

**Knowledge, Causation  
and the Sense-Datum Theory of Perception**  
(Andrew Blackwell, Tutorial of Monday, 02 Feb 98,  
14:00 hrs, Anthony Hatzimoyisis)

In an attempt to solve the problems posed to the tripartite definition of knowledge (ie knowledge = justified true belief) by Edmund Gettier, Alvin Goldman produced a paper in 1967 entitled A Causal Theory of Knowing. In this paper, Goldman proposed a fourth addition to the tripartite definition, which states that

*'S knows that p if and only if  
the fact p is causally connected in an "appropriate" way with S's  
believing p.*

"Appropriate", knowledge-producing causal processes include the following:  
(1) perception  
(2) memory  
(3) a causal chain, ..., which is correctly reconstructed  
by inferences, each of which is warranted.  
(4) combinations of (1), (2), and (3).' (1967)

In other words, there has to be an appropriate causal connection between the fact that my house is still standing and the fact that I have the true belief that my house is still standing. And conversely, if there is an appropriate causal connection between the fact that my house is still standing and the fact that I truly believe it to be, then I also know it to be standing. Appropriate causation is a necessary and a sufficient condition.

With this move, Goldman indeed managed to eradicate the problems of Gettier's counterexamples, since they all did not imply appropriate causation.<sup>1</sup> However, Goldman did not include some serious counterexamples that would refute his simple causal theory of knowledge for another ten years or so, when he published another paper entitled "Discrimination and Perceptual Knowledge" (1976). The important fact about this paper and

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<sup>1</sup> For example: the fact that I truly and justifiably believe that Brown has a Ford, even though I don't know that Brown smashed his Ford in an accident yesterday and by pure chance won another Ford in a competition the same evening, still prevents me from knowing that Brown has a Ford, since it was the lottery that caused Brown to have the Ford, whereas events *excluding the lottery* caused my belief in Brown's having the Ford. Hence: two different causes, same effect.

the counterexamples it dealt with was that it was discussing the causal theory of knowledge in the context of *perception*.

For the rest of this essay I want to elucidate how perception fits into the picture of knowledge, how a causal theory of knowledge necessarily involves a causal theory of perception, and the problems facing a causal theory of perception from the Argument from Illusion. In the process I will argue that it is less the causal theory of perception that is problematic, rather than the conclusions often drawn from the Argument from Illusion when combined with the causal theory. I will conclude that a direct realist approach can manage to incorporate both a causal theory of perception without failing to deal with the problems of illusion and hallucination.

### Knowledge and Perception

When a person at any point in time has knowledge about a fact F, we can ask ourselves what the possible factors were that made him know about F. In line with most philosophers of the Western Tradition, Robert Audi identifies four factors as 'sources of knowledge'<sup>2</sup>:

1. Perception
2. Memory
3. Introspection
4. Reason

Furthermore it can be claimed that Perception takes a special position, since it is the only input of knowledge about the external world. This is not to be confused with saying that it is the only source of knowledge about the external world. A memory might still act as a source of knowledge about a state of affairs of the external world long after all our senses have gone completely numb, but this memory could never have existed, had our senses never functioned. The same goes for Introspection and Reason<sup>3</sup>.

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<sup>2</sup>I specifically say Western tradition, since Eastern philosophies - in line with their religious views - identify other sources, eg a person's karma. Other, more esoteric views of the world might include concepts like telepathic communication or emotive energy transmission as possible sources of knowledge. I will, however, happily stick to the four sources mentioned above.

<sup>3</sup>I contend this for simplicity's sake. Some philosophers indeed argue that 'sense-less' people would still have knowledge about the external world through pure reason alone, eg  $2+2=4$ . But this would lead the discussion into the wrong direction.

In other words, perception is a necessary but by no means sufficient condition for knowledge of the external world.

### The Causal Theory of Perception

Adding the recognition about the epistemological relevance of perception, we can see how important it is for a causal theory of knowledge to be supplemented with a causal theory of perception. In other words, if we could not come up with some theory that links objects perceived with the perception of them through causal means, then we obviously would lack a causal relation between the object and the knowledge about that object, and thus the causal theory of knowledge would fall apart.

As I have mentioned already, Goldman's initial account of a causal theory of knowledge dealt with Gettier's counterexamples, but was prone to other, more difficult, counterexamples. These counterexamples all stem from the realm of perception. The examples show how instances of false, causally explicable, perception can lead to justified true belief of the event or object perceived. D. Lewis gives us a nice example of such a situation<sup>4</sup>: "I hallucinate at random, I seem to see a brain before my eyes, my own brain looks just like the one I seem to see, and my brain is causing my visual experience. But this time my brain is before my eyes. It has been carefully removed from my skull. The nerves and blood vessels that connect it to the rest of me have been stretched somehow, not severed. It is still working and I am hallucinating."

In other words, what has to be done now is to redefine the "appropriate" way causal processes take place by taking a close look at the way in which *perceptual* causal processes are "appropriate". This indeed may not prove to be an easy a task as it first seems, so I won't go to lengths in coming up with the right solution for it.

I do, however, want to pave the way to an extent that might lead us in a fruitful direction. Lewis's example above can easily be abridged by defining "appropriate" causal processes in perception in some scientific way. This may seem a bit unphilosophical, but as Grice says<sup>5</sup>: "I see nothing absurd in the idea that a non-specialist concept should contain, so to speak, a blank space to be filled by the specialist."

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<sup>4</sup>David Lewis: Veridical Hallucination and Prosthetic Vision, 1980

<sup>5</sup>H.P. Grice: The Causal Theory of Perception, 1961

This, however, does by far not solve the problem. Goldman himself, for instance, lets us imagine that we may correctly recognise a girl on the other side of the street as being Judy, yet not specifically knowing that it is, because we can't tell Judy apart from her identical twin-sister Trudy. Perception has now been caused in a scientifically adequate way, but it does not suffice. Goldman solves this problem by saying that as long as we recognise *differentiating* features of an object (we justifiably truly believe through causal processes), then we have knowledge of the object. Fred Dretske, in this connection, points out that our brain processes *analogue* information *digitally*, which means in very simplified terms that much less is processed as beliefs than is provided as input by perception. To take the twin-sister example: Trudy has a mole on her left eye-brow. Judy doesn't. Trudy is on the other side of the street. I perceive Trudy. The mole on Trudy's eye-brow forms part of the analogue sensory information that I receive. The question is, does my perception process the mole-information digitally or not. In other words: do I form a belief about the person on the other side of the street being Trudy *with or without* the perceptual belief about the mole on her eyebrow. This, for Goldman is crucial: if I *differentiate* Trudy from Judy because of the mole, then I know it is Trudy. If I do not include the mole in my beliefs about the person being Trudy (and include no other differing features), then I do *not* differentiate, and hence my belief that the person is Trudy is not knowledge, just pure chance. (Goldman 1976:54)

This differentiation will take us a long way, but not all the way. There is another problem with the scientific analysis of causation, namely, as Dancy puts it<sup>6</sup>: "If [scientists] found an apparently perceptual belief that was caused in a completely new way, who would decide whether the way was relevantly similar to previous more well-trodden ways?". David Lewis nicely exemplifies this possibility by making us think of prosthetic eyes, as yet an impossibility but theoretically not impossible. I will cut short the discussion of "appropriate" causal processes in perception here.

As we can see, one solution to counterexamples leads to yet another, which extends the inclusion of conditions in the causal analysis of knowledge. However, this by far does not mean that we should abandon the possibility for a causal explanation of perception and hence knowledge. I therefore want to look at the result that opponents of the causal theory of perception might reach with their general interpretation of the Argument from Illusion: namely, the existence of so-called sense-data. I also want to analyse what possible threats this might posit on the causal theory of perception as a general view.

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<sup>6</sup>Jonathan Dancy: An Introduction to Epistemology, 1985

### Sense Data and Causal Theories

The Argument from Illusion goes roughly as follows: whether I see a tree, or have the illusion of seeing a tree or hallucinate seeing a tree, I may not be able to tell the difference. Thus in all three cases there is a common factor presented to me making me believe I see a tree. This common factor must be the same non-physical object in all three cases. This non-physical object can be called a sense-datum. What this means is that whenever we perceive an object that really exists in the external world, we only perceive it indirectly via the sense-datum, which we perceive directly. Hence we do not have direct epistemic access to the real world. This view is typically called a *indirect realist* view.

What problems does this pose for the causal theory of perception. This is mainly what Grice's paper is about and he tries to defend the causal theory of perception while maintaining an indirect realist view: the criticism launched against the causal theory in this framework is that since it is assumed that we *infer* the existence of real objects from the sense-data we directly perceive, we in a way make an inference from effect to cause. The problem however is, that we can never test the validity of our inferences, since we can never test the hypothesis against evidence because we don't have direct access to the evidence, the real objects. Thus we might as well conclude that there are no real objects and hence adopt an *idealist* or *phenomenalist* view of the world.

Grice's answer to this is simply: yes, maybe, but not necessarily. I find this kind of answer unsatisfying, however, and would therefore like to argue that by dropping the sense-datum view of perception and opting for a more *direct realist* approach, we can have more of a chance of adopting a causal theory of perception that does not lay itself open to phenomenalist criticism

### Towards a direct realism

In many ways the only answer I can give to the proposal of a sense-datum theory of perception is similar to Grice's response to phenomenism: yes, maybe, but not necessarily. This is as equally unsatisfying as Grice's approach, but it at least has one merit: opting for the direct realist approach to perception is the most *intuitively* correct approach we can take. Indirect realist approaches suffer from us having to live with the notion of constantly being

behind an 'epistemic veil', which seems counterintuitive. Direct realism at least pierces this veil and appeals more to our intuitions. [If I resubmit this essay, I plan to insert an argument against sense-data that doesn't take this approach, but that proves sense-data to be erroneous. Where can I find such an argument?]

There are many forms of direct realism that deal with the Argument from Illusion without us having to give in to the thought that we are behind an epistemic veil: appearance theory or adverbial theories are but a few of these forms of direct realism (Audi, 1988). I will not go into any of these in much detail.

I do however want to conclude with the initial assertion that a direct realist approach can deal with a causal theory of perception in such a way that it cannot fall victim to a phenomenalist approach: if we adopt a direct realist theory, we no longer have to talk about beliefs being an inference from effect to cause. What we are perceiving is no longer an effect, as it would be in a sense-datum approach, but actually the *cause* of our perception. And this makes perfect sense in another way as well: we no longer perceive an effect, our perceptual belief *is* an effect, and hence all we infer is that our perceptual belief is based on the *true* cause, we no longer infer that it is based on a cause.

Thus I hope to have shown that it was more the sense-datum theory of perception that leads to the problems mentioned by Grice, rather than the causal theory of perception itself.

### Conclusion

Having come this far, I want to round up the essay by restating the problem posed at the beginning: what must an addition to the tripartite definition of knowledge look like?

As we have seen, a causal condition looks quite promising. It does, however, have to be supplemented by adequate conditions for perceptual causation, which I have already started to mention. I have furthermore claimed that a causal theory of perception can not fail when confronted with phenomenalist or idealist approaches, that would in effect undermine the causal approach, as long as we reject a sense-datum approach and manage to uphold a direct realist approach.