Subjective and Objective Justification in the Solution of Gettier's Problem

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ABSTRACT. Gettier type counterexamples to the tripartite definition show that knowledge requires more than the traditional subjective justification (internal, normative and fallible). Objective justification (external, factual and entailing truth) is also needed. The latter can be seen as a fourth condition, or as a component of justification understood as including both the subjective and the objective component. A belief is objectively justified when it is brought about by a chain (possibly not merely causal) whereby not just the belief, but also each intermediate link in all relevant contexts is normally directly or indirectly brought about only by the truth-maker.

The traditional tripartite definition of knowledge as true justified belief, first proposed in Plato's *Teetetus*, was challenged by Gettier in his famous (1963). He employed two purported counterexamples similar to the following (adapted to overcome some possible objections to the original ones):

Case I. (a) As far as I remember Jones has always owned a Ford, and (b) right now he is giving me a ride on that car. Unbeknownst to me, however, (c) he sold that car an hour ago, in fact, he is now taking it to its new owner; moreover, unbeknownst even to himself, (d) he has just won another Ford in a lottery. So, I believe that

(1) Jones owns a Ford,

this belief is true, and it is justified (by evidences (a) and (b)). Nonetheless, we wouldn't say that (1) is knowledge, but rather, a casually true belief.

According to Gettier this paradox shows that the traditional tripartite definition of knowledge is insufficient, and that a fourth condition is needed: but which one? Alternatively, one could suggest that the tripartite definition is correct, for (1) is not actually justified, and the paradox rather calls for a better understanding of justification. For instance, it might be held that a belief is justified when its truth is not merely accidental. Granted, if we think of justification in terms of evidence, only strictly *conclusive* evidences could leave no room for merely accidental truth; but since no empirical evidence could be strictly speaking conclusive, no justification would be possible. But justification could instead be conceived as a link (objectively obtaining and possibly escaping subjective awareness) which *de facto* grounds a belief in the state of things which makes it true, thus ensuring its non-accidental truth. Such a link, metaphorically described in the *Meno* as strong ropes tying beliefs to the solid ground[1], has been recently characterized as a chain whereby the belief is ultimately caused by its truth-maker[2]. For instance, it might be pointed out that belief (1) is not justified because it is not ultimately caused by its truth-maker, the lucky circumstance (d), but by the irrelevant evidences (a) and (b). Thus, we could keep the traditional definition of knowledge while learning that justification must be understood in this *objective* sense.

It has been argued that causation by the truth-maker cannot in general explain belief formation since (i) mathematical and non-physical facts in general cannot be the *cause* of beliefs concerning them; (ii) beliefs may be brought about non-causally, for instance by evidence, inferences, etc.; and (iii) beliefs about future facts cannot be caused by their truth-makers.[3] It can be countered that even if inferences and evidence-based belief formation are not causal processes, they are implemented by causal brain processes, themselves triggered by the truth-maker; and it might be suggested that true mathematical beliefs are necessary: so, they are made true by any actual state of affairs, which causes them through the brain processes realizing the inferences by which those beliefs are proven true. But given the controversial nature of these questions, one can simply leave all options open by considering a belief objectively justified when it is brought about by what can be called more generally a *productive* chain, whose links can be causal or non causal (such as inferences, perceptual evidences or intellectual intuitions). In turn, beliefs about the future are objectively justified when brought about by a productive chain originating

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[1] Plato, *Meno*, 97d-98b, XXXIX.
[2] For instance in Goldman (1967).
[3] Swain (1998), § 3.

in a past or present fact causing the future truth-maker (so that the subject can infer the truth-maker from its cause). But further problems arise from the following

Case II. Cain has decided to kill Abel, who suspects nothing. In the night he silently approaches him from the back, and violently strikes his head with a club. Abel falls like dead; in fact, however, he survives, but with severe brain damages. As a result, Abel forms the psychotic belief

(2) Cain wants to kill me,

for which he has no evidence of sort. (2) is both true and causally produced by its truth-maker, but surely it cannot be considered justified, hence a case of knowledge.[4]

In fact, as stressed by the deontologic and evidentialist approaches[5], no belief is justified unless the subject is *entitled* to hold it (or at least *excusable* for holding it) in virtue of *good reasons*, which obviously Abel does not have. Good reasons thus constitute a *subjective justification,* and may consist in perceptual or intellectual evidences, or correct inferences from further justified beliefs.

Thus, justification encompasses both an *objective justification* (which entails truth, but consists in a chain of partly *external* factors, possibly escaping subjective awareness) and a *subjective justification*, consisting of *internal* evidences and inferences, which however fall short of entailing truth. If the non-causal production of beliefs is admitted, internal evidences and inferences constitute the final section of the productive chain from the truth-making fact P to the true belief <P> (viz., the belief that P holds); if only causal production is accepted, the final section of the chain is constituted by the brain processes by which evidences and inferences are implemented.

Thus in the simple cases, those of direct perceptual beliefs, we have

$$P => R => S =>…=> E_P \rightarrow <P>,$$

where $R => S =>…$ is the chain of physical and physiological causes (light radiations, retinal stimulations, nervous impulses, etc.) through which the fact P causes the perceptions the subject has of P itself. Dependingly on the approach taken, E_P is either the perception itself, which in turn produces non-causally the belief <P>, or the brain state which realizes the perception, which

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[4] A similar example is the reliable clairvoyance case in BonJour (1980).
[5] See respectively Steup (2010), § 2.1, Pappas (2008) § 5, and Steup (2008), § 4, Steup (2010), § 2.2.

causes the belief <P>. If intellectual intuition is admitted, we can get an even simpler kind of chain: $E_P \rightarrow$ <P>, where E_P is either an intellectual intuition, or the brain state implementing it.

In a more complex case, we have

$$\boxed{P} \Rightarrow \boxed{Q} \Rightarrow \boxed{R} \Rightarrow \boxed{S} \Rightarrow \ldots \Rightarrow E_Q \rightarrow <Q> \rightarrow <P>,$$

where $\boxed{Q}$ is any fact having $\boxed{P}$ as a (necessary or at least sufficient) condition, so that from the obtaining of $\boxed{Q}$ the obtaining of $\boxed{P}$ can be inferred deductively or inductively. For instance, $\boxed{P}$ might be fire, causing $\boxed{Q}$, smoke. Smoke can cause (through the usual physical and physiological chain $\boxed{R} \Rightarrow \boxed{S} \Rightarrow \ldots \Rightarrow$) the perception of smoke (or the brain state realizing it) E_Q, whose consequence is <Q>, the belief that there is smoke (or the brain state realizing it), which by an inference (or by the brain processes implementing that inference) produces <P>, the belief that there is fire. In an even more complex case, <P> could be inferred not just from <Q>, but from <Q> in conjunction with further beliefs <T>, <U>, etc., held by the subject. If <P> is about the future fact $\boxed{P}$, the chain originates in a fact $\boxed{V}$ having $\boxed{P}$ as an effect.

Just being produced by such a chain, however, is not enough to objectively justify a belief, as shown by the following example:

Case III. Having just landed at Narita airport in Tokyo, Steve goes to a newsstand. Suddenly a newspaper falls off the rack, and Steve sees the headline: "Earthquake hits Japan". Therefore he forms the belief

(3) An earthquake hit Japan yesterday

Now, (3) happens to be true, but the newspaper is an old one, accidentally left for years on the rack, and fallen because yesterday's earthquake made its equilibrium unstable.[6] Apparently, therefore, (3) is both objectively and subjectively justified: it is ultimately caused by the truth-maker (yesterday's earthquake), and Steve has good (though fallible) reasons for it. Yet, our intuition is that (3) is not justified, or at any rate not knowledge, due to the merely accidental connection of Steve's evidence to the truth-maker. But since (3) is ultimately produced by the earthquake, what could we ask in addition?

It might be suggested that the chain from the truth-maker to Steve's evidence is a deviant one; but what exactly makes a chain "deviant" rather than straight? The problem of how to identify the *right* type of causal chain

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[6] Reported in UNIVERSITY OF READING.

plagues all causal approaches not only to justification, but to perception, rationality, reference, etc.,[7] and its elusiveness is shown also by the following

Case IV. While driving at dusk through an unknown countryside region, Henry sees a barn, the only one in the area. So, he comes to believe that

(4) There is a barn in this area.

Unbeknownst to him, however, the region is populated by papier-mâché barn facsimiles, of the sort found on movie-studio lots. If he had seen one of them, Henry would have mistaken it for a real barn, so it is only by good fortune that his belief has been produced by its truth-maker, rather than by a fake. Hence, (4) cannot be considered knowledge.[8]

Apparently, in this case, the chain from truth-maker to evidence is not deviant or strange as in Case III, but quite straightforward: the perception of a barn is directly caused by the one actual barn making (4) true. Where is then the problem?

In general, a perception of type E_p is evidence for a belief of type <P> just in case, and precisely because, *in all relevant contexts* perceptions of the same type *normally* take place only when their truth-makers (of kind) $\boxed{P}$ obtain (for instance, because they are realized by brain states causally linked to facts of kind $\boxed{P}$). Of course E_p is still an evidence for <P> even in an abnormal particular case in which in fact it is not ultimately brought about by $\boxed{P}$: subjective justification is fallible, after all, and in such an event there will be subjective justification but no objective justification.

In Case IV, however, Steve's perception of the barn *is* caused by the truth-maker of his belief. Moreover, in the most general context the perception of a barn *is* normally caused by a barn; but in the narrower context relevant here, perceptions of barns would *not* normally be brought about by barns (in fact, they would more normally be brought about by papier-mâché facsimiles); thus, it is just a lucky coincidence that Henry's perception is caused by an actual barn, and belief (4) is not knowledge.

Similarly, in Case III, Steve's belief is caused, or motivated, by his reading the headline "Earthquake hits Japan", which normally is evidence of a recent earthquake. But his reading, in turn, has been caused by the appearance of an *old* newspaper, an event which is not *normally* brought about by a recent event, like the earthquake which makes (3) true. In fact, although (3) is subjectively justified, if Steve learned this background he would cease to believe (3).

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[7] E.g., Putnam (1981), pp. 51 ff., 65-66.
[8] Goldman (1976), pp.772-773.

This suggests that in order to have an objective justification it is not sufficient that the belief <P> is actually linked to its truth-maker $\boxed{P}$ by a productive chain; the chain must also be *non-deviant*, or *of the right type*, in the sense that *in all relevant contexts* each ring in the chain is *normally* brought about, directly or indirectly, just by (facts of type) $\boxed{P}$. For, suppose that while in the normal case we have the chain

$\boxed{P}\Rightarrow\boxed{Q}\Rightarrow\boxed{R}\Rightarrow\boxed{S}\Rightarrow\ldots\Rightarrow E_Q\rightarrow<Q>\rightarrow<P>$,

in a particular case $\boxed{P}$ does not obtain, and $\boxed{Q}$ is caused by a fact $\boxed{X}$, which normally is not a cause of $\boxed{Q}$, nor an effect of $\boxed{P}$. In such a case <P> would be false, and there would be no objective justification. But there could also be a twice abnormal circumstance, in which $\boxed{Q}$ is *abnormally* caused by $\boxed{X}$, but $\boxed{P}$ obtains and $\boxed{X}$ is *abnormally* caused by $\boxed{P}$. So, <P> would be both true, and ultimately brought about by $\boxed{P}$. Yet, we shouldn't consider <P> as objectively justified, for the truth of <P> would just be a lucky coincidence: since E_Q is normally brought about just by $\boxed{P}$, <P> would be subjectively justified; but if the subject acquired more information, and learned that $\boxed{Q}$ had been caused by $\boxed{X}$, she would no longer be in the position to infer <P> from <Q>; hence, she would cease to believe <P> (or at any rate, to be subjectively justified in doing so): precisely in the same way Steve would cease to believe (3) if he learned that he has read an old newspaper, and Henry would cease to believe (4) if he learned that perceptions of barns in that area are not normally caused by barns.

My tentative suggestion is then that objective and subjective justification as characterized here are both necessary and sufficient conditions for knowledge (for truth is implied by objective justification). But if one feels that the imagination of philosophers might produce some new counterexamples complying with these conditions, yet intuitively not counting as knowledge, at least the examined cases show that even if these conditions are not sufficient,[9] they are necessary.

A few final remarks. First, on this characterization, objective justification and therefore knowledge turn out to be both gradual and context-dependent notions, for such is the crucial adverb 'normally'. This however is a desirable result, for commonsensical ascriptions of justification and knowledge also have these properties.

Second, if by 'justification' one means just subjective justification, then Gettier is right that a further condition of knowledge is needed, and we found what it is: objective justification. On the other hand, truth as a separate condition is no

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[9] Mauro Dorato, for instance, suggested in discussion that the production of such counterexamples, hence the search for *sufficient* conditions of knowledge, might be an endless process.

longer needed, for it is implied by objective justification. So knowledge still gets a tripartite definition. Instead, if justification is understood as I suggested, as encompassing both a subjective and an objective element, two conditions are enough: knowledge is justified belief.

Third, the internalist and the externalist approach to justification and knowledge[10] are both right, and in fact complementary: there must be both objective external conditions (the *non-deviant* chain form P to <P>) which in principle escapes the subject's awareness, and internally transparent reasons (perceptual or intellectual evidence and inferences, either as parts of the productive chain, or as supervening on it).

Finally, with more room available it could be shown[11] that the present proposal captures and explains the necessity of three conditions which have been independently suggested as candidate fourth condition in order to prevent Gettier-like paradoxes:

(1) the absence of *defeaters*[12] (true propositions which if known would prevent the subject to believe <P>) is necessary because a defeater is just the proposition that some ring Q does not have its normal cause, but a deviant cause X, not normally caused by P: we saw that in this case <P> fails to be justified. There may be a true proposition which sustains <P> even in face of a defeater,[13] precisely because it says that the abnormal cause X is itself abnormally brought about by the truth-maker P; but it follows from the account of Alai (2005) that in such case <P> is again justified only if this sustaining proposition is known.

(2) The *absence of false presuppositions* of <P>[14] is necessary since in taking E_p as evidence for <P> the subject presupposes that it has been brought about by a *non-deviant* chain in the above specified sense; but if this presupposition is false <P> fails to be objectively justified.

(3) The *distinguishability of relevant alternatives in which <P> would be false*[15] is necessary because it is just the possibility of distinguishing the actual case in which an abnormal cause X was itself abnormally caused by P (so that <P> is true) from the relevant (i.e., a priori more probable) alternative in which X would have not been caused by P (and so <P> would be false).

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[10] See Pappas (2008); Bonjour (2002); Steup (2008), § 4.
[11] See Alai (2005).
[12] Lehrer and Paxson (1969).
[13] Moser (1989); (1992), p. 158.
[14] Vassallo (2003), pp. 39-40.
[15] Goldman 1976).

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