
- **First Analytical Reply: Infallibilism**

- One could react to the Gettier cases by claiming that the true beliefs invoked in such cases – the belief formed by Smith that the man who will get the job has ten coins in his pocket (remember that, although he does not know this, it is Smith himself who will get the job and who has ten coins in his pocket), or the belief formed by Socrates that the road to his right leads to Larissa (see separate slides) – **are not in fact justified beliefs**
- Such beliefs only appear to be justified
- Or they are justified only in a minimal sense, rather weak and inappropriate, of epistemic justification
- The central claim here is that a belief in a proposition is justified (in order to be able to generate knowledge) only if the subject has **conclusive reasons** to accept as true the proposition in question

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- The general idea of infallibility seems to be associated with two ideas (which are perhaps distinct from one another)
 - On the one hand, the idea that it is not possible for false beliefs to be justified, since justification is a process that yields truth, a factive process (if a subject is justified in believing that p , then it is true that p)
 - On the other, the idea that our justified beliefs are infallible or certain
 - A belief in a proposition is infallible or certain (in that sense) when it is rationally impossible for us to be wrong about that proposition
 - In particular, when it is rationally impossible for us to take the proposition as false when it is in fact true

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- And a belief is fallible or not certain (in that sense) when there is some possibility of error
 - It is important to note in this respect that it is not necessary that one is **in fact** wrong
 - The mere possibility of being wrong is sufficient for fallibility
 - The infallibilist reply to the Gettier cases is thus that the beliefs invoked therein are not in fact justified in the appropriate sense of epistemic justification, for the subjects (Smith, Socrates) do not possess conclusive reasons to accept the believed propositions
 - In Smith's case, he has no conclusive reasons either for believing that Jones has ten coins in his pocket or for believing that Jones is the man who will get the job

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- Observing and counting the coins in Jones's pocket is far from being a conclusive reason, immune to error, for forming the former belief
 - Although Smith is right when he does so, he might be wrong
 - The counting might not be accurate, or his visual perception might be defective
 - Thus, Smith's belief that the man who will get the job has 10 coins in his pocket is unjustified, in which case the devised situation is not a counter-example to the sufficiency of JTB to knowledge
 - The same goes for Socrates's belief about the road to Larissa: evidence obtained from the compass and from testimony + memory are not appropriate to fully justify the beliefs used as premises in Socrates's deductive reasoning

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- The infallibilist reaction, if correct, would indeed block the Gettier cases, leaving untouched the sufficiency claim, that JTB entails K
 - But infallibilism faces a first serious problem
 - The problem results from the fallibilist conception of epistemic justification and is the following one
 - It follows from such conception that there would be very few cases of propositional knowledge (if any at all), since knowledge would only be available in the case of infallible beliefs, in the case of beliefs fully immune to error or supported by conclusive reasons or grounds
 - This consequence is a disaster because one can plausibly argue that very few of our true beliefs (if any at all) are infallible, in the sense of beliefs whose truth is supported by conclusive reasons, or (if you prefer) beliefs immune to error

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- Even a belief like the belief that all dogs are dogs, a belief in a logical truth (let us assume) and thus an **a priori** belief (let us again assume), is not a belief immune to error, or a belief that is beyond rational revision or challenge
 - Indeed, it is possible for someone to justifiably regard it as false (even if it in fact true) and to do so in a fully rational manner (see last slide for this)
 - And the same holds for most (all?) logical truths or deductively valid inferences
 - Note that *Modus Ponens*, the inference from premisses **p** and **If p then q** to conclusion **q**, can be rationally challenged - and it has in fact been rationally challenged (by the logician Bas van Fraassen)

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- Furthermore, mathematical truths, such as Godel's 1931 Incompleteness Theorem, although presumably necessary and a priori truths, are arguably not immune to rational challenge
 - And the same holds for Cartesian beliefs, such as the belief that I am in love or the belief that I feel pain
 - On the other hand, it is reasonable to think that many of our everyday true beliefs constitute knowledge, even though they are surely fallible

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- If I lack the means to check the time, ask a friend on the phone what is the time and he tells me that it is 08:10 am, then this seems to be a good way of my coming to know that it is 08:10 am
 - But my belief is fallible: my friend, although reliable, might have lied; or the watch at which he looked might have malfunctioned; or his visual perception might have been defective; or I might have experienced an auditory hallucination on the phone; or it might have been just an audio file recorded on the phone; etc.
 - Such common cases of knowledge attribution seem not to be accommodated by an infallibilist view of epistemic justification

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- They can only be accommodated by a fallibilist view, a view according to which we can have knowledge even in the absence of conclusive reasons, we can know something even if our available evidence does not exclude the possibility of our being wrong
 - Furthermore, knowledge obtained via natural science, whose epistemic status is presumably higher than that of common everyday knowledge, can only be accommodated by a fallibilist view of epistemic justification
 - We know today (or at least let us assume that we know) the chemical composition of water, we know through science that (pure) water is H_2O
 - We are not wrong about it (or at least assume that we are right about it)

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- Yet, there is always the possibility of our being wrong, the possibility of science being in the end wrong
 - Although it is in fact the case that water is H_2O , it is always possible, in the sense of epistemically possible, that present chemistry is after all wrong and that in fact water has a different, more complex, chemical composition, say **XYZW**
 - The history of natural science shows us that some scientific theories we regarded as true, e.g. Ptolemy's heliocentric theory, are after all false (and so they have always been false)
 - And if that was the case for theories that are in fact false, the possibility of error is always available, even for theories that are in fact true

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- To sum up, this first reaction to the Gettier cases, insofar as it heavily relies on an infallibilist view of justification, fails in counting as non-knowledge a vast number of cases that we would be naturally inclined to count as cases of knowledge, including many cases of a priori knowledge
 - It fails in turning knowledge into something very hard or even impossible to reach, which appears to be rather counter-intuitive
 - It is true that the reply is efficacious in achieving the result that the Gettier cases are no longer counter-examples to the tripartite theory of knowledge
 - But the costs involved are extremely high

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- Let us finish by clarifying a bit further the details of the infallibilist position
 - Infallibilism about epistemic justification is in general the view that justified beliefs are only those beliefs that are conclusively justified, those beliefs that are justified in such a way that their truth is guaranteed by whatever (data, evidence) justifies them
 - We can formulate the infallibilist claim in two ways (which can be regarded as being, in essence, equivalent)
 - **(1) A subject x is justified in believing that p if, and only if, x accepts the proposition that p on the basis of conclusive reasons**

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- These reasons are conclusive in the previous sense, in the sense of reasons that immediately guarantee the truth of the proposition that **p**
 - It follows that epistemic justification is factive: if **x** is justified in believing that **p**, then it is true that **p**
 - This version of infallibilism entails that it is impossible for justified beliefs to be false
 - It thus faces a serious difficulty: it is inconsistent with the fact that many of our beliefs turn out to be in fact false, for instance many mathematical conjectures and many perceptual beliefs, are nonetheless justified beliefs

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- **(2) x is justified in believing that p if, and only if, x 's belief that p is an infallible belief**
 - *Grosso modo*, a belief is infallible when it is immune to error or not revisable, when it is beyond any reasonable doubt
 - In other words, a belief that **p** is infallible when, not only it is true that **p** , but also it is impossible for someone to rationally believe that it is false that **p** , or to rationally doubt that **p** , etc.
 - It also follows from this second version of infallibilism that epistemic justification is factive
 - The main problem with this form of infallibilism is the following one
 - Assuming that epistemic justification is necessary for knowledge, many clear cases of knowledge (if not all) would cease to be counted as such

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- All empirical knowledge, particularly knowledge provided by natural science, would cease to be counted as genuine knowledge, since all empirically known true propositions are surely revisable in the previous sense
 - On the other hand, at least some a priori knowledge, particularly knowledge provided by the formal sciences (Logic and Mathematics), would cease to be counted as genuine knowledge, since at least some a priori known true propositions are equally revisable in that sense
 - To sum up, infallibilism entails two things that are very hard to accept
 - (a) That justified false beliefs are impossible
 - (b) That very few (if any) true beliefs can be knowledge

Addendum

- **Even trivial logical truths can be rationally challenged**
- Zeno, a student of Logic, is very interested in aristotelian logic, especially in the relation between universal and particular propositions
- He reads a lot on the subject and sees that, according to the traditional square of opposition, an affirmative universal proposition, a proposition of the form **All As are Bs**, entails the corresponding affirmative particular proposition, a proposition of the form **Some As are Bs**
- Zeno concludes that, according to aristotelian logic, an affirmative universal proposition is true only if the existential proposition **There are As**, or **Some things are As**, is true

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- Zeno examines the reasons advanced to the effect by proponents of aristotelian logic, particularly the following argument
 - One can only check whether a proposition of the form **All As are Bs** is true if one checks, with respect to every and each of the things that are **As**, whether those things are also **Bs**
 - But this requires that **As** be available, that there are **As**
 - Not convinced that the principle of aristotelian logic known as Existential Import is sound, Zeno has doubts concerning it, he wonders whether the principle should be accepted
 - Hence, with respect to a specific proposition such **All dogs are dogs**, Zeno wonders whether its truth entails the existence of dogs

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- At the very minimum, Zeno doubts whether the proposition **All dogs are dogs** could be true without the proposition **There are dogs** being true
 - On the other hand, Zeno happens to be also very interested in dogs
 - He searches through the internet and comes across a curious set of bizarre pieces that somehow throw some suspicion about the real existence of dogs
 - Those pieces advance the weird conjecture that the things we think are dogs, the things we call “dogs”, are not really dogs
 - They are not even animals, creatures in flesh and blood

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- They are really robots introduced into our planet by aliens with the purpose of gradually taking over the planet
 - The robots assume, to our eyes, the appearance and behaviour of dogs, and are all over the place
 - Of course, the ultimate aim of the aliens is, at a certain point in the future, to activate the robots in destruction mode and annihilate the humans
 - Zeno is not convinced that this story is veridical but he feels somehow interested in it and wonders whether it might be true, having doubts concerning the skeptical conjecture about dogs

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- Thus, in the very minimum, Zeno doubts whether the proposition **There are dogs** is a true proposition
 - Now Zeno puts together his two doubts, the doubt about the principle of existential import and the doubt about the existence of dogs, and comes to hold the following doubt as a result
 - Zeno doubts whether the proposition **All dogs are dogs** is true, he wonders whether this proposition could not indeed be false

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- Even though we can plausibly think that the principle of existential import is unsound, even though we can plausibly think that a proposition of the form **All As are As** is indeed a logical truth, and even though we can plausibly think that the crazy conjecture about dogs is fully wrong, it does not follow from this that Zeno's doubts and wonderings are not rational
 - Hence, it is possible to rationally have doubts about what is really a trivial logical truth