The Gettier Problem and the Demands of Inquiry

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RESUMEN

En este trabajo se analiza el Problema de Gettier y se llama la atención sobre el papel que juegan ciertos principios de inferencia en la construcción de contraejemplos al análisis clásico del saber como creencia verdadera y justificada. Se argumenta que el uso que se hace de esos principios en esa construcción es inapropiado. Ello se debe a que para rechazar este análisis se conciben los principios de la inferencia lógica como si fuesen independientes de cómo se conduce la búsqueda del saber y como si su validez se estableciera *a priori*. En contra de esto se señala que, desde un punto de vista pragmatista, esos principios son el destilado de la práctica de la investigación y del acopio de garantías epistémicas competentes. Finalmente, se subraya la afinidad de este diagnóstico con ciertas ideas de Dewey sobre la naturaleza de las verdades lógicas y de Dretske acerca de por qué ni el saber ni los avales epistémicos están cerrados por la relación de consecuencia lógica.

PALABRAS CLAVE: *Problema de Gettier, garantía epistémica, inferencia lógica, investigación, pragmatismo.*

ABSTRACT

In this paper the Gettier Problem is approached by calling attention to the role played by certain principles of inference that are used to provide counterexamples to the classical analysis of knowledge as justified true belief — the JTB-analysis. It is argued that the use to which those principles are put in such a task is inappropriate. In order to object to the JTB-analysis, the principles are conceived of as independent of the way the search for knowledge is conducted and as valid *a priori*. As against this and from a Pragmatist stance, the principles are distilled within the practice of skilled inquiry and within the gathering of epistemic warrant. Finally, this explanation of why Gettier's attack on the JTB-analysis fails is shown to be akin to Dewey's views of the nature of logical truths and to Drestke's arguments of why neither knowledge nor epistemic warrants are closed under logical entailment.

KEYWORDS: *Gettier Problem Epistemic Entitlement, Logical Inference, Inquiry, Pragmatism.*

I

My aim in this paper is to pave the way for an answer to the question as to how the well-known Gettier Problem arises for the analysis of knowledge as justified true belief [= JTB]. What is specific about such an answer is that it calls attention to the role played by certain principles of logic in demolishing the JTB-analysis. The idea is that unless you approve of applying those principles and ground such approval on proper reasons, the JTB-analysis is not put on the ropes. Although the decision to suspend the application of those principles does not fit in with the generally assumed unrestricted validity of principles of logic, it is not something unexpected from the point of view of a pragmatist view of knowledge and epistemic justification. If the principles of logic are not enforced from without, but are precipitates of human inquiry, something John Dewey made much of, then they are not beyond the demands imposed by inquiry's specific problems and constraints.

II

Here is a typical way of gettiering the JTB-analysis.[1] (A definition is gettiered, if a case is arranged which literally satisfies the *definiens* conditions in spite of its visibly betraying the *definiens*' spirit.) First, we define knowledge in the usual way:

> (1) S knows that α iff (i) S believes that α, (ii) it is true that α, and (iii) S is completely justified in believing that α.

Let us accept now that conditions (i) and (iii) in (1) are fulfilled, that is, S believes that a is P and is completely justified in believing that a is P. That is, both

> (2) S believes that a is P

and

> (3) S is completely justified in believing that a is P

are true. (Instead of saying that S is completely justified in believing that a is P, I will say that S has adequate evidence that a is P, or that S is entitled to think that a is P.) Now, since the proposition that something is P follows from the proposition that a is P, it seems that we could infer (4) from (2) and (5) from (3):

(4) *S* believes that something is *P*

(5) *S* has adequate evidence that something is *P*.

Finally, let us suppose that both (6) and (7) are true propositions:

(6) *a* is not *P*

(7) Something is *P*

That *S* knows that something is *P* follows from all this. Conditions (i) to (iii) of (1) are satisfied when α takes as its value the proposition that something is *P*. On the other hand, it is hard to accept that *S* knows that something is *P*, since *S* is handling evidence that is adequate but not good enough, and nobody can know when the reasons that can be adduced are short of the truth, as (6) proves. To illustrate the point, suppose I have often seen Nogot, one of my students, driving a Ford. Even more, I heard him say that he owns a Ford and gathered more evidence to the effect that he owns the Ford he drives. Therefore, I have adequate evidence that he owns a Ford and believe that he owns a Ford. But this is not all. I also have adequate evidence that either Nogot or Havit, another student of mine, owns a Ford and definitely believe that at least one of them owns a Ford. However, contrary to the evidence, Nogot does not own a Ford. It is Havit who owns one. Because of this, though I am in a position to hold that I do not know that Nogot owns a Ford, if the JTB-analysis were right I would have won the right to assert that I know that someone, i.e., some student of mine, owns a Ford. *This* conclusion is capricious. My links to Nogot do not entitle me to know such a thing.

III

If only we were assured that (2), (3) and (6) are true, we would never acknowledge that the JTB-analysis could be gettiered. It is not true that *a* is *P* and, as a consequence of it, S cannot know that *a* is *P*. Therefore, the analysis would be safe if all that mattered were whether *S* knows that *a* is *P*. What creates a Gettier Problem is the significant gap between *S*'s entitlement to think that something is *P* and the facts of the case. Some authors have pointed out that *S*'s entitlement hits the bull's-eye of truth by chance, that luck has it that *S*'s reasons keep track of the truth so closely. Were this so, we would have explained why *S* does not know that something is *P*, i.e., that someone owns a Ford. Knowledge requires good reasons and does not get on well with chance [Goldman (1976); Heller (1999)]. An anti-luck analysis of propositional knowledge chooses (3) as the critical condition and rejects that

S has adequate evidence. Drop (3) and you avoid taking the step that leads to (5), a step that creates the conditions for *S* to be lucky enough to gain the right entitlement. I share much of this view, but it could be pointed out that, regardless of *S*'s scrupulousness as an evidence-gatherer, giving up (3) is too harsh a measure. As soon as one agrees to this judgement, it becomes natural to think of the rule of existential generalization as the key element in the transition from (3) to (5). In order to avoid reaching the wrong conclusion, i.e., that *S* knows that something is *P* (that I know that some student of mine owns a Ford), I suggest that we do not accept that *S*'s evidence to think that *a* is *P* is closed under known entailment. In other words, that by adding to the fact that *S* is entitled to assert that *a* is *P* the fact that something's being *P* logically follows from *a*'s being *P* — and that *S* knows it as well — you have still won the right to assert that *S* is entitled to assert that something is *P*. *S* could be completely justified in believing that *a* is *P* and could be completely justified in believing that if *a* is *P*, then something is *P*; however, it does not follow from these premises that *S* could be completely justified in believing that something is *P*. Thus, (5) is false. Justified belief, warrant, and epistemic entitlement are not closed under existential generalization. (I come back to this below.) To generalize, entitlements are not closed under logical implication.

This analysis is not *ad hoc*. Another well-known Gettier manoeuvre puts the JTB-analysis on the ropes by exploiting the principle of logic that supports us in inferring (8) from (3):

(8) *S* is completely justified in believing that (*a* is *P* or that *b* is *P*).

If instead of (7) we accept the truth of (9)

(9) *b* is *P*

another Gettier *cul-de-sac* is reached, one which runs parallel to that put forward above. The principle of logic now involved is that which allows inferring from any proposition α the proposition $(\alpha \vee \beta)$. Since two coincidences might be too many in this context, I choose to agree that *S* is completely justified in believing that *a* is *P* and recommend we reject that *S* is completely justified in believing that something is *P*. Is there a way out of Gettier's labyrinth that could somehow be backed by argument and not remain *ad hoc*?

IV

Let us go back to (3). *S* is completely justified in believing that *a* is *P*. *S* has adequate evidence, warrants, to think that *a* is *P*, has won a title to assert that *a* is *P*. In order to gain such a title, *S* must have inquired into *a*'s envi-

ronment, followed *a*'s tracks and examined *a*'s features and relations. Finally, *S* concludes that *a* is *P*. I will say that the evidence *S* has gathered and arranged as to what a is like *bears the watermark <a>* or is *<a>-watermarked*, because the title *S* has is a title of *a*. (We may pretend that any inquiry into what an individual *x* is like becomes materialized in a *<x>*-watermarked medium.) It is interesting to realize that while *S*'s title is *<a>*-watermarked, any title — not necessarily one gained by *S* — that certifies that something is *P* need not be *<a>*-watermarked. Maybe *S* has been told that something is *P* without being informed who or what is *P*! However, with a view to keeping myself within the terms in which Gettier Problems are usually discussed, I shall concede that *S*'s title that something is *P*, i.e., the (Something is *P*)-title, obtains its validity from the title that guarantees that *a* is *P* — one that is *<a>*-watermarked. Because of it, I will assume that the (Something is *P*)-title is *<a>*-watermarked as well. The tricky ingredient in the Gettier Problem comes on stage with (7). It is said that something is *P*, but any inquiry's results that undermine *S*'s evidence either become embodied in a title with no watermark at all or become embodied in a *<b>*-watermarked title, for *a ≠ b*. If (7) has to play a central role in defeating S's (Something is P)-title, not *a*'s life, environment, behaviour, and so on, but something else's — *b*, *c* or whoever he or she is — has to be inquired into. This is what Gettier and, I suspect, anyone who shares Gettier's strategy have overlooked. In order for anyone to undermine the JTB-analysis, in inferring (5) from (3) the premise's watermark has simply to be ignored or removed. In other words, the principle of existential generalization has to be so understood that the 'Something is *P*' that figures in (5) and the 'Something is *P*' that figures in (7) become backed by the same titles.[2] And once the same content with the same epistemic support is used to index *S*'s epistemic warrant, the claim that *S* knows that something is *P*, i.e., that *S* knows (7), loses any foundations it could have had. What one cannot lose sight of is that the principle of existential generalization has been bent to force S's title to contradict the facts. If this principle should transfer the premise's watermarks to its conclusion, there would be no possibility of equivocating on 'Something is *P*', and then the Gettier Problem would not arise. Provided that this requirement has not been satisfied, the so-called Gettier cases are an artefact of a dubious way of conceiving the demands of certain principles of logic on us.[3]

<center>V</center>

A variant of this analysis of Gettier cases introduces a time parameter in *S*'s evidence. It could happen that *S* has gained the right to assert that *a* is *P* at *t* (or up to *t*). *S*'s title to say so is not only *<a>*-watermarked but *dated at t* (alternatively, *t-dated*) as well. Such a title's guarantee does not extend beyond

t, and *a fortiori* beyond *t*, until *t'* (*t* < *t'*). In the meantime things can change so that S's *t*-dated and <a>-watermarked (*a* is P)-title has lost its force in *t'*. Therefore, the notion of *a t-dated and <x>-watermarked title* seems to capture an important ingredient of epistemic support. In fact, I will accept without argument that some Gettier Problems can be dealt with by extending the analysis in § IV to <x>-watermarked and *t*-dated titles. If as in Feldman (1974) it is assumed that I have been told by Nogot that he owns a Ford and even that he has recently shown me a certificate to this effect, but that he has sold his car since then, a version of the Gettier Problem arises in which the temporal validity of entitlements becomes crucial. Once more, existential generalization is used in gettiering the JTB-analysis by dropping an epistemic title's watermarks *and* dates.

VI

Up to now I have held that a dubious understanding of some principles of logic creates the problems typically associated to Gettier. Such an understanding assumes that watermarks and dates are not taken into account in logically evaluating evidence, epistemic warrant and titles. For anyone who shares any sort of pragmatist leaning, at least the view of logic given shape by John Dewey in his *Logic*,[4] the assumption in the argument does not square with the way the principles of logic contribute to moving inquiry forward and to assembling epistemic warrant. Central to Dewey's credo is his conviction that there is no principle of logic whose validity is established *a priori*, in advance of inquiry's deployment. Nothing outside it, not even the principles of logic, can condition inquiry from without. These principles develop within the very same practices of inquiry, and settle as inference channels while contributing to solve the problems and uncertainties that gave rise to those practices. As a consequence, which principles of logic are distilled by inquiry is something that essentially depends upon what inquiries we judge successful and worth pursuing. To make use of a terminology that Dewey made popular in philosophical contexts, the principles of logic are the kinds of inferential transitions between those warranted assertions that mean the point of departure for inquiries and those warranted assertions that mean the successful end of those very inquiries, as far as the agents involved in the task are in a position to assess. The idea that closes the circle is that warranted assertability is sensitive to the specificities of inquiry, so that which watermarks evidence-gathering endorses and within which time span are variables whose values very much affect inquiry's results and meaning.

VII

I will now set forth and comment on some implications of Dewey's view of logic that sustain the argument deployed in §§ III-V against the attempt at gettiering the JTB-analysis.

A moment's reflection is enough to realize that the strategy of deriving the conclusion that *S* knows that something is *P*, i.e., that I know that someone owns a Ford, is openly contrary to how inquiry was conceived by Dewey. (We should not overlook at this point that knowledge is what lies at the end of successful inquiry. For Dewey this is true *by definition*.)[5] It has to be taken for granted that there is some reason why *S* gets involved in inquiring into whether *a* is *P*, but it is never said what reasons push *S* to do it, what problem *S* is confronting that could be overcome by discovering whether it is true that *a* is *P*. Nor what alternatives to *a*'s being *P* the agent *S* is weighing up. The only thing we are assured of is that *S* has somehow managed to obtain adequate evidence that *a* is *P*. Then, once the derivation's crucial step has been reached, that evidence is recovered to attribute the (Something is *P*)-title to *S*. Nothing warrants this step. The inquiry that *S* has supposedly carried out to conclude that something is *P* does fulfil those requirements, i.e. being properly watermarked and *t*-dated, which are built into what it is to gain such an epistemic title. Because of this, *S* is not in a position to warrantly assert that something is *P*. To be in such a position asks for an utterly different scenario from the one pictured by Gettier.

In his *Logic* Dewey does not comment on what role the quantifier 'something' plays within inquiry. However, the reader can find some insightful remarks concerning the logic of 'some' that bear on the problem we are discussing. According to him,

> 'Some' is logically either excessive or deficient. It is excessive, if a singular case has been determined (not in fact an easy matter); it is deficient, if 'some' is understood in its strict logical force, namely, as an indication of a possibility, of the form 'may be' or 'perhaps' [Dewey (1938), p. 195].

The first choice in this alternative, i.e. that 'some' is excessive, is unduly appealed to by those who attack the JTB-analysis of knowledge. 'Unduly' because nothing in the kind of scenario Gettier pictures makes *S* an inquirer who earns the right to warrantly assert, i.e. to know, that something is *P*. As I insisted in § III, the Gettier-type scenario is designed so that *S* is acknowledged a title, i.e. the (something is *P*)-title, the basis of the acknowledgement being that *S* had already gained another title, i.e. the (*a* is *P*)-title, endowed with the right watermark, namely an <*a*>-watermark. This watermark is either put aside or ignored when *S* is credited with the (something is *P*)-title. Nothing prevents each different (something is *P*)-title from carrying its own

watermarks and further guarantees — a fact that the designer of a Gettier-type scenario exploits by arranging things so that the (something is *P*)-title that *S* finally obtains is not <*a*>-watermarked. On the other hand, *S* could warrantly assert that something is *P*, even if this assertion is not the result of an inquiry, concerning one particular individual, that *S* or someone else successfully carried out. For instance, I could often find my parking space at the university taken by a Ford and, without having spotted anyone invading it, be led to believe that a student of mine is the Ford's owner. In so far as I do not know who parks in my place, if I come to think that *some*one has taken it, 'some' cannot but have what Dewey calls the deficient reading, according to which 'some' symbolizes a certain stage of inquiry in which a number of relevant questions remain unsettled. This stage is not the basis needed to support a Gettier-type scenario, because the belief that something is *P* may represent a less advanced stage of the agent's inquiry than the belief that *a* is *P*, and having the evidence that *a* is *P* may represent a less advanced stage of evidence gathering than having the evidence that something is *P*. For the defender of the JTB-analysis of knowledge it is possible to get round the Gettier Problem by resorting to Dewey's two readings of 'some' and setting the appropriate conditions for inferring that *S* believes and has adequate evidence that something is *P* — (4) and (5) above — from *S*'s believing that *a* is *P* and being completely justified that *a* is *P* — (2) and (3) above — respectively.

I have not argued that a principle of logic like that of existential generalization leads us from true premises to false consequences. Far from it, I have argued that principles of logic can lead from propositions that symbolize fruitful inquiry stages to propositions that symbolize idle inquiry stages. And I have also put forward that if those inferential transitions are challenged, the way towards gettiering the JTB-analysis of knowledge is blocked. This very last point of my argument I wish to develop a little more by addressing the following question: Why can an epistemic title that warrants that *p* as far as a certain inquiry I_1 is concerned not guarantee that *q* relative to another inquiry I_2, when *q* logically follows from *p*? Why can epistemic guarantees not be transferred from one title to another unless both of them are adequately related? As an answer I suggest that it is inappropriate to demand that a title that underwrites the right to warrantly assert that *p*, be valid *beyond* the limits for which it was acknowledged. Validity limits matter very much. This is the idea I am going to insist on in what follows.

Dewey conceived of inquiry as a process through which one problematic situation is transformed into another of a kind he described as *determined*. He conceived of problem solving within inquiry contexts as the way to turn an initial range of challenging conditions into a new kind of situation in which those former conditions have been replaced by favourable ones. To make such a change possible, both conceptual and material supplies have to be designed and deployed. Among those supplies there will be new hypothe-

ses and specific patterns of action, it being unavoidable that all of this equipment will be progressively abandoned and adapted to the fleeting circumstances in which inquiry progresses. However, this is not the aspect of inquiry, as Dewey pictures it, to be dealt with now. What is worth focusing on is the problematic situation that sets inquiry in motion. Dewey holds that its main feature is the undetermination built into it. It is undetermined not only because there is no ready answer to the circumstances that obtain there — but because a problem could not even have been framed. That is, there are no *ideas* available when inquiry is to start out. Above all, what makes the initial situation problematic is the lack of ideas that help us understand what challenges have to be faced. Both the relevant ideas and the facts of the matter have to be fixed as inquiry moves on:

> Observation of facts and suggested meanings or ideas arise and develop in correspondence with each other. The more the facts of the case come to light in consequence of being subjected to observation, the clearer and more pertinent become the conceptions of the way the problem constituted by these facts is to be dealt with. On the other side, the clearer the idea, the more definite, as a truism, become the operations of observation and of execution that must be performed in order to resolve the situation [Dewey (1938), p. 109].

This makes it plain that the identification of the starting problem is relative to what counts as "the facts of the matter" in that very moment. That does not mean that "the facts of the matter" are fixed once and for all, and that any decision as to what these facts are is beyond appeal. It means that the sort of uncertainty there is at the very beginning "is not just uncertainty at large; it is a unique doubtfulness which makes that situation to be just and only the situation it is" [Dewey (1938), p. 123]. Put differently, it is uncertainty concerning what alternatives are relevant in that situation. Therefore, which warrants we can avail ourselves of depends very much on how it is conceived, i.e., which alternatives this view opens and which it leaves out. It follows that if the ensuing inquiry finally entitles us to assert something, we would have gained a title whose validity cannot extend beyond how many relevant alternative ways of understanding the starting situation there are.

Thus, the (*a* is *P*)-title makes sense within an inquiry that found its way within the alternatives *a* is *P*, *a* is Q_1, *a* is Q_2, and so on. This set of alternatives is the *contrast class* that shapes the inquiry's starting situation. The first step in devising a Gettier case somehow outlines a contrast class. I have seen Nogot driving a Ford, neither a Renault nor a Volkswagen, etc. (Alternatively, I have been told by Nogot that he owns a Ford.) Once the goal of inquiry is set up, Nogot's driving either a Ford or a Renault or a Volkswagen, and so on constitutes the contrast class. It is the contrast class that defines the

problem at the beginning of the inquiry, i.e. the question to which an answer
has to be given:

{What is *a* like?}   *a* is *P*, *a* is Q_1, *a* is Q_2, etc.

Further work makes it possible for *S* to choose one option from those in the
contrast class, and the end of the inquiry entitles *S* to assert that *a* is *P*. Since
a is the individual who has been checked in order to find out whether he or
she is *P* or Q_1 or Q_2, etc., the title *S* is credited with is <*a*>-watermarked (and
t-dated). We know, however, that the Gettier Problem is so designed that this
title is worthless and does not warrant *S*'s assertion that *a* is *P*. On the other
hand, the design also requires that something is *P* and that a more careful in-
quiry, though one beyond *S*'s calculations, would provide the talented — or
maybe the fortunate — seeker with another title, one which would guarantee
that someone else, not *a* but *c*, is *P*. In fact, this inquiry is not conducted by
anyone. What matters is that unless this condition is fulfilled, there is no Get-
tier Problem left at all. As a consequence, no contrast class for such an in-
quiry has been fixed and the inquiry's scope is undetermined. Secondly, to
judge *S*'s credential to assert that something is *P* on the basis of *S*'s evidence
to judge that *a* is *P* amounts to changing the problem *S* is inquiring into. As
Dewey suggests when commenting on the deficient use of 'some', the con-
trast class involved in an inquiry that leads to warrantly assert that something
is *P* is not {What is *a* like?} but the following:

{Who/what is *P*?}   *a* is *P*, *b* is *P*, *c* is *P*, etc.

To change the contrast class is to change the problem. By ignoring the differ-
ence between these contrast classes we blind ourselves to the demands of in-
quiry and unduly extend the worth of epistemic titles beyond their limits.[6]

VIII

In several papers, and over a long time span, Drestke has argued that
knowledge and other epistemic notions are not closed under logical conse-
quence and known implication. Thus, even though *S* knows that *p* and knows
that (if *p* then *q*), *S* may not know that *q*. It is also possible that *R* be reasons
that explain why it is the case that *p* and that *p* logically implies that *q* with-
out *R* being reasons that explain why it is the case that *q*. Moreover, though *R*
is a reason for *S* to do *A* and *S*'s doing *A* logically implies *S*'s doing *B*, *R* may
be not a reason for *S* to do *B*. Finally, though *R* would not be the case unless
it were the case that *p*, if *p* logically implies that *q*, *R* and *q* can be simultane-
ously true. Drestke has argued that patterns of inference like these are not

logically valid. Since his reasons to arrive at such a conclusion seem to me to be sound, my target from now on is to understand why reasons, warrants or titles do not in general transmit their worth to their logical consequences. Let us see two illustrations of this idea to which Drestke repeatedly comes back. We visit the zoo and stop at the zebra's enclosure. The animals are there in full view. It is entirely natural to claim that we have seen zebras in the zoo; alternatively, that we know that the animals right over there, in the zebra's enclosure, are zebras, neither gnus nor elephants. In addition to this, we also know that being a zebra logically implies not being cleverly painted mules. However, it is worse than dubious that we know that the animals over there, in the zebra's enclosure, are not cleverly painted mules. Or think of the following variation. First, those animals in the zebra's enclosure would not be there unless they were zebras. Second, it is logically true that if an animal is a zebra then it is not a cleverly painted mule. However, it is not necessarily true that those animals in the zebra's enclosure would not be there unless they were not cleverly painted mules.

Is there any reason why knowledge, reasons and titles are not closed under logical consequence? Drestke has pointed out two reasons for this. According to the most recent, our beliefs' and judgements' titles, our supporting reasons, do not transmit their guarantees to their logical consequences. There is nothing in this fact to be astonished at. On the contrary, "[t]he non-transmissibility (to many of the known consequences) of most of our reasons for believing [that] *p* is an absolutely pervasive phenomenon" [Drestke (2005), p. 15]. Nevertheless, Drestke does not address the question why the non-transmissibility of reasons should be left without further explanation. Instead of asking what lies beneath non-transmissibility in general, he focuses his discussion on perceptual scenarios, the reason being that perception is the chief route to our knowledge of the world around us, maybe the only route to that knowledge, and perceptual states do not transmit their warrants. I see wine in the cup, and there being wine in the cup logically implies there not being coloured water in the cup. However, nobody would say that what I see in the cup is not coloured water, i.e., that it is not coloured water that is in the cup. Non-transmissibility is out of the question. Fine; but why are reasons not in general transmissible?

Drestke essayed the second explanation in some of his earlier papers [cf. Drestke (1970); (1981)]. You can explain why the animals in the enclosure are zebras because of its spaciousness, which allows them to move freely. Alternatively, because the plot of land is flat; or because the conditions are appropriate for a water line to be laid; or because in zoos zebras procreate best in plots like that. Many reasons would be worth assessing. Anyway, the reason you give explains why the animals in the enclosure are zebras and not lions, elephants or cleverly painted mules. (Why are they cleverly painted mules? — Because people expect to see zebras when they go

to the zoo and currently there is no zebra left there.) These competing possibilities help define what one explains when providing reasons why the animals in the enclosure are zebras. Let the set of relevant alternatives be different and the *explanandum* will be different and, as a consequence, what counts as an explanation, even if, as it happens, it is the same fact that you are aiming at.[7] One explains, or provides warrants for, the fact that *p* relative to a set of contrasts or competing alternatives, *q*, *r*, and so on. This set helps to fix what is known, explained or warrantly asserted. Therefore, if *p* logically implies *s* and *s* does not belong to the set of competing alternatives, any *explanans* of *p* may not be an *explanans* of not-*s* either. The reason why there are zebras in the enclosure is not *per force* the reason why there are no lions in it. One should refrain from expecting that reasons that guarantee that *p* also support the negation of the relevant alternatives to *p*, namely not-*q*, not-*r*, and so on. Reasons that speak in favour of *p* may not do the same for not-*q*. Whether this is true or not, the key to understanding it lies in the content of the *explananda*, i.e. in what *p* and not-*q* are like. In the sort of cases under discussion the agent can be entitled to assert that *p* but not to assert that not-*q*. As Drestke writes, within an explanatory context "no fact is an island" and "if we try to explain this fact, it suddenly appears within a network of related facts, a network of possible alternatives that serve to define *what it is that is being explained*" [Drestke (1970), p. 44]. Very often the *p*-network and the (not-*q*)-network belong to utterly different explanatory enterprises.

This diagnosis is closer to being plainly satisfactory than that based on the non-transmissibility property of perceptual states. The former said, "This is how perception works. Full stop." The second explanation adduces that within the space of reasons, principles of inference like *modus ponens* do not transmit warrants from premises to conclusions. Thus, there is a link that connects the failure of Gettier cases to undermine the JTB-analysis of propositional knowledge with the fact that reasons, epistemic warrants and titles are not closed under logical implication. The common factor is that inferential transitions are not *unconditionally* valid. They are sensitive to the set of contrast alternatives that define the inquiry project the epistemic agent is involved in. If this is true, as I have tried to show, then a step forward can be taken to explain why some principles of logic do not allow us to infer warrants from warrants *modulo* a contrast set. The reason was put forward in § VII, when I resorted to some ideas of Dewey's about the nature of logical forms — his term for logical truths and inference principles. By its very nature they are sensitive to the demands of inquiry and *a fortiori* sensitive to the conditions under which inquiry takes place. When the principles of logic are used in circumstances in which abstraction is made of the sort of contextual dependency I have been pointing out — the reason being that it is the contrast class that fixes the problem inquiry addresses to — they take us from premises to their conclusions in the right way. However, if inquiry unfolds within

limits strictly marked by those alternatives acknowledged by the inquirers in the specific situation they are, as usually happens, then those principles are to conform to the demands of inquiry. If it is thought that they fix the transitions among propositions which are allowed independent of the entitlements in which those propositions figure, then the way has been paved for Gettier Problems and other puzzles to come up.[8] The wrong view here may be, as Dewey liked to put it, that logical forms "are logically prior and external to inquiry" [Dewey (1950), p. 23]. By acknowledging this we free ourselves from the Gettier Problems' grip on epistemology and explain away their intricacies.[9]

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NOTES

[1] I follow and restrict myself to standard cases of the Gettier Problem, i.e. those put forward in Gettier 1963. I will leave aside a different kind of Gettier Problem, namely, that in which perceptual beliefs and perceptual justified evidence are gettiered. As for this second kind of case, see Goldman (1976).

[2] This is what most analyses of Gettier cases seem to assume. I do not argue for this point here.

[3] My explanation of why there is a Gettier Problem concerning whether *S* knows that something is *P* reinforces Lewis' evaluation of this problem as against those provided by Stewart and Heller. It is *context* that can push us to ask for watermarks and dates on our titles to justify our knowledge claims. See Heller (1999), Lewis (1996), Cohen (1998).

[4] See Dewey [(1938): chapters I, VI, X and XV].

[5] See Dewey [(1938), pp. 7f].

[6] The same point could also be made in terms of Hintikka's interrogative approach to the dynamics of scientific inquiry. One idea of his, set forth quite a few years ago, is that the conditions of answerhood are not absolute. What counts as an answer either to a "What Is Like"-question or to a "Who-" and a "Which"-question does not depend only on the question itself, but is relative to the state of the questioner's knowledge. See Hintikka (1981: 72 ff). Relying on this insight, it is straightforward to argue that the inquirer's knowledge behind the process of providing an answer to a "What Is Like"-question is different from that behind a "Who-" and a "Which"-question. "What Is Like"-inquiries and "Who"- and "Which"-inquiries demand from their agents quite diverse presuppositions. As for the notions of question, answer and presupposition, see Halonen, Mutanen and Hintikka (1999). A related approach, based on the insight that the logical form of 'S knows that *p*'is 'S knows that

p rather than *q* (for some proposition *q*)', has been recently argued for. See Morton and Karjalainen (2003); Schaffer (2007).

[7] The last lines closely follow a text in Drestke [(1970), pp. 44f].

[8] Many accept nowadays that the principle of *modus ponens* fails for conditionals whose consequents are conditionals as well. See McGee (1985). Peacocke [(2004), chapter 3] argues that this inference principle is subject to entitlement's conditions. Though I will not discuss this question, an explanation of why this principle of inference can fail may be given along the lines sketched above.

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