

THE TRANSMISSION OF KNOWLEDGE AND JUSTIFICATION

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ABSTRACT. This paper explains how the notion of justification transmission can be used to ground a notion of knowledge transmission. It then explains how transmission theories can characterise schoolteacher cases, which have prominently been presented as counterexamples to transmission theories.

1. INTRODUCTION

Those working in the epistemology of testimony seek to give an account of how it is that we can form justified beliefs by believing what people say. The basic idea behind *transmission* theories in the epistemology of testimony is that if I know that ϕ , I can use testimony to transmit my knowledge to you and you can thus come to acquire my knowledge that ϕ . Tyler Burge (1993; 1997; 2013), Paul Faulkner (2011) and Edward Hinchman (2005) offer the most well-worked-out contemporary transmission theories. I've also argued for the indispensability of the basic idea behind transmission theories in Wright (2014).¹ It's obvious enough that, if I don't know that ϕ , then you can't acquire my knowledge that ϕ . And if I don't believe that ϕ , then I can't know that ϕ . A common source of objections to transmission theories come from schoolteacher cases, which seek to exploit this consequence of transmission theories. These kinds of cases have generated a lot of philosophical interest.

Jennifer Lackey (1999; 2008) points out that it's intuitive that a schoolteacher who has creationist beliefs can still use testimony to get her class to know facts about evolution, even if she doesn't believe them and therefore doesn't know them. Paul Faulkner (2000; 2011) suggests that this is because the teacher connects the students to someone else who knows, by serving as a link in a testimonial chain and the teacher connects the students to the knowledgeable source from which she gathered her information about evolution. The knowledge just skips a link (the schoolteacher) in the testimonial chain. But this doesn't sort out a problem that Peter Graham (2006) presents in which a schoolteacher finds a fossil, infers that the fossil is evidence of dinosaur existence in that spot and tells his students that dinosaurs existed there millions of years ago, even though he doesn't believe it (and therefore doesn't know it) himself. Knowledge doesn't skip a link in this testimonial chain in this case since the schoolteacher is the first person to find the fossil and therefore nobody knows what the schoolteacher says. Robert Audi (2006) offers an alternative line of response by suggesting that the fact that the speaker's testimony

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¹See also Michael Welbourne (1986).

expresses something that she doesn't believe means that it's not intuitive that the students come to know. But this is falsified by Lackey's CONSISTENT LIAR case (Lackey, 2008, p. 53). J. Adam Carter and Philip J. Nickel (2014) have recently introduced various new cases to the existing discussion. They conclude that:

[A]ny formulation of the underlying idea that testimonial knowledge somehow depends on the work of others will need to take into account cases in which none of those who have done that work or asserted it have knowledge of what they testify, but testimonial knowledge in the hearer results nonetheless (Carter and Nickel, 2014, p. 154).

Transmission theories do think that testimonial knowledge somehow depends on the work of others. And they can account for cases in which nobody in the testimonial situation has knowledge of what the speaker says. This paper explains how. In §2 I will describe the various different versions of schoolteacher cases from the literature and set out the arguments against transmission theories that they ground. In §3, I will develop a detailed account of what is involved in the transmission of knowledge, using an account of justification transmission to ground this account. Lastly, I will bring these strands together in §4, to give an account of what schoolteacher cases do show about the epistemology of testimony and what they do not.

2. SCHOOLTEACHER CASES

First of all, it's important to get the details of the cases in view. For the purposes of this paper, I've limited the exposition of them to what I think are the crucial details:

CREATIONIST TEACHER: A schoolteacher of creationist beliefs tells her class the facts of evolution. She doesn't believe these facts, since she's a creationist, but she's aware that the scientific evidence overwhelmingly supports the facts of evolution and that her own personal beliefs are based entirely on faith. She tells her class the facts of evolution because she thinks that it's her duty to tell them what the evidence best supports. Unaware of her creationist beliefs, her class believe what she says (Lackey, 2008, p. 48).

The second is from Graham:

SCHOOLTEACHER: A schoolteacher of creationist sympathies finds a fossil and deduces that the fossil is of a dinosaur that lived there millions of years ago. He doesn't actually believe this, since he doesn't think that the world is really that old. But he tells the students that the extinct creature used to be there because he recognises that the fossil is evidence of such a creature. Unaware of his creationist beliefs, his class believe what he says (Graham, 2000, p. 112).

Carter and Nickel offer what they take to be a stronger version of Graham's case:

CREATIONIST POST-DOC: A creationist post-doc, finds various fossils that support the facts of evolution and tells the teacher from Lackey's case. The schoolteacher then tells her class the facts of evolution and her class believe her (Carter and Nickel, 2014, p. 148).

Lastly, there's one final variation on the theme, again from Graham and Nickel:

GRANT SCHOLARS: A scientist discovers evidence of a scientific postulate that is predicted by a prominent scientific theory but has not been observed. The postulate is incompatible with a particular religious tenet. Three scientists who believe in the religious tenet each set up experiments, expecting to show that the postulate is not observable under ideal conditions. But one scientist does observe the postulate. Her findings are then repeated and verified by the two other scientists, serving as anonymous reviewers for a journal. The schoolteacher in Lackey's case reads the paper and teaches the result to her class, even though she doesn't believe it herself, nor does the original scientist, nor either of the journal reviewers. Unaware of her creationist beliefs, her class believe what she says (Carter and Nickel, 2014, pp. 150-151).

The common idea, in the cases described above, is that a listener comes to know something that the speaker doesn't know. In SCHOOLTEACHER, GRANT SCHOLARS and CREATIONIST POSTDOC, it's also the case that *nobody* knows it. There's thus an argument against transmission theories that goes like this:

- (1) Transmission can occur only if the speaker's testimony expresses knowledge.
- (2) In CREATIONIST TEACHER, SCHOOLTEACHER, CREATIONIST POSTDOC and GRANT SCHOLARS none of the speakers know what they say.

Therefore

- (3) CREATIONIST TEACHER, SCHOOLTEACHER, CREATIONIST POSTDOC and GRANT SCHOLARS can't be explained in terms of transmission.

Now, not *all* putative counterexamples to transmission theories are of the same structure as the schoolteacher cases. The schoolteacher cases involve speakers who do not know what they say because they do not believe what they say. There are various other types of putative counterexamples to the idea that transmission is required in the epistemology of testimony. Firstly, there are counterexamples that appeal to the idea that a speaker's belief is unsafe, but a listener's belief is safe. Sanford Goldberg gives one such counterexample, which involves a speaker telling a listener that ϕ and, whilst her own belief that ϕ is unsafe, but the listener's corresponding belief that ϕ is safe because of an onlooker in the room, who would have intervened to correct the speaker if the speaker's testimony that ϕ had been false (Goldberg, 2005, p. 302). Charlie Pelling offers a similar case, in which a listener's belief is safe because the speaker's voice can only be heard by the listener within a certain area (Pelling, 2013, p. 213).

A second type of counterexample trades on the idea that there can be cases in which a speaker's belief is unjustified but a listener's belief is justified. The most prominent of these cases is Lackey's PERSISTENT BELIEVER case (Lackey, 2008, p. 59). I have argued that these cases can be characterised adequately by a theory that allows that transmission is merely *part* (albeit an indispensable part) of the complete story in the epistemology of testimony in Wright (2015a).

Lastly, there is another type of case, which involves a speaker systematically seeing that ϕ , believing that $\neg\phi$ and then lying and saying that ϕ , with the result being reliably-produced testimony. Lackey presents such a case in the form of her CONSISTENT LIAR case (Lackey, 2008, pp. 53-54). Graham offers a case of a twin Earth

situation in which the colours are inverted and the words used to refer to colours are similarly inverted (Graham, 2000, pp. 379-380). In these cases, the speaker neither believe what they say, nor have justification for what they say. An explanation in terms of transmission is therefore impossible. I think that the way to understand these cases from within the framework provided by transmission theories is the same as the way to understand cases in which a speaker's justification for what she says is defeated.

I think that these different types of counterexample call for different types of response on behalf of transmission theories. The idea that a unified line of response can be given to all of these cases is, I think, mistaken. I will thus not seek to characterise these cases in this discussion. These alternative counterexamples are nonetheless important to the discussion here, however, because they help illustrate what is distinctive about the schoolteacher cases, which I believe to be the most prominent and influential counterexamples to the idea that justification from testimony should be understood in terms of transmission.

Of course, exactly how far the schoolteacher cases make for a case against transmission theories depends on exactly what transmission theories are committed to. One way of interpreting transmission theories involves taking them to be committed to giving a *complete* account of knowledge and justification from testimony in terms of transmission. If this is the case, then the argument here does get to the core of transmission.² If, however, the central idea behind transmission theories is that the epistemology of testimony needs a notion of transmission to make sense of *some* cases, or (equivalently) that an epistemological theory of testimony that denies transmission is incomplete, then the argument from (1) - (3) isn't sufficient to reject transmission.

We also need a reason for thinking that the schoolteacher cases are ones in which transmission theorists think that justification transmission is supposed to occur. It's open to this latter type of transmission theory to think that we need the notion of transmission to characterise some cases, but we equally need other explanations to characterise schoolteacher cases, along with the other objections. This is particularly true if transmission is defended from within the dialectical context of *epistemological disjunctivism*. Epistemological disjunctivist theories of knowledge typically seek to give an account of knowledge in a particular paradigm case.³ The important idea for epistemological disjunctivist theories is that the epistemological situation in that particular type of case implies nothing about how it might be in any other types of cases. Applying the epistemological disjunctivist paradigm approach to transmission in the epistemology of testimony yields an account claiming that sometimes, where a speaker knows that ϕ and tells a listener that ϕ with the intention of getting the listener to know that ϕ , this case should be understood in terms of transmission. But the fact that this case should be understood in terms of transmission implies nothing about how we should understand knowledge from testimony in any other types of case.⁴

²Faulkner (2011) explicitly denies this and attributes a similar view to Burge (1993). Welbourne (1986), however does appear to endorse transmission as the explanation of all knowledge and justification from testimony.

³See McDowell (1982; 1995; 2002) and Pritchard (2012).

⁴I am grateful to Duncan Pritchard for suggesting this idea to me.

This appears to yield a response to the schoolteacher cases because the idea is that transmission theorists claim only that transmission occurs in a particular type of case. The kind of case in question is one in which a speaker knows what she says. Since that kind of case is different to the schoolteacher cases, the fact that the schoolteacher cases cannot be characterised in terms of transmission is irrelevant to the claim that testimony does transmit justification in some cases.

Whilst a grounding in epistemological disjunctivism might seem *prima facie* promising for transmission theories, I don't think that it can ultimately be successful in grounding a response to the schoolteacher cases. If transmission theorists wish to exploit the fact that the schoolteacher cases are different to the kinds of cases that motivate the indispensability of justification transmission, then the question immediately arises as to what fact about the situation underpins this difference. More specifically, the question arises as to why an epistemological theory of testimony should reach for transmission to explain the justification acquired in *one* type of case, whilst reaching for another explanation to explain the justification acquired in schoolteacher cases.

As I see it, the reason that an epistemological theory of testimony should reach for a notion of transmission to explain some cases is because a listener can adopt a distinctive attitude in response to the speaker's testimony. This response is *taking a speaker's word for it* and involves coming to believe what a speaker says based on a presumption that the speaker has justification for what she says. The idea is that this is a presumption distinctive to testimony; we don't presume when confronted with, say, an instrument, that it has justification for what it says in the same way. This distinctive presumption connects the listener's belief to a distinctive set of justifying factors in the form of the speaker's justification for what she says.⁵

If the listener taking this distinctive attitude in certain cases is what motivates the indispensability of transmission, however, then it's not clear that the schoolteacher cases can't also have this feature. It seems that one might legitimately stipulate in each of the schoolteacher cases detailed above that the listeners' beliefs are formed through taking the speaker's word for it in the way that is associated with transmission. As a result, it might well be that, in the important respect, the schoolteacher cases are *similar* to the kinds of cases that are supposed to be characterised in terms of transmission. This means that the strategy of dismissing the challenge from the arguments based on the schoolteacher cases on the grounds that they are different to the kinds of cases that motivate the indispensability of transmission is unlikely to be entirely successful.

This brings out an important point about the scope of the schoolteacher challenge. Where other cases might be explicable in these terms, schoolteacher cases are not. There is thus a distinctive challenge from schoolteacher cases that cannot be explained away along with other objections.

Whether transmission theories are to be understood as giving a *complete* account of knowledge and justification from testimony, or whether they are to be understood as arguing for a distinctive notion of knowledge and justification that is supposed to be indispensable to a complete theory of testimony, they need to explain how transmission takes place in schoolteacher cases. And I think they can do this. This

⁵I have made this argument in more detail in Wright (2014). Since I argue that, contrary to initial appearances, it doesn't offer any additional resources in characterising the schoolteacher cases, I will not expand further on the details here.

is because they can deny the argument from (1) - (3). Specifically, they can deny premise (1). A testimonial exchange involving transmission, as transmission theorists conceive of it, needn't involve a speaker expressing knowledge. In §4, I'll explain how transmission theorists can claim this. First, however, I'd like to sharpen the objection to transmission theories further.

3. JUSTIFICATION TRANSMISSION

It's important to distinguish between the transmission of knowledge and the transmission of justification. According to transmission theorists, the idea of knowledge transmission is grounded in a more fundamental notion, the notion of justification transmission. The basic idea behind justification transmission can be expressed in the following:

J-Trans Justification transmission is a matter of the truthmakers for the proposition *the speaker has justification for what she says* becoming truthmakers for the proposition *the listener has justification for what the speaker says*.⁶

So the idea is that, if a speaker has justification for ϕ , then there is some fact that makes it the case that the speaker has justification for ϕ . Exactly what the truthmakers for this might be doesn't matter particularly. This can be brought out by considering an example. Suppose that I tell you that ϕ because I believe that ϕ and my belief that ϕ is based on my seeing that ϕ . There are various accounts of how my belief that ϕ might be justified. According to one approach, it might be justified by the reliability of the process involved in the formation of my belief that ϕ . The idea is that the process involved in the formation of my belief is reliable in virtue of the fact that it tends to yield true beliefs rather than false ones in close possible worlds and this justifies my belief.⁷ Combining this account of perceptual justification with the basic idea in J-Trans yields the claim that a listener's belief in a speaker's testimony can be justified by the facts that make the processes involved in the production of the speaker's belief reliable.

According to a second approach, my perceptual belief that ϕ might be justified by various reflectively accessible reasons that I have for thinking that my perceptual processes are reliable. This kind of approach is an *internalist* approach to perceptual justification.⁸ Combining this kind of account of perceptual justification with the claim about justification transmission given in J-Trans yields the claim that a listener's belief in a speaker's testimony can be justified by the reasons that the speaker has reflective access to.

This means that the basic idea behind justification given in J-Trans is compatible with either an internalist or an externalist account of perceptual justification. Whether justification from other sources should be understood in terms of reliability or in terms of evidence, the statement in J-Trans can be true. Exactly what the details of J-Trans amount to depends on a theory of justification from other sources, but the basic idea is neutral between internalist and externalist theories of justification from other sources. Where a speaker's justification for ϕ is a matter of factors that she is aware of, however, this isn't to say that the listener becomes aware of these

⁶I think that this notion of transmission is what Burge and Faulkner have in mind. Even if it's not, it's still clearly a legitimate account of what transmission theorists *can* claim.

⁷See, for example, William Alston (1996), Alvin Goldman (1976) and David Papineau (1992).

⁸See, for example, Laurence Bonjour (1985), Stewart Cohen (1984) and Keith Lehrer (2000).

factors too. The idea is that these factors justify the listener's belief whether or not she is aware of them.

It is thus not correct to say that the basic idea behind transmission theories in J-Trans is neutral between internalist and externalist theories of justification from testimony. Those who endorse J-Trans are committed to claiming that justification from testimony should be construed in externalist terms, insofar as the claim that an individual's belief can be justified by facts that she is unaware of makes for an externalist theory.⁹ I think that transmission theorists should offer an externalist theory of justification in general because of the challenges from other cases, but the focus of this paper is on the schoolteacher cases.

The idea behind the transmission of justification grounds the notion of the transmission of knowledge. From the notion of justification transmission in J-Trans, we can derive the following notion of knowledge transmission:

K-Trans The transmission of a speaker's knowledge that ϕ to a listener involves the transmission of the justification for ϕ from a speaker who knows that ϕ to a listener who takes the speaker's word for it that ϕ .

Understanding transmission in this way involves understanding knowledge transmission in terms of justification transmission. This means that the more fundamental notion is justification transmission. Getting at the real core of transmission theories involves getting at the notion of justification transmission. Of course, this way of thinking about the relationship between knowledge transmission and justification transmission is one that is *prima facie* not likely to be amenable to theories grounded in the recent *knowledge first* approach to epistemology. The driving idea behind knowledge first approaches to epistemology is that, rather than understanding knowledge in terms of some kind of justified true belief, we should rather take the idea of knowledge as conceptually primary and then using the notion of knowledge to understand other epistemic notions. The most prominent endorsements of knowledge first epistemology come from Alexander Bird (2007), Jonathan Sutton (2005; 2007) and Timothy Williamson (2000).

Now, whilst the approach taken by knowledge first theorists is interesting, I have been suggesting that those who endorse transmission in the most substantive sense are committed to thinking approaching the epistemology of testimony in terms of a traditional approach, rather than a knowledge first approach. The transmission theory that I have given takes a conception of justification transmission to be conceptually prior to a conception of knowledge transmission. It is also important to note, however, that not only is the account of justification transmission that I have given here set against a traditional approach to epistemology, but the objections to it are set against a traditional approach to epistemology. The schoolteacher cases claim that the speaker's lack of knowledge is grounded in a lack of belief. This involves thinking of knowledge in terms of belief, rather than the other way around.

Since the ambition of the discussion here is to assess the significance of the arguments based on the schoolteacher cases as objections for the epistemology of testimony and transmission theories in particular, the discussion here is set in a traditional epistemological framework, rather than the framework provided by knowledge first epistemology. Whilst it is true that the transmission theory that I have

⁹Michael Bergmann (2006) argues for this conception of externalism.

set out analyses the transmission of knowledge in terms of the transmission of justification, it is worth pointing out that the framework that this utilises is one that is endorsed both by transmission theorists as well as those who make the objections based on schoolteacher cases against them.

An important feature of justification transmission, as stated in J-Trans, is that justification transmission can happen even when the speaker's testimony doesn't express knowledge. All that J-Trans requires is that the speaker *has justification* for what she says. The difference here is important to understanding why the argument from (1) - (3) doesn't provide a decisive objection to transmission theories.

Unlike other transmission theories, I offer different transmission principles concerning the transmission of justification and the transmission of knowledge. Transmission principles give accounts of the necessary and/or sufficient conditions for the transmission of either justification or knowledge. Some transmission theorists endorse the following pair of transmission principles:

- (JT1) A listener's belief that ϕ is supported by transmitted justification only if the speaker has justification for ϕ .
- (KT1) A listener's belief that ϕ can amount to transmitted knowledge only if the speaker knows that ϕ .

These transmission principles claim that transmission occurs only if the speaker herself has the relevant knowledge or justification.

An alternative set of transmission principles are given in the following:

- (JT2) A listener's belief that ϕ is supported by transmitted justification only if some earlier speaker in the testimonial chain has justification for ϕ .
- (KT2) A listener's belief that ϕ can amount to transmitted knowledge only if some earlier speaker in the testimonial chain knows that ϕ .

These transmission principles are weaker than the transmission principles in (JT1) and (KT1). The speaker knowing that ϕ or having justification for ϕ implies that some earlier speaker knows that ϕ or has justification for ϕ but the point of the principles in (JT2) and (KT2) is that the reverse is not true. In testimonial chains with more than one speaker and more than one listener, it might be a case that an earlier speaker knows that ϕ or has justification for ϕ but that speaker is not the speaker immediately prior to the listener in the testimonial chain.

Existing accounts typically endorse either the conjunction of (JT1) and (KT1) or the conjunction of (JT2) and (KT2).¹⁰ I am arguing here for a bifurcated account of transmission principles here, endorsing (JT1) and (KT2). This is a consequence of the idea that knowledge transmission is to be explained in terms of justification transmission and that justification can be propositional or doxastic, where there is no such distinction for knowledge.

It is worth mentioning that Robert Audi (2006) also offers a bifurcated account of justification principles and knowledge principles. Audi argues that a listener knowing that ϕ from a speaker's testimony that ϕ depends on the speaker's knowing that ϕ or some other prior speaker in the testimonial chain knowing that ϕ , but also that the corresponding principle is not plausibly true of justification. Audi states that:

[I]n order for me to know the time on the basis of your testimony,
you or someone else must have read a clock or come to know the

¹⁰Defenders of (JT1) and (KT1) include Hardwig (1985; 1991), McDowell (1994), Welbourne (1986) and Williamson (2000). Defenders of (JT2) and (KT2) include Burge (1993) and Faulkner (2011).

time on some other basis [...] The case with justification is different. I do not need any justification for believing p in order for my testimony to provide others with ample justification for believing it' (Audi, 2006, p. 31).

This is because Audi's theory, properly understood, is not a transmission theory at all. Rather, Audi gives a reliabilist account of knowledge from testimony and an internalist account of justification from testimony. Audi thus thinks that less is required of the speaker for justification from testimony than for knowledge from testimony (and correspondingly, less of the listener for knowledge than justification). For transmission theorists, I claim, the reverse is true.

The central idea is that we can distinguish between two ways in which a speaker can have justification for what she says. One is by having *doxastic justification*. Doxastic justification for ϕ is justification that supports a speaker's belief that ϕ . Alternatively, a speaker might have *propositional justification* for ϕ . Having propositional justification for ϕ involves having access (whether this is reflective access or not) to something that *could* justify your belief that ϕ . A good way of illustrating the idea of having propositional justification comes from consider another of Lackey's cases:

DISTRAUGHT DOCTOR: A doctor understands that all of the scientific evidence indicates that there is no connection between vaccines and autism. However, after his child was diagnosed with autism shortly after receiving her vaccines, the doctor's grief causes him to abandon his belief that there's no connection between vaccines and autism. When asked by one of his patients, however, about whether or not there's a connection between vaccines and autism, the doctor tells her that there is not a connection. He does this because he realises that this is what the evidence best supports and takes himself to have a duty to say whatever the evidence best supports (Lackey, 2008, pp. 110-111).

In Wright (2015b) I've argued that the **DISTRAUGHT DOCTOR** case is structurally similar to the **CREATIONIST TEACHER** case. It is also similar to the following case, given by Carter and Nickel:

ALT-KARAMAZOV: The evidence in a murder case indicates that the defendant is guilty but the court is undecided. The defendant's fiancée does not believe that he is guilty, but her own story incriminates the defendant and she tells the court that the evidence suggests that the defendant is guilty. A bystander hears just the fiancée's testimony and comes to believe that the evidence indicates that the defendant is guilty (Carter and Nickel, 2014, p. 153).

In both the **DISTRAUGHT DOCTOR** case and the **ALT-KARAMAZOV** case, it's clear that there's a meaningful sense in which the speaker *does* have justification for what (s)he says. The fact that the doctor knows that all of the scientific evince indicates that there isn't a connection between vaccines and autism means that the doctor does *have* justification for thinking that there's no connection between vaccines and autism. Likewise, the fact that the fiancée is aware of the evidence means that she has justification for thinking that the evidence indicates that the defendant is guilty, though she doesn't know this because she doesn't believe it.

Equally, however, it's clear that neither the doctor nor the fiancée has a justified belief that there is what they say. This follows from the fact that neither the doctor nor the fiancée has the relevant belief at all. This means that the justification that each speaker has isn't *doxastic* justification. The evidence in each case provides the speaker with *propositional* justification, because either speaker *could* form a justified belief on the basis of the available evidence, although neither actually has.

The distinction between doxastic and propositional justification is most important for understanding how transmission theories can characterise the schoolteacher cases in terms of justification transmission. It's important that, the way the statement of justification transmission given in J-Trans is formulated, it explicitly appeals to a speaker *having justification* rather than *having a justified belief*. The idea is that the speaker believing that ϕ is a necessary condition of the speaker having a justified belief that ϕ , but it isn't a necessary condition of a speaker merely having justification for ϕ . And since justification transmission, as stated in J-Trans merely appeals to a speaker having justification for what she says, the speaker can have justification in the relevant sense by having a merely propositional justification for what she says.

Since the difference between doxastic and propositional justification is of crucial importance to the picture of transmission in this paper, it is worth saying a bit more about what it amounts to. The picture of doxastic and propositional justification that I have given involves identifying doxastic justification as that which supports belief and propositional justification in terms of that which could constitute doxastic justification if the individual's belief were appropriately based. This is a somewhat unorthodox approach to understanding the relationship between doxastic and propositional justification, though John Turri (2010) gives a prominent account of propositional justification in terms of doxastic justification. The orthodox approach to understanding the relationship between doxastic and propositional justification is to analyse doxastic justification in terms of propositional justification plus proper basing. This view is given by William Alston (1985) and Jonathan Kvanvig (2003).

It is important to be clear that the theory developed in this paper can be set up in ways that are neutral between competing views on the relationship between doxastic justification and propositional justification. What matters in this discussion is the fact that there is a meaningful distinction between doxastic and propositional justification such that one can meaningfully have justification without belief. And all parties involved in the above disagreement claim that there is a meaningful distinction to be drawn between doxastic and propositional justification. Regardless of whether propositional justification should be understood in terms of doxastic justification, or vice versa, it is a truism that is a meaningful distinction to be drawn between the two ways of being justified and that is sufficient for the purposes of the theory being developed here.

Unlike having justification, having knowledge *does* require belief. Where the doctor in DISTRAUGHT DOCTOR case and the fiancée in the ALT-KARAMAZOV case each has justification in an important sense, the fact that neither believes what they say is sufficient to mean that neither knows what they say. So there's no (important) sense in which the speakers know what they say, even though they both have justification for thinking that what they say is true. And the fact that there is no sense in which the speakers know what they say is uncontroversial because it is a basic premise of the idea that the schoolteacher cases yield a counterexample to transmission theories. The idea is that there is knowledge acquired, but there is not knowledge to

transmit. If the speakers do know what they say, then there is no counterexample to transmission theorists, since transmission theorists can claim that this knowledge is transmitted to the listener.

There are thus two important points to focus on for the purposes of the theory being developed here. The first is that, according to the traditional approach to transmission, justification transmission is more fundamental than knowledge transmission. In other words, knowledge transmission necessarily involves justification transmission but justification doesn't necessarily involve knowledge transmission. The second important point is that having justification doesn't require belief. One can have *propositional* justification for ϕ even if one doesn't believe that ϕ . Whilst I've sought to make these points separately, they are connected. It's *exactly because* one can have justification for ϕ without believing that ϕ but one can't know that ϕ without believing that ϕ that justification transmission requires less than knowledge transmission.

4. SCHOOLTEACHER CASES AND TRANSMISSION

Armed with these two observations we can see why transmission theorists, whether they endorse the claim that *all* justification from testimony is a matter of transmission, or whether it's merely the case that the notion of transmission is indispensable as *part* of an account of justification from testimony can give an adequate characterisation of the schoolteacher cases. This is because, with the two observations from above in hand, transmission theorists are able to show not only that the schoolteacher cases don't rule out the *possibility* of transmission, but that they can be characterised in such a way that they *actually involve* transmission. This makes the schoolteacher cases unlike some of the alternative counterexamples to transmission given in §2.

Seeing how these observations apply to the CREATIONIST TEACHER case is relatively straightforward. Indeed, as Lackey observes, the similarities between the DISTRAUGHT DOCTOR case and the CREATIONIST TEACHER case are striking. In the same way that the doctor has propositional justification for thinking that there's no connection between vaccines and autism, the teacher has propositional justification for the facts of evolution. The idea is that, since the teacher tells her class the facts of evolution exactly because she recognises the evidence for these facts (and the lack of evidence for her creationist beliefs), the speaker's propositional justification can be transmitted to her class. Since her class come to believe what she says, their justification is doxastic and their beliefs amount to knowledge.

This characterisation doesn't involve the transmission of knowledge. As Lackey correctly points out, the teacher doesn't know the facts of evolution, since she doesn't believe in them. But the idea is that it does involve the transmission of justification—the notion of transmission more fundamental to transmission theories in the epistemology of testimony—since the justification that the class acquires is just the teacher's propositional justification transmitted to them, becoming doxastic justification because they believe the teacher's testimony.

Something similar is true of SCHOOLTEACHER. The teacher states the facts of evolution exactly because he recognises the evidential force of the fossil. If he didn't regard it as evidence that there used to be an extinct creature in that location, then he wouldn't have said that there was. This recognition provides the teacher with propositional justification for what he says. And as with the case in CREATIONIST

TEACHER, the students forming their belief on the basis of his testimony connects them up to the speaker's justification for what he says. His propositional justification becomes their doxastic justification. Whilst the explanation of the SCHOOLTEACHER case is thus very similar to the CREATIONIST TEACHER case, there is an important difference between the two cases that brings out the distinctiveness of the account that I'm giving here.

In response to the type of case instantiated in Lackey's CREATIONIST TEACHER case, Paul Faulkner suggests that transmission theories of knowledge and justification should allow that knowledge can *skip* links in a testimonial chain. The idea is that the CREATIONIST TEACHER case illustrates this. The scientists responsible for collecting evidence of evolution know the facts of evolution and the idea is that the schoolteacher's testimony puts her class in touch with the knowledge of the scientists. And it does this exactly because the schoolteacher has propositional justification for what she says. The idea is that the CREATIONIST TEACHER case *can* be characterised in terms of knowledge transmission, but knowledge is transmitted not from the teacher to the class, but from the scientists to the class *via* the teacher, who doesn't know herself (Faulkner, 2000, p. 588).

Ultimately, however, Faulkner endorses Burge's claim that 'there must be knowledge in the chain if the recipient is to have knowledge based on interlocution' stating that '[t]his makes the weaker claim that A's knowing that p requires one of S_1 to S_n to have knowledge' (Burge, 1993, p. 486, n. 24) (Faulkner, 2000, p. 595). In other words, if the listener knows that ϕ and the listener's knowledge is the result of transmission, then it must be the case that someone earlier in the testimonial chain knows that ϕ . In §3, this was expressed in (KT2). This means that it's harder to see how the account Faulkner gives can accommodate the case given in SCHOOLTEACHER.

Burge likewise observes that the kind of CREATIONIST TEACHER cases given by Lackey do not constitute counterexamples to a theory that endorses (KT2) as a transmission principles. In Burge's words '[t]hey fail because they do not take account of the provision that the source of knowledge in the antecedent chain need not be the recipient's immediate interlocutor' (Burge, 2013, p. 256). This is the same kind of response to the CREATIONIST TEACHER case given by Faulkner, who endorses (KT2) by endorsing Burge's view on transmission.

The important point in SCHOOLTEACHER, as Graham notes, is that what the teacher tells the class is *new* knowledge. The idea is that nobody knows that a dinosaur used to live there millions of years ago and this means that the explanation that Faulkner gives of the CREATIONIST TEACHER case can't be given in the SCHOOLTEACHER case. (Graham, 2006, p. 113). It's not the case that someone earlier in the testimonial chain knows in the SCHOOLTEACHER case and the case therefore can't be explained in terms of knowledge transmission in any sense.

What this shows, I think, is that (contrary to the claim from Burge and Faulkner) transmission theories should allow that testimony can generate *knowledge*, where knowledge is understood as justified true belief of some sort. But it doesn't show that testimony can generate justification. And this is why the observation in §3, that justification transmission is more fundamental than knowledge transmission on the traditional approach to transmission is important. On the traditional approach to transmission, knowledge transmission presupposes justification transmission, where

justification transmission does not presuppose knowledge transmission.¹¹ That the transmission of justification can lead to the generation of knowledge is shown by the SCHOOLTEACHER case. The fact that the listeners in the SCHOOLTEACHER case acquire a justified belief can be explained in terms of justification transmission. The fact that they come to know can't be understood in terms of knowledge transmission, but it can be explained in terms of their coming to believe what the speaker says and forming a belief supported by transmitted justification. This means that the SCHOOLTEACHER case does illustrate something important about transmission. But it doesn't show that transmission doesn't happen in these cases.

Burge takes a different view. In response to Graham's case, Burge suggests that there *is* a meaningful sense of knowing according to which there is knowledge in the testimonial chain. The knowledge, however, is dispersed amongst the schoolteacher and the various sources on which his ability to infer the existence of the dinosaur depends. The idea is that the students come to acquire knowledge from the chain *as a whole*. Burge states that 'the knowledge that the students acquire is the product of the knowledge of the teacher's sources, the teacher's own observational knowledge and a good inferential step taken by the teacher. In an abstract sense, the knowledge that the students gain resides, collectively, in the antecedent chain, including the teacher (with his/her knowledge of the fossil)' (Burge, 2013, p. 257).

This approach to the SCHOOLTEACHER case involves treating it as similar to other cases discussed in the literature. John Hardwig (1985; 1991) considers cases of scientific discovery involving multiple areas of specialisation and too much work for any single scientist to undertake. The idea is that each of the scientists individually undertakes part of the research and one of them brings it all together to create knowledge that none of them individually possesses.¹² For my own part, I am inclined to think that the kinds of cases that Hardwig describes further illustrate the point that the transmission of justification can involve the generation of knowledge. Where one listener puts all the transmitted justification together to come to know something new, I am inclined to think of this in terms of transmitted justification yielding the generation of knowledge.

Carter and Nickel observe that their CREATIONIST POSTDOC is a stronger case than Graham's SCHOOLTEACHER case because the speaker in CREATIONIST POSTDOC uses the proper scientific methods for evaluating fossils, where a schoolteacher might not. The result is that it might be more intuitive that the speaker in CREATIONIST POSTDOC offers reliably produced testimony and thus more intuitive that the class form a justified belief. But this isn't a problem for the strategy for characterising the SCHOOLTEACHER case that I described. It might be that a defender of transmission might claim that the speaker's testimony isn't reliably produced in the SCHOOLTEACHER case.¹³ But since that isn't the strategy that I outlined in my characterisation of the SCHOOLTEACHER case, the CREATIONIST POSTDOC case can still be characterised in the same way. If anything, CREATIONIST POSTDOC becomes even less problematic for transmission theories because it becomes clearer that the speaker has propositional justification to transmit. If there are worries about the

¹¹This is motivated by the thought that my knowing that you know that ϕ puts me in a position to know that ϕ , but my justifiedly believing that you justifiedly believe that ϕ does not obviously put me in a position to justifiedly believe that ϕ . See Jaakko Hintikka (1962).

¹²For more on this kind of case, see Faulkner (2011).

¹³Cf. Audi (2006).

schoolteacher's methods, then there are equally worries about his justificatory status. And it's this justification that, according to transmission theorists, explains the students coming to form a belief that is justified and can constitute knowledge. So even if the CREATIONIST POSTDOC case presented by Carter and Nickel closes off one line of response to the SCHOOLTEACHER case given by Graham, I don't think that the line it closes off is the most promising one for transmission theorists.

The final case is the GRANT SCHOLARS case. This case is a bit more complicated, but I don't think the complications present any new problem for transmission theories. The basic idea is still that propositional justification becomes doxastic justification for a listener who believes something that the speaker doesn't. The details of the cases, however, are a bit unclear. They depend on whether we think that the journal paper constitutes a kind of group testimony, from all three scientists, or whether it simply constitutes testimony from a single scientist filtered by two others. Since I don't think that it's problematic for transmission theories either way, I don't propose to take a stand on the question here, but I will outline how the case should be characterised according to each approach.

In both cases, the idea is that the schoolteacher has propositional justification, which her students pick up as doxastic justification. The only adjustment in the case concerns what we want to say about how the schoolteacher comes to have propositional justification. One way of thinking about the case is to think that the journal article is testimony from the author and *only* from the author. If this is the case, then the idea is that the author's justification is passed to the schoolteacher. Note that, even if we give this explanation, then we can still claim that there's an important epistemic significance coming from the fact that the other scientists have repeated the experiment. The idea is that the other scientists repeating the experiment gives *both* the original author *and* the schoolteacher additional justification. The idea is that the scientists repeating the experiment gives the author more justification and then this is passed to the schoolteacher.¹⁴ All of this is compatible with the kind of transmission involved in the characterisation of the previous schoolteacher cases.

Alternatively, we might think that the journal paper is a kind of group testimony from all three scientists. There is, after all, an important sense in which the scientists repeating the experiment might be said to *vouch for* its veracity.¹⁵ If this amounts to the journal article being fundamentally an instance of group testimony from all three scientists, then the idea is that the schoolteacher acquires propositional justification from all of them collectively, which is then transmitted to the class and becomes doxastic justification because they believe the teacher's testimony.

The result of all of this is that we can now see why the argument from (1) - (3) doesn't offer a decisive argument against transmission theories. Specifically, the idea is that (1) is false. Contrary to initial appearances, the most fundamental and important sense of transmission can happen when a speaker's testimony doesn't express knowledge, nor anything else that she believes. It's true that the transmission of *knowledge* requires either the speaker or someone earlier in the testimonial chain to know what she says. But the transmission of knowledge is neither the only nor the most important notion of transmission involved in transmission theories. Even

¹⁴Lackey (2013) makes a similar point in a paper on the epistemology of disagreement.

¹⁵On the idea that the scientists vouching for the veracity of the testimony is epistemically significant, see Hinchman (2005) as well as Richard Moran (2005) and Benjamin McMyler (2011).

where knowledge isn't transmitted, it's still possible for justification to be transmitted. This is primarily what's illustrated by the schoolteacher cases. Rather than falsifying transmission theories, the schoolteacher cases illustrate an important feature of them.

5. CONCLUSION

In conclusion, I would like to raise one further point. The original CREATIONIST TEACHER case from Lackey sought to show, amongst other things, that the listener's belief in the speaker's testimony being justified doesn't depend on the speaker having a justified belief in what she says. Lackey's primary target in setting out the CREATIONIST TEACHER case is the kind of theory that claims that a speaker's justification can be transmitted to the listener only if the speaker's testimony expresses something that she believes. There are various transmission theories of this type.¹⁶ And Lackey urges that the correct view in the epistemology of testimony involves considering not the speaker's *belief* in what she says, but the speaker's statement itself (Lackey, 2008, p. 75).

I think that the observation that what matters for the epistemology of testimony is the properties of the speaker's statement, rather than the properties of the speaker's belief is entirely correct. And I think that Lackey's observation that the properties of the speaker's statement are logically independent of the speaker's belief in what she says is equally correct (Lackey, 2008, p. 37-39). The schoolteacher cases do provide good support for this. But in the same way that the epistemic properties of a speaker's belief in what she says and the properties of her statement are logically independent of one another, transmission is equally neutral between the view that beliefs are what matters and the view that statements are what matters. The idea that showing that what matters is a speaker's statement rather than a speaker's belief does not show that transmission theories are false. It might be that transmission doesn't take place via the acquisition of a speaker's belief but rather via the receipt of the speaker's testimony. But the basic idea given in J-Trans does not commit transmission theorists to the idea that what matters is the speaker's belief rather than the speaker's testimony.

The schoolteacher cases show that it's important for transmission theorists to distinguish between two questions. One concerning *what* justifies beliefs based on testimony, which transmission theorists claim to be the speaker's justification transmitted to the listener. The second concerns *how* it happens, which transmission theorists should claim to be the speaker's statement becoming a bearer of the speaker's justification for what she says being picked up by the listener.¹⁷ The alternative involves claiming that the listener acquires the speaker's belief and the justification that supports it is transmitted along with the belief. But the idea of a belief being transmitted is hard to make sense of on other grounds. In a situation where I tell you that ϕ and you believe me, there are immediate obstacles to thinking that you acquire my belief. My belief seems to have properties that yours doesn't. It was formed a particular time, when yours was formed at a later time. Furthermore, it seems that I might come to stop believing that ϕ and thus my belief that ϕ no longer exists. But if

¹⁶Lackey identifies Burge (1993; 1997), Coady (1992; 1994), Dummett (1994), Hardwig (1985; 1991), McDowell (1994), Owens (2000; 2006) and Williamson (2000) amongst others as defenders of the idea that what matters is the speaker's belief in what she says.

¹⁷Other accounts of how knowledge transmission happens are discussed by Faulkner (2006).

you don't stop believing, then your belief that ϕ still exists. These are immediate objections to the idea that justification transmission happens through the transmission of a belief, before we even get to schoolteacher cases.

In light of this, transmission theorists should seek to claim that a speaker's justification is transmitted to a listener by the speaker's testimony having a certain property, namely the property of being an expression of the speaker's justification. As I have suggested elsewhere, a speaker's testimony that ϕ is an expression of her justification if and only if the speaker says that ϕ because she has justification for ϕ and is seeking to be informative to the listener.¹⁸

Critics of transmission theories are entirely correct that the schoolteacher cases given above can't be explained in terms of knowledge transmission. Even if the CREATIONIST TEACHER case can be explained in Faulkner's terms of knowledge skipping a link in a testimonial chain, the other cases, in which nobody knows the content of the testimony, cannot. So the schoolteacher cases can't be explained in terms of knowledge transmission.

Moving from this to saying that they're incompatible with transmission *simpliciter*, however, is invalid. The schoolteacher cases can be characterised as instances of the transmission of justification. And, at least according to the characterisation of transmission that I gave, justification transmission is what transmission theories are all about. Knowledge transmission is derived from a more fundamental notion of justification transmission.

At the very outset, I stated that those working in the epistemology of testimony seek to explain how we can form justified beliefs on the basis of what people say. Ultimately, I don't think that the schoolteacher cases offer a decisive reason to think that transmission is altogether dispensable in such an account. But this is *not* to say (and I do not independently wish to say) that the schoolteacher cases are philosophically unimportant, by any means. On the contrary, for those (like me) who think that the complete account of how we can form justified beliefs on the basis of what people say requires a notion of transmission, the schoolteacher cases provide an interesting and important framework for illustrating some of the central points about the notion of transmission and its place in the epistemology of testimony. The schoolteacher cases can be characterised in terms of justification transmission because, where having knowledge implies belief, having justification doesn't. This comes from the distinction between doxastic and propositional justification. Understanding how justification transmission, rather than knowledge transmission, is fundamental to transmission theories in the epistemology of testimony shows how schoolteacher cases do not falsify transmission in the epistemology of testimony.

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¹⁸See Wright (2015b).

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