistemically justified for *S*.

They argue that in order for one proposition *p* to epistemically justify another *q*, it must be the case that *p* is true. That is, while *p* may be epistemically justified (although false), the proposition *q* deduced from *p* is justified if and only if *p* is true. Thus, they agree with Gettier that the following is not sufficient for knowledge:

> (3a) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, and (3) *p* is epistemically justified for *S*.

They argue that (3a) needs to be supplemented by an additional condition. Namely,

> ($3a_{NF}$) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, (3) *p* is epistemically justified for *S*, and (4) *S*'s justification for *p* is not the result of an inference from a false proposition *q*.

Clause (4) aims at blocking Gettier's objection by claiming that the epistemic closure principle ($A2_G$) is false. Thus, in the second Gettier case, Smith is epistemically justified for the following proposition:

> (c) Jones owns a Ford

However, Smith is not epistemically justified in believing

> (e) Either Jones owns a Ford, or Brown is in Barcelona.

This is because the epistemic justification for (e) is grounded on a (c), which is a false proposition. And, clause (4) in ($3a_{NF}$) states that in order for *S* to be justified in (e), S's justification cannot rest on a false proposition. However, since the epistemic justification for (e) rests on (c), which is false, then *S* is not justified in (e), and therefore *S* does not have knowledge.

4.1.1 Objections to the No False Grounds Position

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[1] See Meyers and Stern. 1973. Knowledge Without Paradox. *The Journal of Philosophy*. 6, pp.147-60. See D.M. Armstrong in *Belief, Truth and Knowledge*. 1973, pp.152.

There are a number of objections to ($3a_{NF}$). One objection is that even if ($3a_{NF}$) is true, there are still Gettier-style counter-examples that show ($3a_{NF}$) to be insufficient for knowledge. This would mean that the additional clause in ($3a_{NF}$) is *too weak*.

Consider the following scenario.

(m) Mr. Nogot tells Smith that he owns a Ford and he shows Smith the title to his Ford.
(r) Mr. Nogot who is in Smith's office owns a Ford
(h) Someone in Smith's office owns a Ford

In the above case, (m) and (h) are true, but (r) is false. That is, Mr. Nogot does not own a Ford. This is another Gettier-style example. Smith is epistemically justified in believing (r) on the basis of his evidence in (m). Since (r) logically implies (h), then Smith is epistemically justified in believing (h). However, (h) is true, epistemically justified for Smith, and Smith believes (h), but Smith does not know (h) since Smith does not know that someone else in his office (not Mr. Nogot) owns a Ford.

However, this case is blocked by ($3a_{NF}$) since it is necessary that (4) *S*'s justification for *p* is not the result of an inference from a false proposition *q*. And, since (h) is deduced from the false (r), (h) is not epistemically justified for Smith.

Richard Feldman (1974) argues that even if ($3a_{NF}$) is true, there are still Gettier-style counter-examples that show ($3a_{NF}$) to be insufficient for knowledge.[2] Here is a modified example of the above example.

(m) Mr. Nogot tells Smith that he owns a Ford and he shows Smith the title to his Ford.
(n) There is someone in the office who told Smith that he owns a Ford and showed Smith the title, and this same person has always been reliable and honest with Smith.
(h) Someone in Smith's office owns a Ford

In this case, (n) is deduced from (m), and then (n) deduced from (h). In this case, (m), (n), and (h) are all true, and since Smith believes, has epistemic justification for (h), and (h) is true, this is an example of justified, true belief but not knowledge.[3]

A second objection is that clause (4) is *too strong* insofar as it discounts clear cases of knowledge. Imagine that you infer *p* from evidence *e* but *e* involves a single false proposition. Even if the conjunction of evidence *e* is not true because it contains a one bad piece of information, why should this one piece of bad evidence undermine the justification for *p* when it is supported by a bulk of good information? For example, suppose a number of reliable individuals tell you that 'John is a murderer' but suppose this is inferred from a conjunction of statements. For example, Frank tells you 'John is a murder and I saw him looking suspicious near the crime scene.' Mary tells you that 'John is a murder and I saw him with a bloody knife.' Finally, Jones says 'John is a murderer and I saw blood on the sleeve of his shirt.' And suppose that from the conjunction of their testimony $e_F \wedge e_M \wedge e_J$, you infer *p*, namely that 'John is a murderer'. Now suppose that (i) John wasn't looking suspicious at the crime scene, but was at the crime scene, so $\sim e_F \wedge e_M \wedge e_J$. According to clause (4), you would not be epistemically justified for *p* since your belief would be partially grounded on a false belief.

[2] Feldman, Richard. 1974. An Alleged Defect in Gettier Counterexamples. *Australasian Journal of Philosophy* 52, pp.68-9.
[3] Objection, this is a strawman since (h) is not logically entailed by (m).

This objection can perhaps be extended even further since, in addition to (i) John wasn't looking suspicious at the crime scene, but was at the crime scene, we could also suppose (ii) John did not had a bloody knife, but did have a knife at the crime scene, and (iii) John did not have blood on the sleeve of his shirt, but there was some on his shirt. In this case $\sim e_F \wedge \sim e_M \wedge \sim e_J$ but we might still think that you have justification for *p* since the reason the evidence is false is because it is too specific.

4.1.2 Possible Replies

The modification of the definition of knowledge by adding a 'no false grounds' clause is not satisfactory. We might try to tinker with the definition with a number of different clauses that express a roughly similar intuition. For example,

> ($3a_{NF+1}$) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, (3) *p* is epistemically justified for *S*, and (4) *S*'s justification for *p* does not justify any false proposition *q*.

But this modification is unsatisfactory as well. For consider the false proposition:

> (c) Jones owns a Ford

Presumably, Smith has epistemic justification for (c), but (c) logically implies itself, and therefore, ($3a_{NF+1}$) is not epistemically justified.

4.2 Defeasibility

Another way to respond to Gettier's objection is to add a *defeasibility clause* to the conditions for propositional knowledge. That is, a proposition *p* would be epistemically justified for *S* if and only if—in addition to clauses (1)–(3)—there is also no other evidence *q* such that if *S* believed *q*, then *p* would no longer be epistemically justified for *S*.

In other words, *p* is only justified for *S* if the evidence *e* for *p* precludes any evidence *f* such that *e and f* would no longer make *p* justified for *S*.

Adding a defeasibility clause would strengthen the conditions for knowledge. So, consider the current definition:

> (3a) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, and (3) *p* is epistemically justified for *S*.

Adding the defeasibility clause produces the following:

> ($3a_D$) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, (3) *p* is epistemically justified for *S*, and (4) there is also no other proposition *q* such that if *S* believed *q* (or has epistemic justification for *q*), then *p* would no longer be epistemically justified for *S*.

Adding a defeasibility clause solves the Gettier for in all the cases there is a proposition *q* such that if Smith believed *q* (or had epistemic justification for *q*) then *p* would no longer be epistemically justified for *S*. In case #1, if Smith had evidence for 'Jones will not get the job' (e.g. evidence that Smith will get the job), then he would not be justified in believing:

(a) Jones is the man who will get the job, and Jones has ten coins in his pocket.

Likewise, in case #2, if Smith had evidence for 'Jones does not own a Ford, he only rents one', then

(c) Jones owns a Ford

would no longer be epistemically justified for Smith.

4.2.1 Objection to the Use of Subjunctive Conditionals

One problem with ($3a_D$) is that it employs a *subjunctive conditional* such that Smith can have evidence for a proposition *p* and yet there can be a proposition *q* that if there were evidence for *q*, then Smith would not be justified in *p*. For example, consider (o)

(o) The television is not working.

The television may be unplugged, no picture is being projected, and there is no sound. Yet there is a proposition *q* such that if Smith *were* to have evidence for, then (o) would not be justified for Smith. For example,

(s) The channel 5 news is on right now.

If Smith were justified in (s), then he would no longer be justified in (o). Thus, there is a problem with the formulation of the defeasibility. It is too strong since there is almost always some other proposition *q* such that if *S* believed *q*, then *p* would no longer be epistemically justified for *S*.

4.2.2 Factual and Justificational Defeat

In order to defend the defeasibility approach, we need to add a new clause without using a subjunctive conditional. We specify two different forms of evidential defeat: (1) justificational defeat and (2) factual defeat.

> A proposition *q justificationally defeats* another *p* for *S* iff *S* has evidence for *p* and *S* has evidence for *q* that defeats the evidence for *p*.
>
> A proposition *q factually defeats* another *p* for *S* iff *S* has evidence for *p* and there is a true proposition *q* that defeats the evidence for *p*.

The differences between the two are as follows

	must be true	must have evidence	affects justification
justificational defeat	no	yes	yes
factual defeat	yes	no (hidden defeaters)	no

We can thus add two versions of the defeasibility clause to the definition of knowledge:

> ($3a_{JD}$) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, (3) *p* is epistemically justified for *S*, and (4) *p* is not justificationally defeated by *q*.

> ($3a_{FD}$) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, (3) *p* is epistemically justified for *S*, and (4) *p* is not factually defeated by *q*.

At least initially, ($3a_{JD}$) does not appear strong enough to solve Gettier objections, so consider ($3a_{FD}$). According to ($3a_{FD}$), in order for Smith to know *p*, there cannot be any factual defeaters for *p*. In both Gettier cases, there are factual defeaters since in case #1, there is the fact that Jones will not get the job, and in case #2, there is the fact that Jones rents (rather than owns) a Ford. In both cases, Smith is unaware of these facts, but it is not necessary that Smith actually *has* evidence for these propositions in order for factual defeat.

4.2.3 An Objection to Factual Defeat

($3a_{FD}$) however is too strong. Consider the following case. Smith sees Jones steal a car, so Smith is justified in believing

> (t) Jones stole a car

But also suppose that Jones's friends claim that he could not have stole the car because he was with them. They produce a receipt of a purchase made with his credit card at a different location.

> (u) Jones's friends claim that Jones did not steal the car and they have evidence that he was somewhere else.

(u) is true even though Jones did steal the car. So, (u) factually defeats (t) since although *S* has evidence for (t), there is a true proposition (u) that defeats the evidence for (t). Thus, the defeasibility condition is too strong because Smith knows (t).

4.3 Epistemic Justification as Causal

A causal theory might refine the notion of epistemic justification as follows:

> ($3a_{C}$) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, and (3) the truth of *p* is causally (and appropriately) connected with *S*'s belief that *p*.

On this account, *S* knows that *p* when *S*'s belief that *p* is connected by a specific type of causal chain that links one's belief that *p* to the fact *p*. For example, I look at my desk and see a water bottle, I know that there is a water bottle in front of me because (1) I believe there is, (2) there is a water bottle in front of me, and (3) the water bottle is *causally connected* to my belief that the water bottle is in front of me.

Here is another example. Walking along the street I see a bank robber fleeing from the bank with a bag of cash and a gun. A passerby also notices this, and tries to stop the bank robber, but the robber points the gun at the passerby, pulls the trigger, you see smoke, and the passerby falls to the ground. You walk over to see if he needs help, see blood, and the man dies. Here, your belief in the proposition 'this man was killed by the bank robber' is knowledge partially because you are able to reconstruct the causal sequence. Your *belief* that 'this man was killed by the bank robber' is connected by a causal chain of events that is grounded in the *fact* that this man was killed by the robber.

The Gettier problem is solved on the causal theory. Consider case 2. The problematic proposition was

> (e) Either Jones owns a Ford, or Brown is in Barcelona.

According to Gettier, this is true, epistemically justified, and believed by Smith. On the causal theory, (e) is true, believed by Smith, but the truth of (e) is *not causally connected* to Smith's belief in (e) in the appropriate way. Smith believes (e) because Smith believes that 'Jones owns a Ford', but (e) is true because Brown is in Barcelona. In this case, the truth of (e) is not causally connected with Smith's belief in (e). Smith has no justification for the truth of (e) because he is unable to reconstruction through perception or memory his belief in (e) to the truth of Brown is in Barcelona.

4.3.1 Objections to the Causal Theory

4.3.1.2 What is an Appropriate Causal Connection?

One problem with the causal theory is that it is too indeterminate. A detailed account needs to be given of what it means for a causal sequence to be 'appropriate'. We will assume that what makes a causal sequence appropriate is if causal chains grounded in perceptions of facts, and various links in the chains are sustained by memory and passed-on by testimony.

4.3.1.2 No general propositions

There are many propositions that we count as knowledge but are not justified by causal chains. Particularly, universal statements like 'all men are mortal'. These propositions are not formed by perception, nor memory, and individuals cannot reconstruct causal chains that capture the scope of these propositions.

4.3.1.3 Problems with Causal Reconstruction

Consider the definition of knowledge on the causal approach:

> ($3a_C$) *S* knows that *p* = Df. (1) *S* believes that *p*, (2) *p* is true, and (3) the truth of *p* is causally (and appropriately) connected with *S*'s belief that *p*.

One problem with ($3a_C$) is whether or not *S* needs to be able to "reconstruct" the causal chain without making any mistakes. Certainly, it is not necessary to explain every detail and every link in the causal chain, but we at least assume that *S* is able to reconstruct the relevant links in the chain. But there is an objection to the causal theory that argues that there are cases of knowledge where one is not able to reconstruct *all* of the relevant causal links. Consider the following sequence (see Lemos 2007:39-40; Skyrms 1967:385-6; Harman 1993:154):

(1) Omar dies because of heart attack.
(2) Later his head is cut off
(3) Then Smith sees the decapitated Omar
(4) Smith believes (a) Omar is dead and (b) Omar died because he was decapitated.

According to the causal theory, Smith knows (a) because of his perception of a decapitated Omar, but does not know (b) because (b) is false. Some argue that the causal theory entails that in order for Smith to know (a), Smith must know *how* Omar died. But this does not seem to be the case, so the objection is faulty.

4.3.1.4 Goldman's Barn Facsimiles

Another objection concerns the following scenario.[4] Imagine that you are driving along the highway, look out into a field, and see a barn. You form the belief 'there is a barn', and your belief is linked via a causal (perceptual) connection to the fact that there is a barn. However, unbeknown to you, you were starring out into a field consisting of one real barn and thousands of barn facsimiles (only their façade is real). So, while your belief 'there is a barn' is causally connection to the fact that there is a barn, your belief 'there is a barn' is not knowledge since you could have easily looked at a facsimile of a barn and said 'there is a barn' and your belief would have been false.

4.4 The Argument is invalid

This objection is from an unpublished paper by Keota Fields.[5] Consider the second Gettier case. In this case, Smith has epistemic justification for

(1) Jones owns a Ford

And then by disjunction introduction ($P \vdash P \vee Q$), Smith reasons to (2)

(2) Jones owns a Ford or Brown is in Barcelona

However, (2) is the case if and only if the exclusive disjunction of (1), (2), and (3) holds:

(3) It is true that Jones owns a Ford and true that Brown is in Barcelona
or, but not also

[4] See Goldman, Alvin. 1976. Discrimination and Perceptual Knowledge. *The Journal of Philosophy*. 73(20):772-3.
[5] Fields, Keota. A Solution to the Gettier Problem. Unpublished article. See also Levin, Michael. 2006. Gettier Cases Without False Lemmas? *Erkenntnis*. 64: 381–392.

(4) It is true that Jones owns a Ford and false that Brown is in Barcelona
or, but not also
(5) It is false that Jones owns a Ford and true that Brown is in Barcelona.

That is, (2) is true if and only if (6) is true.

(6) $(P \wedge Q) \oplus (P \wedge \sim Q) \oplus (\sim P \wedge Q)$

Since Smith's argument is justified by disjunction introduction, we write

(7) $P \vDash (P \wedge Q) \oplus (P \wedge \sim Q) \oplus (\sim P \wedge Q)$

But (7) is unacceptable since $P \nvDash \sim P$, and so the third disjunct must be disregarded. Thus,

(8) $P \vDash (P \wedge Q) \oplus (P \wedge \sim Q)$

which is equivalent to

(9) $P \vDash [(P \wedge Q) \wedge \sim(P \wedge \sim Q)] \vee [(\sim P \wedge Q) \wedge (P \wedge \sim Q)]$

and reduces to the uncontroversial

(10) $P \vDash P \wedge (Q \vee \sim Q)$

Thus, under the assumption of epistemic closure,

$A2_G$: If *p* is epistemically justified for *S*, and *p* logically entails *q*, and S deduces *q* from *p*, then *q* is also epistemically justified for *S*.

Field concludes that (5) is not among the truth conditions for (1) when Smith infers (2) from (1). So, the Gettier case fails for although (1) is epistemically justified for *S*, and (2) is logically inferred from (1) by disjunction introduction, (2) does not logically imply (5). Thus, since (5) is not epistemically justified for *S*, Gettier does not show that (5) is a case where *S* has epistemic justification for a proposition yet that proposition is not a case of knowledge.

4.4.1 An Objection to Fields

The Gettier problem makes two assumptions, that (i) it is possible for *p* to be epistemically justified yet *p* to fail to be true, and (ii) epistemic closure.

$A1_G$: It is possible for *p* to be epistemically justified yet *p* is not true.
$A2_G$: If *p* is epistemically justified for *S*, and *p* logically entails *q*, and S deduces *q* from *p*, then *q* is also epistemically justified for *S*.

Fields accepts epistemic closure but rejects that it is possible for *p* to be epistemically justified and *p* to fail to be true. For reconsider (7):

$$(7)\ P \vDash (P \wedge Q) \oplus (P \wedge {\sim}Q) \oplus ({\sim}P \wedge Q)$$

Fields claims that (7) is not acceptable since $P \nvDash {\sim}P$, and so the third disjunct must be disregarded. But (7) is acceptable if P is false. That is,

$$(7^*)\ P \vdash (P \wedge Q) \oplus (P \wedge {\sim}Q) \oplus ({\sim}P \wedge Q)$$

is valid since $(P \wedge Q) \oplus (P \wedge {\sim}Q) \oplus ({\sim}P \wedge Q)$ is only false when $v(P)=F$ and $v(Q)=F$. Therefore, (7*) is valid form of inference. In order for Fields' argument to be non-question-begging, he needs to provide an independent reason why epistemic justification for a proposition P requires that the proposition P be true. Otherwise, there is no reason to read Smith's inference that P logically entails $P \vee Q$ as (7) rather than (7*).