Chapter 7
Basing a Belief on the Evidence

Abstract In this chapter the important distinction between having justification for believing a proposition (propositional justification) and justifiedly believing a proposition (doxastic justification) is drawn. Very roughly, this distinction tracks the idea that simply believing the right thing is not sufficient for one's belief to be justified. After all, one might believe the right thing for the wrong reasons. In order to have a justified belief one must believe the right thing for the right reasons. Since justified belief is a necessary condition of knowledge, it is extremely important to understand what is required to move from merely having propositional justification to having doxastic justification. This chapter explores the relation that one's belief has to bear to one's propositional justification in order to be doxastically justified—what epistemologists call the "basing relation". Accounts of the basing relation fall into three categories: causal accounts, doxastic accounts, and hybrid accounts. The general features of each of these kinds of accounts, as well as the challenges they face, are explored in this chapter.

In earlier chapters we discussed the fact that knowledge requires justified belief and in the previous chapter we noted that scientific claims require evidence to be justified. Although this is correct, we uncovered an extremely important distinction in Chap. 5. There we distinguished between being justified in believing a proposition (propositional justification) and having a well-founded belief/justifiedly believing that proposition (doxastic justification). This is very important because one might have propositional justification without having doxastic justification. For instance, it is possible that you possess really good evidence in support of p, and you believe that p, but instead of believing p because of your evidence you believe it simply because you really want p to be true. In such a case we would say that you believe the right thing, your evidence does support believing p after all, but you believe it for the wrong reasons. The problem is that your belief is not based on your evidence. Instead, you believe because of your wishful thinking. So, although p is justified for you (you have propositional justification), your belief that p is not justified (you lack doxastic justification). Since, as we have seen, knowledge requires justified true belief, you must have *doxastic justification* in order to have knowledge. Thus, in order to know scientific claims you must *base* your beliefs in those claims on evidence that on balance supports them.

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Of course, we are now faced with an important question. What does it take for a belief to be based on evidence? There are three broad categories of answers to this question. Some claim that in order for you to believe on the basis of some evidence that evidence has to cause your belief in the appropriate way. Others claim that your believing on the basis of some evidence requires you to have additional beliefs about the relationship between your belief and your evidence. Still others claim that it is some combination of both of these views that accounts for your believing on the basis of your evidence. We will explore each of these kinds of accounts of the basing relation in this chapter.

7.1 Causal Accounts of the Basing Relation

By far the most prevalent view among epistemologists is that the basing relation is a causal relation.[1] That is to say, most epistemologists think that in order for your belief that p to be doxastically justified the evidence which propositionally justifies p for you has to cause your belief that p.[2] Some, such as Alvin Goldman (2011), go so far as to claim that "there is no hope of elucidating a suitable basing relation without giving it a causal interpretation". We can see why someone might be inclined to agree with Goldman. After all, when we claim of someone, Cindy say, that her belief that p is based on her evidence we will tend to say things like "Cindy believes p because she has evidence for it", "Cindy's belief that p is the result of her having good evidence", and so on. These sorts of statements seem to be expressing causal claims. It is not hard to see why one might think that when we claim that Cindy's belief is based on her evidence we mean that Cindy's evidence in support of p, rather than something like a desire that p be true, is the cause of her believing that p.

We might also be inclined to accept a casual account of the basing relation because of its close connection with explanation. As we noted, saying that Cindy's

[1] As we noted in Chap. 5, the debate between internalists and externalists is over the correct way to understand propositional justification. Causal relations are not themselves "internal" in the sense of internalism about epistemic justification—although mental states may bear causal relations to one another and various other things, facts about causation do not supervene upon one's mental states. This may lead some to erroneously think that various internalist theories of justification are in fact externalist because they accept a causal account of the basing relation. It is important to keep in mind that internalists are only committed to claiming that propositional justification, which is a necessary condition for doxastic justification, supervenes on internal/mental factors. Internalists can happily embrace a causal view of the basing relation while retaining their commitment to internalism about propositional justification. More generally, being an internalist or an externalist about epistemic justification does not commit one to a particular view of the basing relation.

[2] Korcz (1997, 2000) claims that understanding the basing relation as a causal relation is the "standard view" of the basing relation. Mittag (2002), Turri (2011), and Vahid (2009) all agree with Korcz that this is the standard view. McCain (2012, 2014), Moser (1989), Pollock and Cruz (1999), and Wedgwood (2006) all argue in support of causal accounts of the basing relation, but they do not take a stand on what view of the basing relation is standard.

belief that *p* is based on her evidence is in some sense claiming that she believes *p* because she possesses that evidence. However we understand the basing relation, it is exceedingly plausible that Cindy's belief is based on her evidence when her having that evidence explains why she has that belief. Many find it clear that the sense of explanation at work here is the same sort of causal explanation that we employ in our daily lives. Why did the glass break? Because it fell to the floor. Why did Bobby miss the party? Because he was at home studying all night. These events explain the glass's breaking and Bobby's absence from the party because they provide information about the causes for the glass breaking and Bobby's absence. In particular, the glass's falling and Bobby's staying home are *difference-makers*. These events make a difference to whether the glass breaks and to whether Bobby attends the party, respectively. We might think that something similar applies to the basing relation. Cindy's having some evidence explains why she has a particular belief when her having that evidence or failing to have that evidence makes a difference as to whether she has that belief. So, we might think that Cindy's having that evidence has to be a cause of her having the belief in order for her belief to be based on the evidence.[3]

Additionally, we might be inclined to accept a causal account of the basing relation because such accounts provide a simple explanation for why there is doxastic justification in some cases and not in others. When your evidence causes your belief (and that evidence propositionally justifies the belief), your belief is doxastically justified. When something else causes your belief, then your belief is not doxastically justified. This seems to track our intuitions pretty well. After all, why do we tend to think that in a case where an experimenter has strong evidence for a scientific claim, but her belief is caused by her strong desire that the claim is true rather than by her evidence, her belief is not justified? Causal accounts of the basing relation provide a straightforward answer: the experimenter's belief is not justified because her evidence does not cause her to have that belief.

In light of the simple explanation that causal accounts provide of the basing relation and the fact that such views are dominant in the literature, we might be inclined to wonder why there are other accounts of the basing relation at all. The reason that causal accounts are not universally accepted is primarily the result of two challenges that have been raised for such accounts of the basing relation. The first challenge is that causal accounts of the basing relation, like causal accounts of any phenomenon, must adequately deal with the possibility of deviant causal chains. The second challenge comes from what have come to be known as "Superstitious Lawyer" examples.[4] We will examine each of these challenges.

[3]Davidson (1980) and Harman (1973) argue that basing requires one's evidence/reasons to explain her belief/action. Turri (2011) offers an argument in support of causal accounts of the basing relation based on the notion of evidence being a difference-maker.

[4]These examples draw their name from Lehrer's (1971) original presentation of such an example, however, the name has been slightly modified in recent years to correct for the racist undertones of the original name.

The challenge that causal deviancy poses for causal accounts of the basing relation can be illustrated by considering an example put forward by Alvin Plantinga (1993, p. 69):

> Suddenly seeing Sylvia, I form the belief that I see her; as a result, I become rattled and drop my cup of tea, scalding my leg. I then form the belief that my leg hurts; but though the former belief is a (part) cause of the latter, it is not the case that I accept the latter on the evidential basis of the former.

The point of Plantinga's example is that although Plantinga's evidence from seeing Sylvia is a cause of his belief that his leg hurts, his belief is not based on that evidence. Intuitively, Plantinga's belief is based on the sensation he has of his leg scalding, his visual evidence is merely a link in a causal chain that produces his scalding sensation and, ultimately, his belief that his leg hurts. The causal chain that leads from Plantinga's experience of seeing Sylvia to his belief that his leg hurts is deviant in an important sense. That is, his seeing Sylvia does not cause his belief that his leg hurts in the right way for his belief to be based on that experience.

Cases of causal deviancy, like Plantinga's, demonstrate that causal accounts of the basing relation have to be able to rule out deviant causes from counting as the bases of one's beliefs. Of course, causal theorists have long recognized that cases like Plantinga's show that simplistic causal accounts of the basing relation cannot be correct. Some causal theorists have responded to the challenge of causal deviancy by simply admitting that it is a problem and adding a requirement to their theories that the evidence must non-deviantly cause one's belief in order for that belief to be based on the evidence.[5] While this might be a step in the right direction, it is not very helpful. Other causal theorists have tried to provide accounts of what yields the deviancy in cases like Plantinga's and to provide principled ways of ruling out such causal deviancy. We will not explore these various accounts here. Instead, we will note two important facts. First, at least some of these accounts are promising.[6] Second, most of our concepts that involve causation face a challenge from causal deviancy. Importantly, the fact that properly analyzing these concepts presents a challenge from causal deviancy does not show that the concepts are mistaken. As John Turri (2011, p. 390) explains:

> Doubtless a causal account of murder is correct. To murder someone you must cause his death. But that's not all. You must cause his death in the right way. You must intend to kill him, and your intention must appropriately figure into the causal explanation of his death. What does it mean for your intention to figure appropriately? The deviance problem strikes again . . . The same goes for a theory of perception. An object must cause you to have certain sensations for you to see it. But that's not all. It must cause your sensations in the right way.

Hence, the fact that causal accounts of the basing relation face a challenge with respect to causal deviancy does not necessarily show that such accounts are incorrect.

[5] See Moser (1989).

[6] See Korcz (2000), McCain (2012), and Turri (2011) for such responses to the challenge of causal deviancy.

The second challenge facing causal accounts of the basing relation comes from Superstitious Lawyer examples. Since Keith Lehrer (1971, pp. 311–12) provides the canonical version of this sort of example, it is worth considering his example in its entirety here:

> The example involves a lawyer who is defending a man accused of committing eight hideous murders. The murders are similar in character, in each case the victim is an Oxford philosophy student who has been choked to death with a copy of Philosophical Investigations. There is conclusive evidence that the lawyer's client is guilty of the first seven murders. Everyone, including the lawyer, is convinced that the man in question has committed all eight crimes, though the man himself says he is innocent of all.
>
> However, the lawyer is a gypsy with absolute faith in the cards. One evening he consults the cards about his case, and the cards tell him that his client is innocent of the eighth murder. He checks again, and the cards give the same answer. He becomes convinced that his client is innocent of one of the eight murders. As a result he studies the evidence with a different perspective as well as greater care, and he finds a very complicated though completely valid line of reasoning from the evidence to the conclusion that his client did not commit the eighth murder. (He could not have obtained an eighth copy of Philosophical Investigations.) This reasoning gives the lawyer knowledge. Though the reasoning does not increase his conviction—he was already completely convinced by the cards—it does give him knowledge. Moreover, he claims that it is this reasoning that gives him knowledge.[7]

Lehrer insists that in this case it is the lawyer's trust in the tarot cards that causally sustains the lawyer's belief that his client is innocent, not his newfound evidence. As he says, "in my example a man comes to believe something and continues to believe it because of groundless superstition" (1971, p. 311). Lehrer insists that the reasons that the lawyer discovers "do not potentially explain his belief, because he would not hold the belief for those reasons if he were to become doubtful of his superstitious reasons for belief" (1971, p. 311).

Lehrer's Superstitious Lawyer example is thought to be a counterexample to causal accounts of the basing relation because, as we have noted, in order for someone to know that p her belief that p must be a justified belief, and in order for her belief that p to be justified it must be based on the evidence which propositionally justifies p for her. Lehrer asserts that in his example the lawyer comes to know that his client is innocent, as we are well aware at this point, this means that his belief must be based on his evidence. Nevertheless, Lehrer stipulates in the example that the lawyer's evidence is not causally relevant to his having the belief that his client is innocent. Consequently, Lehrer's example is claimed to illustrate a case where someone has a belief that is based on her evidence, but her evidence does not cause her to have that belief. Thus, if Lehrer is correct, his example shows that one's believing on the basis of the evidence does not require the evidence to cause her belief.

[7] See Foley (1987), Lehrer (1974, 2000), Korcz (2000), and Kvanvig (2003) for variations of this example.

Many epistemologists have simply failed to find Lehrer's example convincing.[8] Causal theorists claim that it is not clear why we should think that the lawyer knows that his client is innocent in Lehrer's example. Admittedly, the lawyer has strong evidence for thinking that his client is innocent, however, causal theorists maintain it is far from clear that this is enough for the lawyer to know (or have a justified belief). Often, causal theorists note that it is perfectly consistent to think that the lawyer fails to adequately use his evidence in Lehrer's example; and so, fails to have knowledge (or justified belief). After all, we might think that the very intuition which motivates the necessity of a basing requirement for justified belief is that in cases like Lehrer's the person fails to have a justified belief. So, although it is possible that Superstitious Lawyer examples such as Lehrer's provide a challenge for causal theories, it is not clear that they are much of a challenge.

7.2 Doxastic Accounts of the Basing Relation

Even though causal accounts dominate the literature on the basing relation, and it is not clear that the challenges they face are insurmountable, some think that these challenges are sufficiently difficult that we should look elsewhere for an adequate account of the basing relation. Since doxastic accounts usually arise from dissatisfaction with the causal approach, it is not surprising that among supporters of such accounts are those who find Lehrer's assessment of the Superstitious Lawyer example (mostly) correct.[9]

Of course, it is not simply the Superstitious Lawyer example that provides a reason to take doxastic accounts of the basing relation seriously. An additional motivation for such views comes from the intuition that when someone bases her belief on the evidence this involves her taking account of the evidence in an appropriate way. Keith Allen Korcz (2000, p. 527) suggests, "I may properly take into account the epistemic import of a reason intentionally, by means of an appropriate meta-belief to the effect that the reason is a good reason to hold the belief." That is to say, one might think that it is possible to take account of the evidence in the appropriate way by satisfying the conditions of doxastic accounts of the basing relation. Doxastic accounts of the basing relation hold that what it means

[8]Goldman (1979), McCain (2012), Pollock and Cruz (1999), Swain (1981), Turri (2011), and Wedgwood (2006) all simply deny that the Superstitious Lawyer example shows what Lehrer claims it does. Audi (1983) and Mittag (2002) both provide extensive arguments against the effectiveness of Lehrer's example. McCain (2012), (2014) argues that while Kvanvig's (2003) variation of the Superstitious Lawyer example is superior to Lehrer's original, it too is ultimately ineffective.

[9]Supporters of doxastic views of the basing relation include Foley (1987), Lehrer (1971, 1974, 2000), Kvanvig (2003), and Tolliver (1982). Although Korcz (2000) defends the effectiveness of the Superstitious Lawyer example, he is not included among these supporters because he accepts a hybrid account of the basing relation rather than a pure doxastic account.

for you to base your belief that *p* on your evidence is for you to have an additional belief that your evidence provides you with good reason to believe *p*. This is exactly the sort of meta-belief that Korcz suggests can be the appropriate way of taking account of the evidence. Also, such an account can provide the result that Lehrer claims is correct in the Superstitious Lawyer example—it implies that the lawyer's belief is based on his evidence since he does have the meta-belief that his evidence provides good reason to think that his client is innocent. Accordingly, if we were convinced by Lehrer's assessment of the Superstitious Lawyer example and Korcz's suggestion of what it means to take appropriate account of the evidence, a doxastic account of the basing relation would seem to be a very good option for us.

Unfortunately, doxastic accounts of the basing relation face serious challenges. It is implausible that we form the meta-beliefs (beliefs about the quality of evidence and what it supports believing) required by doxastic accounts of the basing relation very often. Consider the many perceptual beliefs that you have right now or those that you form in an average day. You believe that the sky is blue today because it looks that way to you. You believe that the radio is on because you hear particular sounds. It seems unlikely that you tend to also form beliefs like "the visual experience that I am having is a good reason to think that the sky is blue today" or "the sounds I am hearing provide good reason to think that the radio is on". Nonetheless, it seems that you have very good evidence for believing the sky is blue today or that the radio is on—namely, the experiences that you have in these situations. Additionally, it seems clear that your beliefs are based on your evidence. After all, if you did not have the visual experience that you do, you would not believe that the sky is blue today, and if you did not hear the sounds you do, you would not believe that the radio is on. As a result, doxastic accounts of the basing relation face a major challenge. They require you to have the additional beliefs that your evidence supports believing the sky is blue today or the radio is on in order for your beliefs about the sky and the radio to be based on your evidence. However, you rarely (if ever) form these additional meta-beliefs. Yet, it seems fairly obvious that your beliefs in these sorts of cases are based on your evidence.[10]

Of course, this challenge becomes even more daunting when we consider individuals who lack your conceptual sophistication. Children and unsophisticated adults pose a special problem for doxastic accounts of the basing relation. These individuals at least sometimes form beliefs on the basis of their evidence. After all, children and unsophisticated adults have at least some justified beliefs. But, it is likely that these individuals lack the concepts necessary to even form the sort of meta-beliefs that doxastic accounts of the basing relation require for beliefs to be based on evidence. Thus, there is a serious problem for doxastic accounts of the basing relation.[11]

[10] See Korcz (1997) and Wedgwood (2006) for similar arguments concerning the problem that perceptual beliefs pose for doxastic accounts of the basing relation.

[11] See Korcz (1997) and Vahid (2009) for discussion of this issue.

Although we will explore additional problems for doxastic accounts of the basing relation in the next section, at this point it is worth mentioning that the problems we have considered so far for doxastic accounts of the basing relation only seem to be a problem because these accounts claim that meta-beliefs are *necessary* for basing a belief on one's evidence.[12] In other words, we have only seen that it is doubtful that the mere fact that someone lacks such a meta-belief guarantees that her belief is not based on her evidence. However, we might think that although such meta-beliefs are not necessary, they are *sufficient* for basing a belief on one's evidence. After all, allowing that meta-beliefs are sufficient for one's belief to be based on the evidence would allow us to accommodate Lehrer's claim about the Superstitious Lawyer example as well as Korcz's claim about taking appropriate account of the evidence. Unfortunately, only giving a sufficient condition for a belief to be based on the evidence would not provide a full account of the basing relation. Consequently, simply accepting that the sort of meta-belief which doxastic accounts require is sufficient for basing a belief on the evidence would leave us with an incomplete account of the basing relation. It is because of this that some opt for hybrid accounts of the basing relation—views that attempt to combine elements of both causal and doxastic accounts of the basing relation.

7.3 Hybrid Accounts of the Basing Relation

There are a variety of ways that one might try to combine elements of causal and doxastic accounts of the basing relation . Hence, there are a variety of hybrid accounts of the basing relation. Some hybrid accounts require a causal connection between one's evidence and her belief as well as the sort of meta-beliefs required by doxastic accounts of the basing relation.[13] Of course, this sort of hybrid account does not seem to offer any advantage when it comes to the challenges discussed above. After all, such accounts must deal with all of the challenges of both causal accounts and doxastic accounts.

Other hybrid accounts are more plausible. These accounts have causal requirements for basing when it comes to certain kinds of beliefs, such as perceptual beliefs, and doxastic requirements when it comes to other kinds of beliefs, such as beliefs that are inferred from other beliefs.[14] Perhaps the most plausible kind of hybrid account is the sort which claims that so long as either one's belief is appropriately

[12] We will explore these additional problems for doxastic accounts in the next section because these problems are equally challenging for pure doxastic views and the most promising hybrid accounts of the basing relation.

[13] This seems to be the sort of view of the basing relation that Leite (2004) suggests. See Vahid (2009) for convincing criticisms of Leite's account.

[14] See Audi (1993) for this sort of view.

caused by her evidence or one has the sort of meta-belief required by doxastic accounts her belief is based on the evidence.[15]

At first, hybrid accounts might seem to offer the best of both worlds. They accommodate the intuition that some have about the Superstitious Lawyer example by allowing that the lawyer's belief is based on his evidence. Yet, they do not require us to have meta-beliefs for basing so they do not seem to imply that children and adults, when they are unreflective, cannot have beliefs based on their evidence. This sounds great—everyone gets what she wants. Unfortunately, hybrid accounts also face challenges.[16]

The first challenge facing hybrid accounts comes in the form of a dilemma. Since hybrid accounts allow that having the appropriate meta-belief is sufficient for justification, it is natural for us to ask a question about this meta-belief. Does this meta-belief itself have to be based on the evidence? If "yes", then it seems that there must be some meta-meta-belief to the effect that the evidence provides a good reason to accept the meta-belief. This meta-meta-belief will also have to be based on the evidence, and we are stuck with an infinite regress of higher-order beliefs. If, on the other hand, the meta-belief does not have to be based on the evidence, then it is unclear why such a meta-belief would be sufficient for basing. To see this, consider two cases. In the first case S has evidence in support of *p*, and she has the meta-belief that the evidence provides good reason to believe *p*, but S has no evidence for this meta-belief—it is simply the result of wishful thinking. The second case is exactly like the first except that S does not form any meta-belief about her evidence providing a good reason to believe that *p*. If we accept the second option of this dilemma, we seem to be committed to claiming that S's belief that *p* is based on her supporting evidence in the first case, but not the second. This is very counterintuitive. It does not seem that mere wishful thinking can render a belief based on the evidence. Thus, either way supporters of hybrid accounts of the basing relation go, the status of the required meta-belief seems to pose a problem for their accounts.[17]

The second challenge hybrid accounts of the basing relation face is that they seem to make it impossible for someone to be aware of two good reasons for believing *p*, but only believe that *p* for one of those reasons. John Turri (2011, p. 386) nicely illustrates this challenge:

> Martin believes that Mars contains significant amounts of water buried just below its surface (Q). He judges that this is good evidence to believe that life exists elsewhere in the universe (P). Martin also is certain that the conditions for life are overwhelmingly abundant throughout the universe (S). He judges that this too is good evidence to believe that life exists elsewhere in the universe. But Martin is utterly exhausted and in despair from several grueling and fruitless months on the academic job market, which understandably

[15] See Korcz (2000) for the most developed version of this sort of account to date. See Mittag (2002) for criticisms of Korcz's account.

[16] It is worth keeping in mind that both of the challenges we will consider for hybrid accounts here are equally challenges for doxastic accounts of the basing relation.

[17] For further discussion see McCain (2014) and Wedgwood (2006).

> and predictably impairs his cognitive functioning, especially at the present moment. He consequently neglects his evidential judgment about the relevance of subterranean Martian water, and bases his belief that life exists elsewhere solely on his belief that the conditions for life are abundant throughout the universe.

According to hybrid accounts of the basing relation, since Martin believes that Q and he believes that Q is good evidence for P, Martin's belief that P is based on Q. Yet, it seems clear that in Turri's example Martin's belief that P is not based on Q. So, if Turri's example depicts a possible scenario, there is a major problem for hybrid accounts of the basing relation. And, as Turri (2011, p. 386) says, "it certainly seems possible. The job market may be bad enough to make Martin slightly irrational. But it's not bad enough to make him impossible." Therefore, it seems that hybrid accounts of the basing relation face a second serious challenge.

7.4 Conclusion

In this chapter we have explored the key distinction between two kinds of justification: propositional and doxastic. We also noted that the basing relation is what is required to bridge the gap between merely having justification for believing that *p* (propositional justification) and having a justified belief that *p* (doxastic justification). There are various accounts of the basing relation, but as we have seen they fall into three primary categories: causal, doxastic, and hybrid. Unfortunately, each kind of account faces challenges. Yet, given the importance of the basing relation it is not surprising that epistemologists are still working to overcome those challenges. We do not need to overcome these challenges or settle the debate concerning which sort of account is correct for our purposes. It is enough that we are aware of a few facts. First, there are various kinds of accounts of the basing relation. Second, the basing relation is very important because doxastic justification is required for knowledge, and proper basing is required for doxastic justification. So, we should understand the justification component of the traditional account of knowledge in terms of doxastic justification. Third, each of the three kinds of accounts of the basing relation is consistent with Evidentialism (and any of the other accounts of justification that we discussed in the previous chapter).

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