

## Reductionism about understanding why

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### **Abstract:**

Paulina Sliwa (2015) argues that knowing why  $p$  is necessary and sufficient for understanding why  $p$ . She tries to rebut recent attacks against the necessity and sufficiency claims, and explains the gradability of understanding why in terms of knowledge. I argue that her attempts do not succeed, but I indicate some ways to defend reductionism about understanding why.

**Keywords:** Understanding why | Knowing why | Reductionism about understanding why | Gradability of understanding why

### **Articles:**

#### **I**

*Reductionism about Understanding Why*. Focusing on understanding why  $p$ , Sliwa tries to defend the thesis that ‘instances of understanding reduce to the corresponding instances of knowledge’ (2015, p. 58) and thus:

UNDERSTANDING WHY IS KNOWING WHY  
 $S$  understands why  $p$  iff  $S$  knows why  $p$ .

Knowledge why is analysed as knowledge of causes of the phenomenon described by  $p$ ; it amounts to knowing a so-called causal proposition of the form ‘ $p$  because  $q$ ’ (cf. Kvanvig 2003; Pritchard 2014; Grimm 2014; Kelp 2014; Sliwa 2015).<sup>1</sup> Take Pritchard’s (2008, p. 332) illustration: ‘to know why my house burned down is just to know that it burned down because of (say) faulty wiring’.

KNOWING WHY  
 $S$  knows why  $p$  iff there is some  $q$  such that  $S$  knows that ( $p$  because  $q$ ).

Knowing why amounts to knowing a complex proposition. Hence it is factive, not immune to non-benign epistemic luck, and can be transmitted by testimony.

Given KNOWING WHY , the reductionist claim at stake is:

#### UNDERSTANDING WHY IS KNOWLEDGE OF CAUSES

$S$  understands why  $p$  iff there is some  $q$  such that  $S$  knows that ( $p$  because  $q$ ).

Sliwa tries to rebut recent arguments against the necessity and sufficiency claims and explains the gradability of understanding why in terms of knowledge. I argue that these attempts do not succeed, but suggest more promising ways throughout the discussion.

## II

*Arguments against the Necessity Claim* . The necessity claim is challenged by cases which seem to show that understanding why is immune to some non-benign epistemic luck (Kvanvig 2003 ; Pritchard 2008 , 2009, 2014 ; Hills 2009 ; Morris 2012). Most cases involve so-called environmental luck: the subjects gain understanding why by acquiring the relevant justified true beliefs. But they do not gain knowledge why, because they just luckily pick a knowledgeable source among mostly non-knowledgeable sources, and could have easily picked one of the latter. So there is understanding why without knowledge why.

Sliwa tackles this attack in two ways. First, she points out that sentences like ‘I understand why  $p$  , but I don’t know why  $p$  ’ and ‘  $S$  understands why  $p$  , but  $S$  does not know why  $p$  ’ seem infelicitous. Since there is no pragmatic explanation for this defect, she argues that they ‘sound infelicitous [because] they are contradictory. This is because understanding *entails* knowing’ ( Sliwa 2015 , p. 61).

One could rebut this argument by claiming that the alleged defectiveness of such sentences is due to the fact that understanding why and knowledge why only come apart in *rare* cases. Sliwa rejects this attempt by offering her second argument: she argues that situations in which people luckily pick the right source or evidence when they could have easily picked a misleading one ‘are decidedly not rare’ ( 2015 , p. 62). Analogous examples are detectives and doctors luckily stumbling upon crucial clues. It is common ground that such luck is benign and compatible with knowledge ( 2015 , p. 63). Sliwa thus reclassifies the cases: instead of being rare cases of environmental luck, they turn out to be common cases of benign luck. Grimm (2006) , Khalifa (2013) and Kelp (2014) offer similar arguments.

Sliwa’s first argument does not provide conclusive evidence for the necessity claim as long as the rare-case defence is possible. Reclassifying the employed cases is thus decisive. But even if it is correct, it would only show that understanding why and knowledge why do not come apart in such cases. Any similar case in which no benign luck (re-)classification is possible would still provide a counterexample to the necessity claim; and Pritchard has already provided such a case:

Kate<sup>2</sup> forms her belief regarding the cause of the chemical reaction by employing an instrument. ... [T]he instrument ... is not malfunctioning, and so delivers her the correct result. But ... [it] very nearly did malfunction, such that in most nearby possible worlds where Kate employs this instrument it would be malfunctioning and so at best only delivering the correct result by chance. ... [H]ad the instrument malfunctioned Kate would not have noticed. ( Pritchard 2014 , pp. 316–17)

Pritchard claims that Kate gains understanding why. She detected the cause and understands how cause and effect are related. Yet she does not acquire knowledge why, because her instrument could have stopped working while she was using it, but luckily it did not. Importantly, this luck differs crucially from the luck involved in the reclassified cases. The subject does not luckily pick a good source, but luckily gets the correct result from an unreliable source. According to standard knowledge conceptions, unreliability or non-safety prevents acquiring knowledge. Thus, there are (perhaps rare) cases in which knowledge why and understanding why seem to come apart.

However, reductionists may argue for a more general claim: the belief acquisition's aetiology matters equally for understanding why and knowing why (contra Kvanvig 2003 and Morris 2012 ). If unreliability excludes knowledge, it also excludes understanding why; the same holds for lucky guesses and so on. So Kate does not gain understanding why either. If such an argument succeeded, no case of non-benign luck would threaten the necessity claim.<sup>3</sup>

### III

*Arguments against the Sufficiency Claim* . The sufficiency claim is challenged by cases of testimony in which someone acquires knowledge why though not understanding why (see, for instance, Pritchard 2008 , 2009, 2014 ; Hills 2009 , 2015 ). Here is a case from Pritchard (2008 , pp. 335–6): A child gains knowledge that (a house burned down because of faulty wiring) via testimony from a reliable person. While this person understands why the house burned down because she also knows how the faulty wiring caused the fire, the child does not acquire the latter knowledge and thus no understanding why. Any case of learning a proposition of the form ' *p* because *q* ' by consulting a reliable source, yet lacking epistemic grip on the relation between cause and effect, provides such a counterexample. In addition, some argue that understanding why requires grasping of the relevant propositions (e.g. Strevens 2013 , Grimm 2014 ), or the ability to give a complete explanation for why *p* (e.g. Elgin 2007 , Pritchard 2014 , Hills 2015 ).

Sliwa does not address the latter demands, but tries to rebut the cases. Like Morris (2012) and Grimm (2014) , she argues that the child acquires some understanding why, because

the more we fill in the case to make it plausible that the child does not understand why the house burned down, the less plausible it is that the child knows why ... Thus, suppose that the child truly hasn't the faintest clue what faulty wiring could possibly be ... In this case, he [also does not] know that the house burned down because of faulty wiring. (Sliwa 2015 , pp. 69–70)

But even conceding that having no clue about faulty wiring prevents knowledge acquisition, Sliwa's defence is beside the point. The reason why understanding why is denied is not that the subjects do not understand what the terms involved mean; it is denied because the subjects do not know how the cause led to the effect, although they know what is causally decisive. As Pritchard puts it, '[one] should have a sound epistemic grip on why cause and effect are related in this way [in order to have any understanding why]' (2014, p. 316; similarly Hills 2015). This grip is claimed to be essential, though its quality can vary, as can the quality of understanding why. Crucially, knowing that  $p$  because  $q$  ensures neither this grip nor the ability to give a complete explanation.

The only promising option for reductionists is to argue that understanding why has a lower minimal threshold. Minimal understanding why does not require a grasp or the ability to give a complete explanation, and it has already been achieved if someone knows that  $x$  is the cause of  $y$ . This is because the latter amounts to acquiring *some* grip on the relation between cause and effect, namely, the modal belief that if  $x$  had not been the case,  $y$  would not have occurred (for a similar point see Grimm 2014). This belief seems to follow from believing that  $x$  is the cause of  $y$ , because this modal relation seems essential for being a cause (cases of redundant causation excluded). Such a belief is not about how the cause caused the effect in particular, but it is at least a belief about their interrelation. Nonetheless, it is not clear how to win this threshold debate without engaging in a quarrel about intuitions regarding understanding why ascriptions.

#### IV

*The Challenge of Gradability*. A further challenge for reductionists is to explain the gradability of understanding why: one can understand why a phenomenon occurred better than someone else. To explain this difference in terms of knowledge why does not seem possible, because knowing a relevant causal proposition does not seem to be gradable. Instead, Sliwa's basic suggestion is that the differences in degree can be explained by differences in the amount of knowledge about the cause, its effect and their relation. So, while knowing that  $p$  because  $q$  is necessary and sufficient for some understanding why, '[b]etter understanding is simply a matter of more knowledge' (Sliwa 2015, p. 69). Nonetheless, 'all instances of understanding why ... bottom out in propositional knowledge' (2015, p. 67). Sliwa underpins her idea as follows. The differences in understanding why are due to the fact that the overall belief systems differ (before and after acquiring the causal proposition). In the case of the child, 'the [informant] knows more about what caused the house fire than the child. ... And this knowledge is propositional in nature' (2015, pp. 68–9, italics omitted). Hence, the individuals differ regarding which possibilities the causal proposition allows them to exclude. The child might only exclude that the house was deliberately set on fire, but the informant can also exclude that 'an unattended electric heater, a forgotten candle, a careless smoker [caused the fire]' (2015, p. 67). Moreover, the individuals differ regarding what they learn from acquiring the relevant causal proposition. The informant may further deliberate 'whether the faulty wiring in question was a matter of a broken fuse or frayed cable insulation' (2015, p. 68). This option is not available to the child either.

While nobody doubts that differences in the amount of knowledge can lead to differences in quality of understanding why, Sliwa's account faces the following flaws. It seems questionable that merely *piling up* knowledge leads to an improvement in quality. One could imagine

someone who collects many pieces of information but does not know their interrelation. What he or she gains is probably not a better understanding than someone who knows a lesser but connected amount of information. The subject may know that  $p$  because  $q$ , and may learn all relevant parts about a given causal process, but in a random order. As long as the subject does not know how the parts are related, he or she fails to acquire (a better) understanding why. It also seems to be relevant how *significant* the collected pieces of knowledge are. A small but highly significant amount of knowledge seems more decisive for the quality of understanding than a large but less significant amount.

But reductionists need not be at their wit's end. They could explore the explanatory power of the following option. One could account for the gradability of understanding why in terms of a coherent body of connected relevant knowledge. The gradability could be due to variances in breadth (the more comprehensive, the broader), depth (the more tightly woven, the deeper), and significance. (For descriptions of such properties see, for example, Elgin 2007, Greco 2014.)

## V

*Conclusion*. Sliwa's arguments do not provide good enough evidence for reductionism about understanding why. But reductionists could save their claim by showing the following:

- (i) Knowledge why and understanding why have the same relationship to non-benign epistemic luck.
- (ii) The minimal threshold of understanding why is rather low.
- (iii) Abilities and grasping are not essential for understanding why or can be achieved by acquiring knowledge.
- (iv) A body of connected relevant knowledge accounts for the gradability of understanding why.<sup>4</sup>

## Notes

1. To allow for non-causal explanations one may replace 'knowledge of causes' by 'knowledge of dependencies' (see, for example, Greco 2014; Grimm 2014).

2. The asterisks Pritchard uses to distinguish between different Kates are omitted.

3. See, for example, Grimm (2006) and DePaul and Grimm (2007) for attempts to argue along these lines, and Pritchard (2008) for an argument that understanding why is not immune to other kinds of non-benign epistemic luck.

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