A Doxastic-Causal Theory of Epistemic Basing

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Ru Ye

1. **Introduction**

Suppose that two students, Anna and Barry, both have strong evidence for believing that they will get an A for the epistemology course they are taking, because both have done exceptionally well in their papers and exams. However, while Anna believes that she will get an A on the basis of that evidence, Barry comes to this belief because he hopes it is true. Intuitively, Anna’s belief is epistemically better than Barry’s, even though her evidence for the belief is no better than Barry’s.

 What makes Anna’s belief better? Nowadays, a common answer is to distinguish doxastic justification from propositional justification. A popular way to characterize the distinction says that the former demands more than the latter: one’s belief is propositionally justified when one has good reason for the belief, and the belief is doxastically justified when it’s *based on* good reasons. So, Anna’s belief is better than Barry’s because it is not only propositionally justified but also doxastically justified.

 Given its important role in the characterization of how doxastic justification differs from propositional justification, we need to get clear on what exactly the relation of epistemic basing involves. And this is not a task faced only by those who treat propositional justification as more fundamental. Those who think doxastic justification is more fundamental also have vested interest in getting clear on basing. For they will say that what makes a set of considerations R something that provides propositional justification to believe p is that, if one were to believe p *on the basis of* R, the belief would thereby be doxastically justified[[1]](#footnote-1).

The importance of getting clear on basing goes beyond understanding doxastic justification. It’s also important for understanding reasoning or inference. For intuitively, one’s belief is a result of reasoning or inference from some premises only if one comes to hold the belief on the basis of the premises.[[2]](#footnote-2)

I offer a new doxastic-causal theory of basing in this paper, a theory that I call ‘Causation Caused by Believing (CCB).’ It says that one’s belief that p is based on reason R just in case R causes the belief and the causation happens because one believes that R supports p. I argue that this theory has two main virtues. First, it avoids the problem of deviant-causation, a problem plaguing simple causal theories of basing. Second, it implies a plausible theory of *proper basing* that can nicely account for the heatedly debated phenomenon of higher-order defeat.

Here is the plan. In section 2, I defend a theory that I call ‘Causation Caused By Taking (CCT)’ as a stepping stone of CCB. CCT says that one’s belief is based on R when it is caused by R and when the causation happens because one *takes* R to support p. In section 3, I argue that the taking condition should be understood as a belief about evidential connection. These two steps together constitute my argument for CCB. In section 4, I answer some objections.

**2. Avoiding Deviant Causation: Causation Caused By Taking**

Although I am offering a doxastic-causal account of basing, I won’t say much to defend the ‘causal’ element in the account. That causation must be involved in basing is both intuitive and widely accepted.[[3]](#footnote-3) For basing is an *explanatory* relation. For me to hold a belief on the basis of some reason, that reason must explain why I hold the belief, and the most natural candidate of that explanation is a causal one. (See Turri (2011) for a more thorough defense of the causal element.)

Of course, mere causation is not enough for basing. There are many ways in which one’s belief can be caused by one’s reasons, and not all of them qualify as ways of basing. So, it becomes a vexed problem for causal theorists of basing to say which kind of causation qualifies as basing and which kind doesn’t, a problem known as ‘deviant causation.’ In section 2.1, I criticize some current solutions to the problem in a way that would motivate my causal theory CCT. In section 2.2, I explain CCT in greater details.

**2.1 Deviant Causation**

Let’s consider the following two paradigm cases of deviant causation discussed in the literature of epistemic basing relation.

Late and Birds

I believe that I am going to be late to my class, and that causes me to run on a slippery sidewalk, lose my footing, and fall down, whereupon I find myself flat on my back looking up at the birds in the tree above me.[[4]](#footnote-4) I thereby believe that there are birds in the tree. (Pollock and Cruz, 1999, p. 36.)

Seeing and Hurting

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. (Plantinga, 1993, p. 69, fn. 8.)

In the first case, my belief that I am late causes my belief that there are birds in the tree, but intuitively I don’t hold the latter belief on the basis of the former. In the second case, my belief that I see Sylvia causes my belief that my leg hurts, but intuitively the latter belief is not based on the former.

It’s natural to think that the deviancy in causation has to do with *how* the causal path proceeds. In both cases, the causation is not direct but mediated through several stages of causation. And in both cases, the causal path involves elements that are entirely external to the subject’s cognitive system (running, losing footing, rattling, etc). This may suggest that deviant causation happens when the causation is not direct, or when the causal path doesn’t happen entirely within one’s cognitive system (see Korcz 2000, p. 540 for the latter suggestion).

Both suggestions are problematic. They are simply too strong, given that the relevant conditions also obtain in intuitively non-deviant causation. Suppose I infer ‘p’ from ‘p and q,’ which is turn inferred from ‘p and q and r.’ Then my belief p is intuitively based on my belief ‘p and q and r,’ even though the causation is not direct, and even though the causation might involve purely physical activities happening in my brain, elements that are outside of my cognitive system: my belief ‘p and q’ might first cause some neurons firing, which in turn causes my belief p.

The thought that deviant causation must have to do with how the causal path proceeds also underlies the ‘causal-manifestation theory’ of basing recently proposed by Turri (2011, p. 393). According to the theory, deviant causation leading to your belief is causation that doesn’t manifest your cognitive disposition. And Turri takes a cognitive disposition to be a habit to form doxastic attitudes in certain circumstances, such as habitually taking experience at face value, habitually trusting testimony of others, or habitually reasoning in certain patterns. (In what follows, I will use ‘cognitive disposition’ and ‘cognitive habit’ interchangeably; It’s in line with Turri’s (2011, p. 391) own way of usage.)

This theory seems able to explain why the causation is deviant in Late and Birds and in Seeing and Hurting. In both cases, the causation is entirely accidental. It doesn’t manifest my cognitive habits: I simply don’t have the habit of believing that there are birds when I believe that I am late or the habit of believing that my leg hurts when I see Sylvia.

However, the causal-manifestation theory still doesn’t get to the heart of the problem. Consider the following variant of Late and Birds.

Late and Running

Joe believes that he is late for class. This causes him to run, which causes him to believe that he is running. And the causation chain is by no means accidental: He has a cognitive disposition to believe that he is running when he believes that he is late for class. This is because he has a habit to run when he believes that he is late for class, and he has a habit to believe that he is running when he is in fact running.

In this case, Joe’s belief that he is running is intuitively not based on his belief that he is late for class, even though the causation between the two beliefs is not accidental but is a manifestation of his cognitive disposition. (You might doubt whether Joe’s disposition to believe that he is running when he believes that he is late for class counts as a ‘cognitive’ disposition. But according to Turri, a cognitive disposition is just a habit to form beliefs in certain patterns, and by stipulation Joe does have a habit to form beliefs in the relevant pattern—he would believe that he is running whenever he believes that he is late for class. Or perhaps Turri will object that Joe’s disposition is not a cognitive one because it’s mediated through Joe’s disposition of running, a disposition outside of Joe’s cognitive system. But this objection will rule out too much. As I have explained above, mediation through purely physical activities in one’s brain can be involved in normal, non-deviant causation.) So, whether an instance of causation leading to a belief is deviant doesn’t seem to depend on whether the causation is accidental or is manifestation of cognitive dispositions.[[5]](#footnote-5)

**2.2 How to Avoid Deviant Causation**

What the above diagnoses of deviant causation have in common is that they all focus on *how* the causation happens. They all focus on the causal paths and try to identify some features shared by those deviant causal paths. These attempts would fail because, as I see it, deviancy in causation doesn’t lie in *how* the causation happens, but in *why* it happens.[[6]](#footnote-6)

Let’s consider some paradigm cases of *non-deviant* causation. I come to believe that I am mortal by inferring it from ‘All humans are mortal.’ Observing that the sun has risen everyday in the past, I conclude that the sun will rise tomorrow. Receiving tons of witness testimony placing Jack at the murder scene, I come to believe that Jack is the murderer. Given clear visual experience of Tom in the library, I believe that Tom is in the library.

 In these cases, the causal chains leading to my belief happen for a reason: they happen because *I take the putative basis to support the proposition in question.* When I believe that p on the basis of R, the causation between R and my belief is ‘sanctioned’ by my taking R to support p, and the causation wouldn’t happen without the taking. For instance,the reason why my belief that all humans are mortal causes my belief that I am mortal involves, at least partly, my taking ‘all humans are mortal’ to support ‘I am mortal.’

Note that the causation in the above examples might be indirect because it might involve mediate steps of causation, and it might involve elements external to my cognitive systems such as pure physical brain activities, and it might be accidental in a sense because it doesn’t manifest my habits. But these factors are harmless, if the causation happens against the backdrop of my cognitive taking about the evidential support in question. In contrast, imagine such a case: I don’t take ‘all humans are mortal’ to support ‘I am mortal’ because I just don’t see the connection, and yet the causation still happens because of some glitches in my brain. In this case, the causation would be deviant given that it doesn’t happen because of my take on the evidential connection. Also, in Late and Birds, Seeing and Hurting, and Late and Running, the causation doesn’t happen because I take the putative basis to support the believed proposition.

To put the point another way, deviancy of a causal path isn’t located in how the causal path proceeds. Nothing about the causal path itself—whether it is direct, involves external element, or is habitual—can suggest whether it’s deviant or not. When a reason R causes a belief p, the causation might be mediated by some purely physical brain activities both in deviant causation and in non-deviant causation. Nothing about those brain activities themselves mark the difference between deviant causation and non-deviant causation. What makes a stream of brain activities ‘a glitch’ instead of normal activities involved in basing is that the former doesn’t happen because of one’s take on the evidential support. So, to locate deviancy in causation, we have to examine *why* the causal path proceeds in the way it does. Particularly, we have to see whether it happens because of one’s taking on the evidential support in question.

So, my initial conclusion is this: non-deviant causation from reasons to belief is the kind of causation that happens because of one’s take on the evidential support relation.

Now, I will clarify the term ‘the causation happens *because* *of* the taking.’ There are many kinds of ‘because’ relations since there are many kinds of explanatory relations (e.g., causal, metaphysical, conceptual, etc.) Here, I intend to express a familiar *causal relation*: when I say that the causation from R to belief p happens because I take R to support p, what I mean is that the causation is caused by the taking. So, an initial form of the doxastic-causal theory of basing I defend is this:

Causation Caused by Taking (CCT)

One’s belief that p is based on reason R just in case R causes the belief and the causation is caused by one’s taking R to support p.

(Note that, in claiming that the causal chain from R to belief p is caused by the taking, I am not committed to claiming that the taking is always already in place before the causal chain gets *started*. What I am committed to is that the taking must be in place before the causal chain is *completed*. Suppose that I come to believe C on the basis of A in this way: at t1, I infer B from A; at an immediately later time t2, I infer C from B. The causal chain from A to C might start at t1, even though at t1 I am not taking A to support C because I haven’t recognize the connection between the two. But if I really come to believe C on the basis of A, then the taking must be in place at t2 (and in this case I might come to appreciate the connection between A and C because I take A to support B and I take B to support C.)

You might find it odd to say that an event can be the cause or the effect of a complex event that is itself an instance of causation. But there is nothing mysterious in this claim. Second-order causation is commonly invoked in evolutionary science. For example, it makes perfect sense to say that the fact ‘human hearts cause blood-circulation’ causes human hearts’ remaining in the evolutionary process of human being.

To further demystify the talk of ‘causation caused by taking’ involved in CCT, I will appeal to the distinction between triggering cause and structuring cause. The distinction is firstly noted by Dretske (2010, pp. 139-144) in discussing a different problem. Here is a typical example. When you press the key of the mouse of a computer, the cursor on the screen moves. Your pressing the key is the triggering cause of the movement of the cursor. And whatever causes the hardware and software condition of the computer (e.g. engineers’ building the computer in a certain way) is the structuring cause of the movement of the cursor. Those causes *structure* the computer in such a way that when you press the mouse, the cursor will move. In general, when an event C triggers another event E, the structuring cause is the cause of the standing conditions that enable C to cause E. It causally explains why the causation between C and E can happen. Similarly, my taking R to support p can be the structuring cause of why R triggers me to believe that p. The taking structures my brain in certain way; It sets up a backdrop that enables R to cause my belief p.

But you might think that, even if the talk of structuring cause as a second-order cause makes perfect sense, why bother? Why not simply claim that, in non-deviant causation, the taking is also normal *triggering* cause just as the putative basis is? So, instead of endorsing CCT, consider the following simpler picture:

Joint Causation

One’s belief that p is based on one’s reason R just in case: one takes R to support p and this taking, joined with R, causes one’s belief that p (regardless of whether the causal contribution of R depends on the taking.)

This picture admits the causal role of one’s taking on the evidential connection, but it doesn’t require that the taking be a second-order cause: it doesn’t require that the taking is whatever that enables R to make its causal contribution.[[7]](#footnote-7)

Joint Causation is indeed simpler than CCT. And presumably, it can account for cases like Late and Birds or Seeing and Hurting to the extent that there is no taking in these cases. However, it just doesn’t accord with our intuition to say that, in non-deviant causation involved in basing, the causal contribution of one’s putative basis R is entirely independent of the causal contribution of one’s taking R to support p. Moreover, Joint Causation is inferior to CCT for another two reasons.

 First, CCT can help clarify the notoriously vague distinction between *bases* and *enablers* (or between *premises* and *background beliefs* in an inference), but Joint Causation cannot. Here is an example to explain the distinction: when I infer ‘q’ from ‘p’ and ‘if p then q,’ it’s often said that the latter two beliefs are my bases (premises), whereas my acceptance of the modus ponens rule is my enabler (background belief). Although the distinction is intuitive, those authors who use it typically fail to say precisely what it amounts to. CCT can capture the distinction because it implies that the causal roles played by the bases and enablers are different: as explained above, bases can be understood those triggering causes, while enablers (i.e., the taking on the evidential relation) can be understood as those structuring causes that enable the triggers to make their causal contribution. In contrast, Joint Causation cannot capture this distinction because it doesn’t explain how the putative bases and the taking on the evidential relation play different causal roles in leading to my belief. If the causal contribution made by my reason R is independent from that of my taking R to support p, then we will lack resource to say that it is only R, not my taking, that constitutes the basis of my belief that p. Instead, we will have to say that both R and the taking are my basis.

 Second, it seems that Joint Causation cannot entirely rule out deviant causation. Even if my belief p is jointly caused by reason R and my taking R to support p, the causation can still be intuitively deviant. For example, the thought that it’s hot in the room and the thought that this supports that I am perspiring cause me to be excited, which causes me to perspire, which then causes me to believe that I am perspiring. Intuitively, I don’t hold this belief on the basis of the thought that it’s hot in the room, so the causation here must be deviant. In order rule out this case, a proponent of Joint Causation will need to introduce a higher-order taking: I take R and ‘R supports p’ to support p. But doing so will lead to the infamous regress discussed by Lewis Carroll.[[8]](#footnote-8)

 In conclusion, in order to rule out deviant causation, both the putative reason and my taking must have made causal contribution, and the causal contribution of the reason must be causally explained by that of the taking. This completes my defense of CCT. In the next section, I argue that the taking condition involved in CCT must be understood as a belief.

**3. Believing that R Supports p**

CCT says that one’s belief that p is based on reason R just in case R causes the belief and the causation is caused by one’s taking R to support p. Now the question is how to understand the taking. While it is tempting to understand the taking as a disposition to believe p given R, I argue that taking should just be a meta-belief, a belief whose content is something like ‘R supports p’. (I will say more on what exactly the crucial difference is and why it matters.) I will defend this understanding by arguing for the following two claims. (1) Understanding the taking as a meta-belief enables us to develop a very plausible theory of *proper basing* from CCT, but understanding the taking as certain disposition cannot enable us to do so. (2) Contrary to common impression, a doxastic theory of taking won’t over-intellectualize proper basing and it won’t lead to the Carrollian regress or vicious circularity. I will defend (1) in this section and will leave (2) to the next section.

**3.1 CCT and Proper Basing**

To understand why CCT implies a plausible theory of proper basing, let me introduce why we need this notion on top of the notion of basing. Traditionally, the orthodox view on the relationship between propositional justification and doxastic justification says that one has the latter when one’s belief is based on whatever that provides the former. This view has recently been challenged. Turri (2010) argues that there are cases in which one’s belief p is based on a good reason and yet it’s not doxastically justified. Consider the following two cases.

Tea Leaf Reader

A detective is investigating whether John is the murderer. The evidence he gains (fingerprints, witnesses’ testimonies, etc) strongly supports that John is the murderer. Then the detective comes to believe that John is the murderer on the basis of his evidence, because he takes that this is what’s supported by his evidence. However, he takes the evidence to support his beliefnot because he appreciates the connection between the two, but because he does some tea-leaf reading and it says that the evidence supports his belief. (Adapted from Turri 2010, p. 316.)

Sloppy Reasoner

Susan observes that it’s raining outside. She also knows that either it’s not raining outside or the street must be wet. Based on these two beliefs, she comes to believe that the street must be wet. However, she thinks so only because she thinks that anything will follow from ‘it’s raining’ and ‘either it’s not raining or the street must bet wet.’[[9]](#footnote-9)

In both cases, the subject bases his belief on something that provides propositional justification and yet his belief is not doxastically justified. So the orthodox view about doxastic justification faces a problem.

An easy response is available to proponents of the orthodox view: doxastic justification requires that one’s belief be *properly* based, not simply based, on the propositional justifier. In fact, Turri himself (2010, p. 315) suggests that what’s going on in Tea Leaf Reader is that the subject bases his belief on his evidence in a bad way. Surprisingly, Turri doesn’t consider this easy answer; instead, he goes on to directly reject the orthodox view—perhaps he thinks that it’s just too difficult to say what kind of basing is bad.

But it’s not all that difficult, if we avail ourselves of CCT as a theory of basing and if the taking condition in CCT is a belief. For if basing is causation caused by the taking and if the taking is a belief about evidential connection, then it’s natural to say that the basing is proper when the belief about the evidential connection is proper, namely, justified. So, the theory of proper basing we are looking for is as follows:

Causation Caused by Justified Believing (CCJB)

One’s belief that p is properly based on R just in case that, R causes the belief p, the causation is caused by one’s believing that R supports p, and this belief about evidential support is justified.[[10]](#footnote-10)

CCJB explains why the basing in the above two cases is bad. Both agents believe that the putative basis supports the belief in question, and yet for both of them this belief about evidential support is not justified. In Tea-Leaf Reader, the subject believes that his evidence supports that Jack is the murderer by consulting tea-leaf reading. In Sloppy Reasoner, the subject holds the belief about evidential support because he thinks that his reasons support everything.

In fact, we don’t need to rely on specific examples to see the power of CCJB in accounting for proper basing. If one is justified in believing that R supports p, and if because of this belief the reason R causes one to believe p, then it’s hard to see how the way one comes to believe p could be defective. So, satisfying CCJB should be sufficient for proper basing. The only problem with CCJB, if any, is that it might be too strong for proper basing. I will address this problem in section 4.

**3.2 CCJB and Higher-Order Defeat**

Now, it might seem that, in order to explain the above two cases of improper basing, what we need is just that it’s ‘unproblematic’ for one to take the putative basis R to support p, and whether the taking is a belief or a disposition is not important. For dispositional understanding of taking could also do the job: in the above two cases, the subjects take R to support p in the sense that they are disposed to believe p given R, and what makes their basing improper is that the dispositions are epistemically problematic—for example, both dispositions are unreliable because they don’t lead to true beliefs in general.

I admit that both the doxastic and the dispositional understanding of taking could explain why the basing in the above two cases is improper. However, the doxastic understanding is better because it can cover what I see as an important type of cases of improper basing—the improper basing resulted by gaining higher-order evidence.

Recent development of epistemology has witnessed a booming interest in the so-called phenomenon of higher-order defeat—defeating resulted by higher-order evidence. This is a type of evidence not directly about the content of one’s belief, but about the epistemic status of one’s belief. Specifically, it’s evidence that one’s belief is a result of cognitive malfunction, malfunctions that would imply that the belief is unjustified. Typical examples of higher-order evidence include: evidence provided by peer disagreement; evidence that the coffee you just had was slipped some drug that undetectably harms one’s logical reasoning ability; and evidence that you (as a pilot) suffer from a condition known as ‘hypoxia,’ a condition that often undetectably harms pilots’ reasoning. (See Christensen, 2007a, p. 10 and 2010, pp. 186−7 for more details of these cases.) It seems that when you get such evidence, the justification you have for your belief is thereby defeated.

Higher-order defeat is a fascinating phenomenon partly because of the puzzle arisen out it. On the one hand, our intuition is strong that this phenomenon is real—higher-order evidence does defeat justification. On the other hand, it’s hard to explain how such evidence *could* defeat justification. As Christensen (2010, p. 197) notes, when one gains higher-order evidence, one’s total evidence might still supports p. For example, suppose that a detective believes that Jack is the murderer when recognizing that his first order evidence supports this proposition. But when he gets evidence that he had drugged coffee that results in malfunction in assessing evidence, it seems that his total evidence still supports that Jack is the murderer—whether Jack is the murderer is related to his first order evidence like finger prints or witness’ testimony, but it has nothing to do with whether the detective is drugged. The detective’s total evidence still reliably indicates or is best explained by the truth of the proposition.

This difficulty in accounting for how exactly higher-order evidence defeats justification has forced scholars into making some radical claims. Some simply deny our intuition for higher-order defeat (see, for instance, Titelbaum 2015). They think that, if your belief is originally justified, then no evidence that suggests otherwise could defeat it. Others think that we should retain the intuition for higher-order defeat but insist that there are epistemic dilemmas—we are rationally required to give up beliefs as response to higher-order evidence and we are also required to follow the evidentialist norm of believing what our total evidence supports (see Christensen 2010).

However, there is an attractive account of higher-order defeat—an underappreciated one—that won’t lead to the above two radical claims. It says that when one gains higher-order evidence, what is defeated is not propositional justification but doxastic justification, particularly, the proper basing condition involved in doxastic justification (see Smithies 2015 andWietmarschen 2013). One’s propositional justification is not defeated because one’s total evidence still supports p. But one can no longer hold the belief because one’s believing p can no longer be properly based on one’s evidence.

This explanation of defeating mechanism of higher-order evidence is attractive. First, it is intuitively plausible. In fact, Christensen (2010) comes very close to endorsing it—he suggests that higher-order evidence defeats justification by requiring us to ‘bracket,’ or to set aside, one’s first order evidence. An intuitive way to cash out this idea of bracketing is to say that higher-order evidence defeats proper basing, that is, it makes it the case that one can no longer rely on one’s evidence. Second, this solution allows us to both respect higher-order evidence and the spirit of evidential norms. For evidentialism is most fundamentally a thesis about propositional justification. So, an evidentialist can accept that, even if one’s evidence supports p, one should not believe p if there is no way for one’s belief p to be properly based on the evidence.

So, it’s an attractive account of the defeating mechanism of higher-order evidence to say that it defeats justification by making one’s belief improperly based. But in order to cash out this account, we need to understand what proper basing is. And it’s here that the above defenders of the proper-basing account of higher-order defeat run into problems. Both Smithies and Wietmarschen admit that it’s difficult to say exactly what proper basing involves, although they do offer a tentative account: one’s belief is properly based just in case it’s a result of good reasoning, or when the process through which one comes to hold the belief resembles a good argument. But this is not of much help: It’s hard to see how exactly higher-order evidence renders one’s reasoning bad or renders one’s belief the result of a bad argument.[[11]](#footnote-11)

 Here we can see that my CCBJ fits the bill perfectly. CCBJ says that one’s belief p is properly based on one’s reason R only if one justifiably believes that R supports p. This condition is no longer met when one gets higher-order evidence, because one can no longer justifiably believe that R supports p. For example, when you get evidence that the coffee you just had was slipped some drug that undetectably harms one’s logical reasoning ability, you get evidence that your evidence-assessing abilities are damaged, so you cannot continue to hold your belief about the evidential connection.

In contrast, if we understand the taking in CCT as a disposition to believe p given R, then it would be hard to see how higher-evidence defeats proper basing. While we can easily see how higher-order evidence makes it case that one shouldn’t hold the belief that R supports p, it’s difficult to see how the evidence makes it case that one shouldn’t have the disposition to believe p given R.[[12]](#footnote-12) When you get evidence that you are unable to assess whether R supports p, this substantially raises the chance that your meta-belief that R supports p is false, and thus it makes the meta-belief unjustified. However, to the extent the higher-order evidence doesn’t substantially raise the chance that p is false (for example, evidence that you are affected by certain drug that damages one’s reasoning abilities substantially raises the chance that your proof of a mathematical proposition T is flawed, but it doesn’t substantially raise chance that T itself is false), it’s unclear how the disposition to believe p given R becomes problematic when one gains higher-order evidence. The most natural way to problematize a cognitive disposition is to render it unreliable. But the disposition to believe p given R doesn’t need to be rendered unreliable by one’s higher-order evidence about p. To see this, recall the crucial point mentioned above that, in some cases, gaining higher-order evidence leaves the evidential support relation between R and p intact. In those cases, one’s disposition of believing p given R would be as reliable as it originally is—for instance, R might still reliably indicate p even in the presence of evidence that you are unable to appreciate the reliable indication.[[13]](#footnote-13) Another way to problematize a cognitive disposition is having justification to believe that this disposition is unreliable. But one’s higher-order evidence doesn’t need to give you such justification. Evidence that you are unable to assess whether R supports p doesn’t give you justification to believe that if you believe p on the basis of R then most times this belief would be false.

Or you might say that one’s disposition can become problematic in another sense: even though one is allowed to *have* the disposition given its reliability, one might not *manifest* this disposition. So, higher-order evidence might render the disposition of believing p given R problematic in the sense that it doesn’t allow it to be manifested. In evaluating whether one is allowed to *have* certain disposition, what matters is what the disposition does for one in the long run—that’s why reliability matters. But in evaluating whether one is allowed to *manifest* the disposition in a specific case, what matters is what the manifestation does in that specific case. For example, I can have the moral disposition of helping those in need. But when I know that the person in need is a terrorist I shouldn’t manifest the disposition, even if it’s still good to have it.

This suggestion makes sense, but it wouldn’t give us an *explanation* of the defeating mechanism of higher-order evidence. For why exactly shouldn’t I manifest the disposition of believing p given R when I gain higher-order evidence? The most natural answer is that manifesting the disposition would give me an unjustified belief (namely, my belief p). But remember that we want to invoke the problematic disposition to *explain* how exactly my belief p becomes unjustified due to higher-order evidence. If so, we cannot say that the disposition is problematic because it leads to an unjustified belief that p.

To sum up this section, we should understand the taking in CCT as a belief, because doing so gives us a theory of proper basing CCJB, a theory that can nicely explain typical cases of improper basing as well as the improper basing resulted by higher-order evidence. And we won’t have this benefit if we understand the taking in CCT as a disposition. Given the importance of understanding higher-order defeat, this counts as a good reason to prefer the doxastic understanding to the dispositional one. So, we have arrived at CCB as a specific version of CCT:

Causation Caused by Believing (CCB):

One’s belief that p is based on reason R just in case R causes the belief and the causation is caused by one’s believing that R supports p.

**4. Objections and Replies**

Given that CCB has a doxastic element, we can expect that it will face some of the problems with simpler doxastic theories. The most prominent ones are that of over-intellectualization and infinite regress. In this section, I argue that both problems can be avoided.

**4.1 The Problem of Regress**

As we have seen, part of my motivation for CCB comes from my defense of CCJB—a theory of *proper* basing. My thought is that we should accept CCB as a theory of basing because it gives us CCJB as a plausible theory of proper basing. The first objection to this strategy is that CCJB seems problematic, because it would lead to an infinite regress. For CCJB says that one’s belief that p is properly based on reason R only if one justifiably believes that R supports p. But one justifiably believes that R supports p only if this belief itself is properly based on some reason R\*. According to CCJB, this requires that one justifiably believe that R\* supports ‘R support p,’ which would require further proper basing and thus some further beliefs about evidential support. So, an infinite regress results.

This argument is problematic. The regress *will* end at some point, because it’s not true that every belief about evidential support is justified only if it is properly based on some reason. Ultimately we will get to some basic beliefs about evidential support that is not based on reasons. If you ask me why I believe that the sun will arise tomorrow, I will say that the sun has risen everyday in the past. Then you ask me why I believe that ‘that the sun has risen everyday in the past supports that it will rise tomorrow,’ I will say ‘because that something has been true consistently in the past in general supports it will be true in the future.’ When you ask me why I believe *that*, I will run out of reasons. Another example. If you ask me why I believe that I am mortal, I will answer ‘because all humans are mortal, and if all humans are mortal then I am mortal.’ You ask me why I believe that, and I will answer ‘because Modus Ponens is a correct rule of inference.’ If you ask me why I hold this belief, I will run out of reasons. The point is familiar: some of our beliefs about evidential support encode our most basic epistemic rules, such as Modus Ponens and basic induction. Beliefs in these basic rules must be justified, but they are not based on further reasons.[[14]](#footnote-14)

You might think that the above answer doesn’t solve the problem of regress. For we need to give some story to explain why beliefs in the basic rules are justified even if they are not based on reasons. And one prominent story is that they are justified because of the meaning of terms in the rules (Boghossian and Williamson 2003, pp. 239−41). For example, we are justified in believing Modus Ponens because having this belief is part of what we mean by the connective ‘if.’ But this suggests that these beliefs are based on something after all—they are based on what we mean by the terms. And for the basing condition to obtain I must have further beliefs about how the meaning supports those beliefs. So, beliefs of the basic rules are not the ending point of the regress chain.

To this objection, my answer is as follows. Granting the story that our beliefs in basic rules are justified because they are constitutive of meanings of terms in the rules, it’s misleading to claim that our beliefs are *based* on the meaning. For note that basing is a causal relation. And yet if the relation between our beliefs and the meaning in question is a constitutive one, then it’s not a causal relation.

Here is a further defense of the above point. Recall that the need of basing arises because having good reasons is *not enough* for one’s belief to be justified. Even if you have reason R that supports p, you still need to do some extra work for your belief to be justified—you need to believe p on the basis of R. But no such extra work needs to be done in the cases of constitution. Consider this example. Suppose my belief p is constitutive of my belief ‘p and q’ and suppose that the later belief is a reason of mine because it is justified. Then my belief p would *ipso facto* be justified. Similarly, if I mean certain thing by a term (assuming that the meaning is not defective—see Boghossian and Williamson (2003, pp. 241−4) on why this assumption is important), and if believing p is constitutive of the meaning, then I am *ipso facto* justified in believing p. There is no need for a basing relation to play a role here. Of course, you can still call it a basing relation if you want, but it would be a very different one from the basing relation that my account is designed to capture.[[15]](#footnote-15)

To sum up, our basic beliefs about evidential support can be justified even if they are not based on reasons. So, the regress chain implied by CCJB will end when we reach these basic beliefs.

This point can also help answer the charge that CCJB employs implicit conceptual circularity: CCJB says that one’s belief p is properly based on R only if one’s belief ‘R supports p’ is justified, but since this latter belief is justified only if it’s properly based, CCJB implicitly employs the notion ‘proper basing’ in the condition it gives for proper basing, and hence there is a threat of circularity. This threat is not serious, however. For if basic beliefs of evidential support can be justified without being based on reasons, then the term ‘proper basing’ will ultimately be eliminated within a finite number of steps: one’s belief p is properly based only if one’s belief ‘R supports p’ is properly based on some reason R\*, which in turn obtains only if one’s belief ‘R\* supports “R supports p”’ is properly based, …, which in turn obtains only if one’s basic belief of evidential support is justified. Since the last condition needs not involve proper basing, the term of ‘proper basing’ will eventually disappear from a complete statement about what it takes for one’s belief p to be properly based.

**4.2 The Problem of Over-intellectualization**

 A second worry for CCB is that it over-intellectualizes proper basing. By including a belief about evidential support, I have made proper basing too hard to come by. Children’s beliefs about their surroundings are often justified and therefore proper based on their experience, but they typically lack the cognitive capacity to form the beliefs like ‘my experience as if there is a table here supports that there is a table.’

My response to this problem is as follows. First, let’s not overestimate the difficulty involved in having a belief about evidential support. To have such a belief, one doesn’t need to master the term ‘evidential support.’ There are other options: R ‘confirms’ p, R ‘makes it likely’ that p, ‘if R then p,’ etc. All these terms can capture something close to evidential support. Furthermore, to have a belief about evidential support, one doesn’t need an explicit representation of its content. As Paul Moser (1989, pp. 141-2) has noted in defending the doxastic theory of basing, one may merely have *de re* awareness of one’s basis (and presumably a *de re* awareness can be justified in the same way as a belief can). In addition, a belief about evidential support doesn’t need to be an occurrent mental state but could be dispositional. So, having a belief about evidential support is not as hard as it seems to be. They might be available for those children who are mature enough to form justified beliefs about their surroundings.

 Of course, even if it’s easy to have a belief about evidential support, surely there are still some young kids who are not able to form it. But it would also be less obvious that those kids’ beliefs are really properly based on their experience. (So it’s less obvious that their beliefs enjoy doxastic justification instead of only some inferior status such as blamelessness.) Consider a two year-old kid who believes that there is a tree in front. Suppose he doesn’t have a belief that his experience in general supports his belief. His brain doesn’t register any general connection between experience and the world. All that is going on when he forms the tree belief is some brute causation from his experience to his belief. Then it is hard to see how exactly this brute causal relation differs from the one we have in deviant causation. In Late and Running, the subject’s belief that he is running is caused by his belief that he is late for class. And the causal mechanism is as reliable as the one underlying the kid’s transition from his experience of tree to his belief of tree, given that the subject does typically run when he believes that he is late for class.[[16]](#footnote-16) So, if proper basing is absent in Late and Running, it’s also absent in the two year-old kid’s belief.

**5. Conclusion**

Let’s take stock. In this paper, I have argued that epistemic basing is a matter of ‘causation caused by taking’ and the taking must be a belief about evidential support. This view has two main benefits: it nicely explains what kind of causation from reasons to belief is deviant, and it gives us a plausible theory of proper basing, a theory that allows us to understand the defeating mechanism of higher-order evidence. I have also argued that this view doesn’t over-intellectualize epistemic basing and it doesn’t lead to infinite regress.

 I want to conclude this paper by noting that the view of epistemic basing offered here can be easily extended to moral basing and practical basing (namely, intending to do something on the basis of moral reasons or practical reasons.) So, one’s intention to perform some action is based on a moral (or practical) reason R when one’s internalization of R causes the intention and the causation happens because one believes that R supports the action.[[17]](#footnote-17) For example, consider my intention to pay back my friend his money on the basis of my promise to do so. I perform the action on the basis of the promise when believing (or realizing, remembering, etc.) that I have made the promise causes the intention and the causation is itself caused by my believing that a promise to do something is a moral reason to do it. So, to conclude, we have a unifying theory of basing: basing is causation caused by the belief about how the basis supports the relevant belief or intention.[[18]](#footnote-18)

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1. Comesana (2010)’s evidential reliabilism is a theory of doxastic justification along this line. As a

version of reliabilism, it treats doxastic justification as more fundamental. But it crucially relies on the notion of basing in individuating the relevant belief-forming processes: It holds that the relevant process (the availability of which would give one propositional justification according to reliabilism) is the process that corresponds to one’s forming the belief on the basis of one’s evidence. [↑](#footnote-ref-1)
2. Boghossian (2014, p. 8), for example, thinks that the notion of basing is crucial for understanding inference. [↑](#footnote-ref-2)
3. See Plantinga (1993a, p. 69). Besides, Goldman (2012, p. 85) even claims that ‘there is no hope for elucidating a suitable basing relation without giving it a causal interpretation.’ An exception is Leite (2008), who holds that having certain meta-belief is sufficient for basing. [↑](#footnote-ref-3)
4. [↑](#footnote-ref-4)
5. I am grateful to Patrick Bondy and Matthew Lutz for the discussion here. Bondy (2016) also proposes another counterexample to Turri’s account, which involves manifesting a problematic kind of cognitive disposition such as forgetfulness. [↑](#footnote-ref-5)
6. Perhaps Turri would respond by saying that his manifestation account is meant to concern both the how and the why. Whether he could say this depends on what exactly the ‘manifestation’ relation is. But Turri (2011, p. 391) treats this term as primitive; his only explanation of the term is that a manifestation relation should be contrasted with a ‘merely because’ relation. Moreover, even if Turri’s manifestation account addresses the why question, it doesn’t address it in the correct way, since (as I will argue) there are cases where one’s belief manifests one’s cognitive dispositions but there is no proper basing. [↑](#footnote-ref-6)
7. Joint Causation is similar to a theory of basing suggested by Paul Moser (1989, p. 157), who thinks that S's belief that P is based on a reason Q just in case the belief is causally sustained in a nondeviant manner by Q and by his associating P and Q. [↑](#footnote-ref-7)
8. Although CCT is better than Joint Causation for the above two reasons, both seem to face this problem: They preclude cases in which I base my belief on factors that I think has nothing to do with the truth of p, but such cases seem possible. For example, I might base my belief on wishful thinking, even though I explicitly claim that my wishing that p has nothing to do with the truth of p. In reply, I don’t think such cases are possible. For if the above case were possible, then the following kind of cases would also be possible: I base my belief that p on a factor F, even though I think that F makes it likely that p is false. But the latter kind of cases doesn’t seem possible. In believing p, I take p to be true; so, if I think F makes p likely to be false, it’s hard to see in which sense I am holding the belief p *on the basis of* F. [↑](#footnote-ref-8)
9. This case is attributable to Goldman (2012, p.7), where he discusses a case in which the subject comes to the belief in question by employing the rule of ‘overgeneralized disjunctive syllogism.’ [↑](#footnote-ref-9)
10. I intend to be neutral on what specific theory of justification is involved here. As far as I can see, CCJB is compatible with both the internalist and the externalist theories of justification. [↑](#footnote-ref-10)
11. Wietmarschen (2013, p. 415) says that one’s belief will be based on a bad argument because the argument would ignore higher-order evidence as a potential defeater. This explanation is unsatisfying: If the higher-order evidence is merely a ‘potential’ defeater, not a real one, then why couldn’t we ignore it? If it’s a real defeater, then the explanation is circular: our aim is exactly to explain why higher-order evidence is a real defeater. [↑](#footnote-ref-11)
12. I should note that, even when one’s meta-belief ‘R supports p’ is merely a dispositional one, it still dramatically differs from a disposition to believe p given R. The dispositional meta-belief might also differ from the disposition *to hold this meta-belief occurrently*. See Audi (1994) for the distinction between dispositional belief and disposition to believe. [↑](#footnote-ref-12)
13. In diagnosing what goes wrong in Sloppy Reasoner, Goldman (2012, p. 7) suggests that the basing is not proper because the subject’s belief-forming mechanism that produces the belief is not reliable. In my view, Goldman’s diagnosis doesn’t apply to those cases of improper basing resulted by gaining higher-order evidence. [↑](#footnote-ref-13)
14. Or if you don’t want to call those beliefs ‘justified,’ you could say they are ‘entitled’ as Crispin Wright (2004) does. Then the last clause of CCJB becomes: the belief about evidential support is justified or entitled. [↑](#footnote-ref-14)
15. A consequence of saying that beliefs about basic evidential support relation are not based on reasons is that they don’t admit higher-order defeat. For I have suggested that higher-order evidence defeat proper basing and yet those beliefs are not based on reasons. This is a consequence I am happy to accept: it’s hard to imagine how my belief in modus ponens could be defeated by, say, someone’s testimony that this rule is incorrect. [↑](#footnote-ref-15)
16. You might think that there is a difference: the two year-old kid’s experience of a tree is a good reason for believing that there is a tree, but ‘I am late for class’ is not a good reason for believing ‘I am running.’ Although this might be true, it shouldn’t be relevant here: whether the relation between a belief and a factor is one of basing should be independent from whether the factor is indeed a good reason for the belief. [↑](#footnote-ref-16)
17. I speak of ‘internalization’ of R rather than R itself because, unlike epistemic reasons, moral or practical reasons are typically understood to be external facts rather than one’s mental states. [↑](#footnote-ref-17)
18. For comments and discussion, I am grateful to Patrick Bondy, Adam Carter, and Matthew Lutz. [↑](#footnote-ref-18)