

# A dispositional analysis of propositional and doxastic justification

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**Abstract** An important question in epistemology concerns how the two species of justification, propositional and doxastic justification, are related to one another. According to the received view, basing one's belief  $p$  on the grounds that provide propositional justification to believe  $p$  is sufficient for the belief to be doxastically justified. In a recent paper, however, John Turri has suggested that we should reverse the direction of explanation. In this paper, I propose to see the debate in a new light by suggesting that the best way to understand the relationship between these species of justification is by viewing propositional justification as an (epistemic) dispositional property that a subject can have with doxastic justification as its manifestation. I show how the debate in metaphysics over the question of how disposition statements should be analyzed runs parallel to the epistemological debate, and bring some of the results in the dispositions debate to bear on the epistemological question. I end by offering some tentative remarks regarding the order of priority of these two species of justification.

**Keywords** Propositional justification · Doxastic justification · Dispositions · Basing relation

There are varieties of ways to apply the notion of epistemic justification. Sometimes we attribute justification to a subject and sometimes to his or her beliefs. When it is belief to which justification is assigned, it can itself come into two varieties. To say that a belief  $p$  is justified for  $S$ , we can either mean that it is the content of the belief

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(“p”) that is justified for the subject or it is the token belief itself that is justified. The former use of ‘justification’ refers to the propositional justification while the latter use of ‘justification’ picks out the category of “doxastic justification”. The main question regarding these two species of justification is how they are related to one another. According to the received view, basing one’s belief p on the grounds or reasons that provide propositional justification to believe p is sufficient for the belief to be doxastically justified. But, in a recent paper, reversing the direction of explanation, John Turri has suggested that we should explain propositional justification in terms of doxastic justification.

In this paper, I propose to see the debate in a new light. In Sect. 1, I criticize both the received view as well as Turri’s revisionary analysis and suggest that the best way to understand the relationship between the two species of justification is by viewing propositional justification as an (epistemic) dispositional property that a subject can have with doxastic justification as its manifestation. In the following section, I provide a brief account of the debate over the question of how disposition statements should be analyzed. In Sect. 3, I show how the two debates in epistemology and metaphysics (semantics) run parallel to each other and bring some of the results in the dispositions debate to bear on the question of how propositional and doxastic justification are related. I end by offering some tentative remarks regarding the order of priority of these two species of justification.

## 1 The relationship between propositional and doxastic justification

As noted above, the notion of justification appears in a variety of locutions. Perhaps, the two most important ways of using the notion of justification is when we describe an epistemic agent as having justification to believe a certain proposition or as *being* justified in believing that proposition. Alternatively, we might put the distinction in terms of ‘justifiable’ as opposed to ‘justified’ belief. The former use of ‘justification’ involves a justification relation between a proposition p and a subject (S) as when we say that ‘p is justified for S’. In such a case we mean to say that S has propositional justification to believe p. The latter use of ‘justification’, however, involves predicating justification of a token belief as when we say that S’s belief that p is doxastically justified (or will-grounded).<sup>1</sup>

What is crucial to this distinction is that to have propositional justification, the subject need not believe that p. It is enough that she has adequate reasons at her disposal. On the other hand, to be doxastically justified in believing that p one must not only have such reasons but also form one’s belief on the basis of those reasons. Thus, Pollock and Cruz, remark that “[t]o be justified in believing something it is insufficient merely to have a good reason for believing it. One could have a good reason at one’s disposal but never make the connection. [In such a case] what is lacking is that you do not believe the conclusion *on the basis* of those reasons”.<sup>2</sup>

<sup>1</sup> See for example, Kvanvig and Menzel (1990).

<sup>2</sup> Pollock and Cruz (1999, pp. 35–36).

This seems to paint the following picture of how propositional and doxastic justification are related to one another.

(Basis) If (i) S has reason(s) R in virtue of which p is propositionally justified for S, and (ii) S believes p on the basis of R, then S's belief that p is doxastically justified

According to (Basis), then, doxastic justification is to be understood in terms of propositional justification and the basing relation. John Turri has, however, argued that (Basis) is vulnerable to counterexamples in which one forms one's beliefs on the basis of adequate grounds, yet those beliefs fail to be doxastically justified.<sup>3</sup> These examples share the following pattern. Two subjects are in possession of extremely adequate reasons R for the proposition p and form their belief p on the basis of R. But while one subject is doxastically justified in believing p, the other is not. This means that the conditions (i) and (ii), in (Basis), are not jointly sufficient for doxastic justification. Consider, for example, two subjects, Proper and Improper, looking at a spot somewhere in the center of the city where they live which is hidden by a stretch of trees. They both know the following facts:  $R_1$  = big chunks of smoke are rising from around that spot;  $R_2$  = fire engines are rushing towards that spot;  $R_3$  = eyewitnesses report seeing people with burnt skins being rushed to hospitals. Both subjects come to the conclusion (p) that there is a fire somewhere in the city center. But while Proper reasons to p on the ground that  $R_1$ – $R_3$  make it highly likely that there is a fire somewhere in the city center, Improper forms her belief on the basis of  $R_1$ – $R_3$  because she thinks that the tea leaves say that those reasons make it highly likely that there is a fire somewhere in the city center. For both subjects (i) and (ii) are satisfied but only Proper's belief is doxastically justified. This, says Turri, undermines (Basis) as showing how propositional and doxastic justification are related to one another.

According to Turri, the problem with (Basis) is that it fails to take into account the fact that adequate reasons can confer justification only when they are properly utilized. It is not enough that the subject has good reasons for forming a belief. The manner in which she uses those reasons is also crucial to the obtaining of doxastic justification. Accordingly, Turri suggests an alternative proposal that is designed to take this point into account. What is distinctive about this proposal is that it reverses the direction of the explanation of doxastic justification in terms of propositional justification. While, on the received view, doxastic justification is understood as propositional justification plus basing, on Turri's proposal, (PJ), propositional justification depends on having the ability to acquire doxastic justification.

(PJ) Necessarily, for all S, p, and t, if p is propositionally justified for S at t, then p is propositionally justified for S at t because S currently possesses at least one means of coming to believe p such that, were S to believe p in one of those ways, S's belief would thereby be doxastically justified.<sup>4</sup>

<sup>3</sup> Turri (2010).

<sup>4</sup> Ibid.

The shift from (Basis) to (PJ) does not just concern the reversal of the direction of explanation of one concept in terms of another. Rather, if legitimate, it would have drastic epistemic consequences since some of the controversial views in epistemology that involve the notion of epistemic justification are deemed controversial precisely because they seem to deprive cognizers of acquiring doxastic justification. The usual escape route for such views is to point out that their intended target is only propositional, not doxastic, justification.<sup>5</sup> But if (PJ) is true, that is, if propositional justification depends on one's ability to acquire doxastic justification, those views would be in a peck of trouble. Before I proceed to put my own gloss on both (Basis) and (PJ), it would be instructive to see if (PJ) survives critical scrutiny.

In defense of (PJ), Turri says that "it provides an illuminating explanation of what goes on in paradigm cases of propositional justification"<sup>6</sup> like the fire example where the subjects know things that lead any normal human being to arrive at the conclusion that there is a fire somewhere in the city center. But we should be clear about the sense in which (PJ) "provides an illuminating explanation" of such cases. In fact, the assessment of this claim very much depends on what we take (PJ) to say. To begin with, (PJ) states a necessary condition for having propositional justification, viz., the subject's having an ability to acquire doxastic justification (expressed by the clause after 'because'). If so, all that (PJ) shows in Turri's examples is that its necessary condition is satisfied in those cases. So all we can conclude is that (PJ) is *consistent* with the subjects having propositional justification in those cases, not that they *have* propositional justification.

There is, however, one way of reading (PJ) as implying a sufficiency claim. And that is to take the occurrence of 'because' in (PJ) as indicating that it is also intended to provide an explanation for the obtaining of facts about propositional justification. On this reading, in addition to providing a necessary condition for having propositional justification, (PJ) is also intended to imply that facts about propositional justification obtain in virtue of (because of) facts involving the subject's currently possessing a way of coming to have doxastic justification. But the problem with this reading of (PJ) is that it is completely rejected by Turri himself. He considers a possible objection to (PJ) which involves a student who knows the introduction and elimination rules for conjunction and disjunction, but who has not yet proved either of DeMorgan's Laws. There is a clear sense in which the student currently possesses a means of coming to justifiably believe those laws. This seems to imply that even before attempting to prove the laws, the student has propositional justification to believe them which is implausible. But, as Turri subsequently notes, (PJ) is not intended to provide a sufficient condition for propositional justification. In other words, (PJ) does not claim that "[if] S currently possesses at least one means of coming to believe p such that were S to believe p in one of those ways, S's belief would thereby be doxastically justified, then p is

<sup>5</sup> Consider, for example, debates involving the principle of closure, epistemic conservatism [e.g., Silins (2007), the structure of justification and internalism vs. externalism (Smithies 2014)].

<sup>6</sup> Turri (2010, p. 320).

propositionally justified for S".<sup>7</sup> So we are barred from reading too much into 'because' as it appears in (PJ).<sup>8</sup> So we should rest content with the fact that, unlike (Basis), (PJ) is at least consistent with the subjects in cases like the fire scenario having propositional justification.

However, if, as Turri rightly claims, the fault with (Basis) is that it does not recognize that the proper utilization of one's reasons is as important as having adequate reasons in order to acquire doxastic justification, then all we need to do in order to fix the problem with (Basis) is to qualify it along the following lines.<sup>9</sup>

(Basis\*) If (i) S has reason(s) R in virtue of which p is propositionally justified for S, and (ii) S properly forms her belief p on the basis of R, then S's belief that p is doxastically justified

(Basis\*) can explain why Improper's belief in the fire example is not doxastically justified because condition (ii) is not satisfied. Note that the 'proper basing' qualification is also tacitly incorporated in (PJ) when it demands that S possess at least one way of coming to believe p which would lead to the belief being doxastically justified. This 'way' can only be one that is proper and correct, otherwise it would not result in a doxastically justified belief.

This brings us to another possible challenge to (PJ) that Turri discusses at length in his paper. The challenge concerns cases where one has excellent evidence for a proposition p and, thus, has propositional justification for p, but one is unable to believe p and, ipso facto, unable to form a doxastically justified belief. This could happen due to various factors such as brainwashing, drugs and so on. Turri gives the example of a subject, Ron, who knows that invading Iran is a stupid thing to do, and that if invading Iran is a stupid thing to do, then the US ought not to invade Iran. However, having watched Fox News for too long, Ron finds himself psychologically incapable of believing (p) that the US ought not to invade Iran. It seems, however, that, intuitively, p is propositionally justified for him.

In response, Turri qualifies (PJ) by idealizing our judgments about propositional and doxastic justification which involves abstracting away from the abilities and powers of the relevant subjects. Accordingly, in the case of people like Ron, where the subject is defective, we abstract away from his abilities to those of non-defective members of his kind. And, in the case of agents with extraordinary intellectual powers, we make our judgments by reference to the abilities manifested in a typical performance of the agent himself. So the case of Ron does not constitute a counterexample to (PJ) since a competent member of his kind could easily argue his way to the relevant conclusion.

<sup>7</sup> Ibid., p. 322.

<sup>8</sup> Turri's claim is of the form 'if p then (p because q)', so the primary necessary condition for p it provides is 'p because q', although since the latter entails q it does secondarily provide q as a weaker necessary condition. But since 'p because q' also entails p, 'p because q' is both a necessary and a sufficient condition for p (given that it is necessary). But since Turri holds that in such cases we can have q without p, he denies that q by itself is sufficient for p, so he is not using 'because' to mean something strong enough for strict implication. Thanks to Tim Williamson for his help to sharpen my discussion here.

<sup>9</sup> See also Silva (2015).

Paul Silva has objected that, even with such qualifications, (PJ) is still vulnerable to counterexamples such as the following.<sup>10</sup> Consider a near-human creature that is very similar to humans except for certain belief-inhibiting factors that are built into its nature and thus, normal for such creatures. The psychological effects of such factors are similar to those brought about by abnormal belief-inhibitors in humans (such as strange pills, brainwashing, etc.). Now, suppose a human and one such quasi-human are exposed to the same body of evidence for a proposition *p* whose adequacy they equally appreciate. Let us assume that neither is able to believe *p*, though for different reasons. The human is under the influence of belief-inhibiting drugs while the quasi-human is unable to believe *p* because of his cognitive make-up. According to Silva, if we take Turri's idealized version of (PJ) as our guide, we have to conclude (implausibly) that while the human has propositional justification, the quasi-human does not because there is no abnormal cause preventing the quasi-human from believing *p*.

But Silva's conclusion follows only if we take having the ability to form doxastically justified belief to be sufficient (or entail) propositional justification. For only then could we claim that only "the human has propositional justification for *p*".<sup>11</sup> But as we saw earlier, (PJ) only provides a necessary condition for having propositional justification and Turri categorically denies that this condition is also sufficient for propositional justification. All we can conclude, in the above scenario, is that (PJ) is consistent only with the human, and not the quasi-human, having propositional justification for *p*. That may still be damaging to (PJ), but there are other problems with Turri's idealization move.

Turri's move to attribute justified belief to a subject by considering whether a non-defective, typical member of his kind qualifies for having justification is similar to other 'relativization' moves in epistemology and is inadequate for similar reasons. Consider, for example, Sosa's virtue-theoretic response to the so-called 'new evil demon' problem. Sosa acknowledges that the demon victims' beliefs are in some sense justified and that the case provides a potential problem for the externalist views. To capture the sense in which such beliefs are justified, he distinguishes between 'apt-justification' and 'adroit-justification'.<sup>12</sup> Reliably produced beliefs are said to be apt-justified. The demon victims' beliefs are not justified in this sense. They are, rather, adroit-justified where a belief is adroit-justified if the faculty from which it results is a virtue "in our actual world", even if not in the world of the subject himself. Thus, the victims' beliefs in a demon world are adroit-justified because they are justified simpliciter in our world. It has been objected that ordinary people do not relativize justification in this way and neither is epistemic quality relativized to each possible world or environment.<sup>13</sup> Turri's move is similar to

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<sup>10</sup> Ibid.

<sup>11</sup> Ibid., p. 7.

<sup>12</sup> See for example, Sosa and BonJour (2003).

<sup>13</sup> See for example, Goldman (1988).

Sosa's, the difference being that while Sosa takes the reliability of the belief forming faculties in the actual world to set the standards for the justification of beliefs in other worlds, Turri takes the epistemic status of a non-defective, typical member of a kind to determine whether the other members of the kind have justified beliefs.

There is, however, a simple way out of the conundrum in the cases in which the agent is incapable of forming beliefs on the basis of adequate reasons. Consider (PJ) again. It says if S has propositional justification, it has it because S currently possesses at least one means of coming to believe p such that were S to believe p that way, S's belief would thereby be doxastically justified. The Fox News case causes trouble for (PJ) because it is assumed that S is incapable of belief (and, thus, incapable of justified belief). To make (PJ) immune to such counterexamples, all we need to do is to eradicate the reference to 'belief' in (PJ) in the clause that states that "S currently possesses at least one means of coming to believe p" and instead highlight the reasons that the subject has along the following lines.

(PJ\*) Necessarily, for all S, p, and t, if p is propositionally justified for S at t, then p is propositionally justified for S at t because S currently has adequate reason(s) R for p such that, were S to form belief p properly on the basis of R, S's belief would thereby be doxastically justified

(PJ\*) can be further simplified. We know that what (PJ) does is to express a necessary condition for having propositional justification while recognizing its role in explaining why facts about propositional justification obtain. We would thus not lose anything if we express (PJ\*) in the form of the following schema that highlights its role in stating a necessary condition for having propositional justification ('N' designates 'necessary condition').

(NPJ\*) S has propositional justification for p at time t only if (and because) S has adequate reasons R such that were S to form his belief p properly on the basis of R, S's belief would be doxastically justified

Now, (NPJ\*) would be immune to cases like Fox News where the agent is incapable of believing p. The consequent of (NPJ\*) is satisfied for Ron. For we know that Ron has adequate reasons for p such that in the closest worlds to the actual world where Ron rarely watches Fox News and believes that p on the basis of those reasons, his belief is doxastically justified. Thus, cases where subjects are incapable of believing on the basis of adequate reasons pose no problem to (NPJ\*). No idealization or relativization move is required either.

So now we have two rival accounts of how propositional and doxastic justification are related to one another: (Basis\*) and (NPJ\*). Which one should be adopted? To adjudicate between (Basis\*) and (NPJ\*), I propose to gloss the distinction between propositional and doxastic justification in the light of the results that have obtained in a completely different debate, namely, the dispositions debate. To see how the two debates are related, we need to begin by making a simple and intuitive observation about propositional and doxastic justification.

Consider a slightly different version of the fire case in which the subjects are in possession of the same body of evidence but are yet to form beliefs about the

occurrence of fire in the city center. They see that smoke is rising from a particular spot in the city, that fire engines are rushing towards that spot and so on. These pieces of evidence (knowledge) strongly support the proposition that there is a fire somewhere in the city center. Yet, both subjects are somehow oblivious to this obvious conclusion and fail to make the connection. There is, however, a clear sense in which both subjects possess an epistemic property when compared to, say, a second group of subjects who, in the comfort of their homes, are completely unaware of the body of evidence in question. This epistemic difference would become particularly conspicuous when the subjects in both groups 'decide' to believe that the city center is on fire. When the members of the first group form their beliefs in response to the evidence at their disposal, we are inclined to give them credit for their cognitive achievement whereas the subjects in the second group who form the same belief without any shred of evidence are not only given no credit but would also receive epistemic criticism and scorn.

In one sense, nothing has, epistemically speaking, changed about these two groups of subjects prior to and after forming the belief in question. The subjects in the first group (possessing evidence) have always been in a superior epistemic position both before and after forming the belief. However, after the belief is formed, the subjects in the second group (without evidence) also find themselves being criticized for being epistemically irresponsible. It seems then that what was at first (prior to believing) a potential (but real) epistemic difference between the two groups, fully manifests itself (after forming the belief) in our epistemic assessment of their cognitive behavior.

The above scenario is not unlike a case where a piece of glass is contrasted with a piece of metal in respect of their molecular structures. The metal clearly lacks the molecular structure that the glass has. This difference then fully manifests when they are both struck. One may redescribe the difference by saying that the metal does not have the dispositional property, "fragility", that the glass has. So, what I am suggesting is that we can view propositional justification as an (epistemic) dispositional property that a subject can possess. This dispositional property then fully manifests itself when the subject forms the relevant belief. Prior to the forming of the belief, there is the mere epistemic potential (having propositional justification). After the belief is formed, the potential is realized resulting in the belief being doxastically justified. The subject would then be the recipient of epistemic praise. The dispositional gloss on propositional justification explains why we can say that a subject can have propositional justification for *p* even if he may never form the belief that *p*. It makes sense to say this precisely for the reason that it makes sense to say of a glass that it is fragile even if it is never struck.

Analyses of dispositions usually proceed on the assumption that they show their characteristic manifestations under certain stimulus or test conditions. This means that, for any disposition, we can identify both its manifestations as well as stimulus conditions. In the case of epistemic dispositions, namely, the property of having propositional justification, the stimulus condition would consist of believing the relevant propositions with the beliefs' doxastic justification as their manifestations. If this plausible view of how propositional and doxastic justification are related to one another is on the right track, we can utilize the results in the dispositions debate



to throw light on how best to conceive of the relation between propositional and doxastic justification. So, I shall begin by giving a very brief summary of the pertinent results in the debate over dispositions.

## 2 Analyzing dispositions and disposition ascriptions

The debate over dispositions has been mainly fueled by the thought that while dispositions seem to be perfectly real properties, they also appear to be mysterious kinds of entities that merely pertain to the space of possibilities. When we say that glass is fragile or sugar is soluble, we are only concerned with how they would behave under certain test conditions. Philosophers with empiricist sensibilities were particularly hesitant to recognize such entities as they did not seem to lend themselves to direct observation. However, since dispositional expressions featured prominently in the statements of science, attempts were made to provide philosophically respectable analysis and understanding of dispositions and disposition ascriptions.

A first stab at such an analysis was made by Carnap who sought to analyze dispositional sentences in observational terms.<sup>14</sup> For example, to say that  $x$  is soluble is, on Carnap's analysis, no more and no less than saying that whenever it is placed in water (test or stimulus condition), it dissolves (manifestation condition).

(d)  $Sx$  iff  $(Wx \rightarrow Dx)$

where 'S' stands for ' $x$  is soluble'; ' $Wx$ ' is ' $x$  is placed in water'; ' $Dx$ ' is ' $x$  dissolves' and ' $\rightarrow$ ' denotes material conditional. More generally, Carnap's analysis of dispositional sentences can be written as follows.

(D)  $x$  has disposition to manifest  $M$  in response to  $s$  iff ( $x$  is put in stimulus condition  $s \rightarrow x$  manifests  $M$ )

Carnap, however, noticed that (d) is inadequate as it seemed to rule in objects as soluble that clearly are not. For example, consider an object, say, a piece of paper that is never placed in water and then is burned. The right-hand side of 'iff' in (d) is trivially satisfied but the paper is certainly not soluble. Carnap subsequently considered a variant of (d), which he called a 'reduction sentence', but that too turned out to be an adequate. Two points, at least, emerged from such unsuccessful attempts at analyzing dispositional sentences. The first was that the causal bases of dispositions are certainly important and relevant to their analysis. The second concerned the nature of the conditional that features in the analysis of dispositional sentences. While Carnap's (D) involved a material conditional, it was concluded that stronger conditionals are needed.

Some philosophers like Ryle took note of the connection between dispositions and counterfactuals. According to Ryle, to say that a lump of sugar is soluble is to say that it would dissolve if it were placed in water. But, for empiricist reasons, Ryle and other like-minded philosophers failed to explore the connection between

<sup>14</sup> For a historical survey of the debate regarding the analysis of dispositions see Bird (2012).

dispositions and counterfactuals any further. Counterfactual conditionals (and other subjunctives) involve both a conditional and a modal component—with the latter pertaining to non-actual possibilities. The modal component is in fact the kind of thing that the introduction of the causal bases of dispositions was supposed to highlight. At that time, however, there was no proper semantic understanding of counterfactual conditionals. The situation changed following Kripke's work on the semantics of modal logic which contributed significantly to the development of the semantics for counterfactuals by Stalnaker<sup>15</sup> and Lewis.<sup>16</sup> This led to a proper recognition of the role of counterfactuals in the analysis of dispositions along the following lines.

(SCA)  $x$  has disposition to yield manifestation  $M$  iff (were  $x$  put in stimulus condition  $s$ ,  $x$  would manifest  $M$  in response to  $s$ )

It turned out, however, that the simple conditional analysis of disposition statements (SCA) falls prey to counterexamples involving the so-called 'finkish' dispositions.<sup>17</sup> The idea is that, on the one hand, dispositions take time to manifest themselves and, on the other hand, they come and go. So it is quite possible that, when  $x$  undergoes stimulus  $s$ ,  $s$  would make the disposition to disappear, thus, interrupting the occurrence of its manifestation. In Lewis's example of finkish dispositions, we are asked to consider a glass which is fragile at the time of the striking.<sup>18</sup> However, it so happens that a sorcerer decides to preserve its fragility by making sure that whenever it is struck a spell changes the glass in such a manner that, before it is shattered, the glass loses its fragility, thus, interrupting its manifestation. So while the glass is fragile at time  $t$ , it fails to shatter when struck as required by (SCA).

This does not however mean that the conditional analysis of disposition statements is hopeless. As David Lewis observed, the case of finkish dispositions shows that the dispositions of an object are intimately related to its intrinsic properties, namely, its causal basis. The reason why a finkish disposition disrupts the occurrence of a relevant manifestation is that the object loses its intrinsic property or causal basis when it undergoes the stimulus but before the manifestation occurs. So what Lewis suggests is that an adequate analysis of dispositions should require that its causal basis remain intact for sufficient time after it undergoes the stimulus. This suggests the following revision of (SCA).<sup>19</sup>

(RCA)  $x$  is disposed at  $t$  to manifest  $M$  in response to  $s$  iff  $x$  has some intrinsic property  $B$  at  $t$  and for some time  $t'$  after  $t$ , such that were  $x$  to undergo  $s$  at  $t$  and retain  $B$  until  $t'$ ,  $s$  and  $B$  would jointly cause  $x$  to manifest  $M$

<sup>15</sup> Stalnaker (1968).

<sup>16</sup> Lewis (1973).

<sup>17</sup> Martin (1994).

<sup>18</sup> See Lewis (1997).

<sup>19</sup> Ibid.

(RCA) is no longer vulnerable to cases involving finkish dispositions. I shall come back later to the question whether (RCA) is adequate. But, for now, we have enough material to bring the dispositions debate to bear on our question regarding how propositional and doxastic justification are related to one another.

### 3 Propositional and doxastic justification: a dispositional analysis

Consider our first analysis of dispositional predicates, viz., Carnap's (D). (D) is of course a biconditional. So it should trivially entail the following necessary condition on an object having a dispositional property.

(ND)  $x$  has a disposition to manifest  $M$  (in response to  $s$ ) only if ( $x$  is put in stimulus condition  $s \rightarrow x$  manifests  $M$ )

On the other hand, we can rewrite (Basis) as the following conditional whose antecedent refers only to the subject's propositional justification.

(Basis) If  $S$  has propositional justification for  $p$  (on the basis of reasons  $R$ ), then ( $S$  believes that  $p$  on the basis of  $R \rightarrow S$ 's belief that  $p$  is doxastically justified)

It is easy to see that (ND) has exactly the same structure that (Basis) [or (Basis\*)] has. If, as I have suggested, we take propositional justification to be an (epistemic) dispositional property that a subject can have and doxastic justification as its manifestation, then we can view (Basis) as corresponding exactly to the Carnapian analysis of dispositional predicates in terms of material conditionals.

It would be interesting to see if (Basis) is vulnerable to the kind of objections that undermined (D) as an analysis of dispositions. The objection, we may recall, involved an object, say, a piece of paper that was or will never be placed in water, and the question was whether it is soluble. Here, (D) ruled that it is soluble on the ground that its right-hand side is trivially satisfied. What would an analogous objection in the case of (Basis) look like? In the case of epistemic dispositions, the stimulus or test condition is "believing". So we need a proposition that was never and will never be believed. One such proposition might be the following. Consider all propositions ( $q_i$ ) that people have so far believed and form their negations. Next, form the conjunction ( $p$ ) of all those propositions and their negations:  $p = (q_1 \& \sim q_1 \& q_2 \& \sim q_2 \& q_3 \& \sim q_3 \dots)$ . It is quite plausible to think that  $p$  has never been and will never be believed by any human. On the other hand, given its nature,  $p$  is not propositionally justified for anybody. The consequent of (Basis) is, however, trivially satisfied since  $p$  has never been and will never be believed. If (Basis) were a biconditional [like (D)], then this would constitute a clear counterexample to it.<sup>20</sup> But (Basis) [like (ND)] is a conditional. So all we can conclude is that it is consistent with  $p$  having propositional justification. But this is still damaging to (Basis).  $p$  is clearly not propositionally justified for anybody. No set of reasons will be able to make  $p$  likely true. And so we may conclude that any theory of

<sup>20</sup> Kvanvig and Menzel (1990, p. 239) construe (Basis) in terms of a biconditional.

propositional justification (like (Basis)) that fails to rule out  $p$  as being propositionally justified is obviously inadequate.

Compared to Turri's objection to (Basis) this is quite an improvement for, as we saw, (Basis) could easily absorb that kind of objection by incorporating a 'proper basing' qualification in its formulation [as in (Basis\*)]. Turri's reason for abandoning (Basis) for (PJ) was that "we must keep in mind that any account of the relationship [between propositional and doxastic justification] will be sorely lacking if it neglects the crucial role of the proper, competent use of reasons".<sup>21</sup> But if, as just noted, (Basis) could easily accommodate this concern, Turri would lose his only motivation to move to (PJ). On the other hand, if the objection just raised against (Basis) [which is equally applicable to (Basis\*)] is sound, we need to abandon it in favor of a better understanding of how propositional and doxastic justification are related to one another. Again, we find clues in the dispositions debate.

A glaring difference between (Basis) and (PJ) is that while the former is couched in terms of material conditional, the latter is formulated in terms of counterfactual or subjunctive conditional. Turri never explains why he makes the shift from material conditional to counterfactual conditional. By contrast, in the dispositions debate, the rationale for moving from Carnap's material-conditional analysis (D) to the counterfactual analysis (SCA) is quite apparent. As noted earlier, philosophers had both realized the relevance of the causal basis (or intrinsic properties) of dispositions as well as the need for a conditional stronger than material conditional in giving a proper analysis of dispositional sentences. (SCA) was supposed to accommodate those concerns.

Again, it would be interesting to see what an analogue of (SCA), in the corresponding epistemology debate, would look like. Let us call it (SPJ).

(SPJ)  $S$  has propositional justification for  $p$  at  $t$  only if (were  $S$  to believe  $p$  at  $t$ ,  $S$ 's belief that  $p$  would be doxastically justified)

As we saw, however, the so-called finkish dispositions caused serious problems for (SCA). This was because dispositions take time to manifest themselves and this allows that in some cases the stimuli result in the removal of the dispositions. In such cases, when the object undergoes the stimulus  $s$ , the disposition disappears and so the expected response (manifestation) fails to arise. We saw that Lewis tried to fix the problem by highlighting the role of intrinsic properties (causal basis) and requiring that those properties persist for sufficient time, thus, (RCA).

Again, let us ask if finkish dispositions can have analogues in the epistemology debate. Cases involving finkish dispositions are those in which dispositions are removed by tampering with the causal bases (or intrinsic properties). A straightforward way to achieve a similar result in the case of epistemic dispositions ("propositional justification") is to introduce undercutter defeaters into the relevant scenarios. Suppose I have propositional justification for a proposition  $p$  (on the basis of reasons  $R$ ) and come to believe  $p$  at  $t$  on the basis of  $R$ . My belief  $p$  is thus doxastically justified at  $t$ . At a later time  $t'$ , however, I acquire an undercutter

<sup>21</sup> Turri (2010, p. 319).

defeater  $d$  which undermines my doxastic justification (viz., the manifestation of my propositional justification). But this does not constitute a proper analogue of finkish dispositions because the manifestation (“doxastic justification”) has already obtained at  $t$ . Moreover, at  $t'$ , I also lack propositional justification since  $(R + d)$  no longer supports  $p$  then.

What we really need are cases in which when the subject undergoes the stimulus (believes a proposition), this belief would remove the dispositional property (propositional justification), thus, preventing its manifestation, namely, the subject’s doxastically justified belief. The nearest that we can get to such cases is by looking at certain propositions whose believing them is somehow self-defeating. Following Kvanvig, Turri gives one such example (though in connection with a completely different concern). Suppose, learning about physics, I can reflectively come to know that I have considered only the equation  $F = ma$ . Intuitively, this piece of knowledge provides propositional justification for  $p$ : I have never considered the proposition that  $F = m/a$ . However, once I try to believe  $p$ , this would provide reason for disbelieving it, thus, undermining (SPJ). But Turri disputes such an argument on the ground that it ignores the tense in  $p$  for  $p$  only says that ‘I have never before considered the proposition that  $F = m/a$ ’. But, even if there were no ambiguity regarding tense, such an example would not undermine (SPJ). This is because, unlike physical dispositions which take time to manifest themselves under appropriate stimulus conditions, epistemic dispositions, like having propositional justification, do not behave as such.

Suppose I have propositional justification to believe a proposition at  $t$  but that when I form the belief in question at  $t$ , my belief will be doxastically justified at  $t$  and not at any later time. So, going back to the physics example, although believing the proposition  $p$  at  $t$  happens to provide me with reason to disbelieve  $p$ , thus, preventing me from having a doxastically justified belief, this would also undermine my propositional justification at  $t$ . So such cases would not pose a threat to (SPJ). Things are different in the case of physical dispositions. An object  $x$  might have a disposition at  $t$  in virtue of its causal basis. When it undergoes an appropriate stimulus at  $t$ , its manifestation occurs at  $t + \delta$ . This makes it possible to manipulate the causal basis in the  $\delta$  interval, thereby, disrupting the expected manifestation. Not so in the case of epistemic dispositional properties such as having propositional justification.<sup>22</sup> So (SPJ) is not vulnerable to an analogue of finkish dispositions problem that threatened (SCA).

But finkish dispositions were not the only concern for (SCA). Lewis’s observation regarding the role of intrinsic properties (or causal bases) in an adequate analysis of disposition statements, which led him to his (RCA), was also crucial. In the case of epistemic dispositions reasons (evidence<sup>23</sup>) play the role of those intrinsic properties or causal bases. For just as the dispositional properties of

<sup>22</sup> Another example, involving self-referential sentences, has been given by Silva (2015). But Silva’s case does not really correspond to the case of finkish dispositions. For in the latter case, the stimuli are required to occur whereas in Silva’s example the stimulus (believing) does not obtain. The subject ends up suspending belief.

<sup>23</sup> More accurately, “evidence plus something about the basis of how the subject will form her belief using that evidence”.

an object obtain in virtue of its intrinsic properties, a subject's propositional justification for a proposition  $p$  also obtains in virtue of the reasons (causal basis) that he has at his disposal. Indeed, it is widely agreed that an adequate analysis of the basing relation must involve a causal component. This suggests that to arrive at an adequate account of how propositional and doxastic justification are related along the lines of (SPJ), we could either follow Lewis's insight and enrich (SPJ) with a clause referring to the subject's reasons, or with the threat of finkish-like objections in the epistemology case receding, construct an epistemic analogue of a version of Lewis's (RCA) in which any references to time gap are deleted. Either way, we will arrive at the following.

(SPJ\*) S has propositional justification for  $p$  at  $t$  only if S has adequate reasons R at  $t$  such that were S to believe  $p$  at  $t$  (properly) on the basis of R, S's belief that  $p$  would be doxastically justified

But (SPJ\*) is precisely what we earlier argued to be the improved version of Turri's (PJ), namely, (NPJ\*). So it seems that our de tour through the dispositions debate has provided us with an independent vindication of (NPJ\*).

Are we then to conclude that (NPJ\*) adequately captures the relationship between propositional and doxastic justification? To answer this question, it is best to look to the dispositions debate again for clues for how it might be possible to cast doubt on (NPJ\*). Indeed, I think the dispositions debate can provide us with appropriate insights to do just that. To see how, let us consider (NPJ\*)'s counterpart in the dispositions debate, namely Lewis's (RCA), and, checking up on its fate, see if similar considerations can be made about (NPJ\*).

When Lewis proposed (RCA), two further objections were leveled against it. While cases involving finkish dispositions involved changing the intrinsic properties of the objects and, thus, removing their dispositions, the new objections sought to make the point that, even if the dispositions remain in place, their presence plus the stimuli may still fail to bring about the expected manifestations because environmental conditions may be far from ideal. The thought is that if such conditions are tampered with the expected manifestations may fail to occur. This allows us to conceive of new cases in which attempts are made to interfere with the stimuli, thus, disrupting the causal processes that yield the manifestations. These interferences are known as 'masks' or 'antidotes'. What masks do is to protect the object that has a particular disposition.<sup>24</sup> The protection ensures that the disposition does not result in its manifestation when the object undergoes the relevant stimulus.

Another way of protecting the object is by means of antidotes to the stimuli. Alexander Bird illustrates this possibility by means of the following example.<sup>25</sup> Consider a fragile glass which has the disposition to break when struck. Suppose the glass is struck at time  $t$  as a result of which it would break at a later time  $t'$ . We can block the process that would otherwise lead from the striking the glass to its breaking by finding an antidote to striking. Suppose striking the glass results in its

<sup>24</sup> Johnston (1992).

<sup>25</sup> Bird (1998).

breaking by producing shockwaves in the glass. Consider now a sorcerer who, being keen to protect the class, produces shockwaves to cancel out the shock of the original striking just before time  $t'$ , thus, preventing the glass from destruction. Under these conditions, the glass's disposition and its causal basis remain intact throughout the process. The object undergoes the appropriate stimulus but fails to yield the expected response. According to Bird, cases involving antidotes provide counterexamples to Lewis's analysis (RCA) for while its analysandum is satisfied its analysans is not.

Now, let us return to our epistemology discussion and see if we can also raise an antidotes-style objection against (NPJ\*). Presumably, what we need to do, in the case of (NPJ\*), is to find a way of counteracting the effect of the relevant stimulus in this case, namely, "believing". This has to be done in such a way as to leave both the dispositional property (having propositional justification) and its causal basis (reasons R) intact. The problem, however, is, once again, the absence of time gap in the case of epistemic dispositions. For physical dispositions the time gap between the time of receiving the stimulus and giving the response allows for appropriate measures to be taken to counteract the effect of the stimulus. This is not the case in the case of epistemic dispositions where believing a propositionally justified proposition at  $t$  results in a doxastically justified belief at  $t$ . The trick is to have an appropriate antidote in place before the subject forms his belief  $p$  at  $t$ . But this must be done in such a way as not to let the antidote interfere with the subject's having propositional justification at  $t$ . To see what sort of antidotes might be fit for the job, we need to look at Jim Pryor's work on what, he calls, 'rational commitments'.<sup>26</sup>

Following Broome<sup>27</sup> and Dancy,<sup>28</sup> Pryor introduces the notion of rational commitment and contrasts it with what one has justification to believe. Rational commitment is a hypothetical relation between one's beliefs. Suppose you believe that Johnny can fly. Then, regardless of whether or not you have justification for that belief, the belief rationally commits you to the belief that someone can fly—even if you happen to have plenty of justification against this latter belief. The idea then is that if you believe that  $p$  but refrain from what believing  $p$  commits you to believe, you have displayed a rational failing. But how are we to determine what are the rational commitments of a belief? Pryor proposes to understand the rational commitments of a belief  $p$  in terms of the epistemic effects of having propositional justification for that belief: "Consider what would be the epistemic effects of [one's] *having (decisive) justification* for that belief... If one of the effects is that the subject has decisive justification to believe  $q$ , then his belief in  $p$  counts as rationally committing him to the belief in  $q$ —regardless of whether he *really does* have any justification to believe  $p$ ".<sup>29</sup>

The next step is to introduce the following normative relations by considering a variety of the epistemic effects of holding a belief that  $p$ . Thus, we may say, the

<sup>26</sup> Pryor (2004).

<sup>27</sup> Broome (1999).

<sup>28</sup> Dancy (2000).

<sup>29</sup> Pryor (2004, p. 364).

subject's belief in  $p$  'rationally supports' certain beliefs just in case justification for  $p$  bestows credibility on those beliefs. It will 'rationally oppose' those beliefs if justification for  $p$  undermines them. Finally, we can say that a subject's belief in  $p$  'rationally obstructs' him from believing  $q$  on certain grounds, when justification for  $p$  would undermine the justification that those grounds provide for  $q$ . This apparatus is then put at the service of investigating the possible epistemic effects of our doubts on the rest of our beliefs. By 'doubts' we mean those beliefs of ours for which we have no evidence or justification as when someone believes or suspects without evidence that, for example, there is no external world or that the table he is looking at is lit by red light. The crucial question is what the effects of such doubts for our other beliefs are.

Let us say that the belief  $p$  is 'rational' when none of our other beliefs or doubts rationally opposes or rationally obstructs us from believing  $p$ . Accordingly, a subject can have justification to believe  $p$  but his (unjustified) doubts prevent him from believing  $p$  on the basis of that justification. Consider again the case where one has an unjustified belief (though one does not realize it) that one's color vision is defective. How would this affect the propositional justification that one has for believing that the table is red? According to Pryor, since one does not have justification to doubt one's color vision, this does not affect the propositional justification that one gets from one's color experience. But it does affect one's doxastic justification if one were to believe that the table is red by relying on one's color experience: "unjustified beliefs and doubts may have no undermining effect on what propositions you have justification to believe; but for your beliefs to be well-founded, it is *not enough* that they be beliefs in propositions you have justification to believe. They also have to be *based on* that justification, and they have to be *rational* beliefs... Those doubts will render your belief in  $p$  *irrational* even if they do not affect your justification *to* believe it. And if your belief in  $p$  is irrational, then it cannot be a justified or well-founded belief".<sup>30</sup>

It seems to me that unjustified beliefs or doubts, as described above, are perfectly fit to play the role of epistemic antidotes for the purposes we have in mind. So suppose a subject (S) doubts (without justification) that his color vision is working improperly. He then looks at the table before him and acquires an experience as of seeing a red table (R). R provides him with propositional justification for the proposition  $p$  that "there is a red table before me". This propositional justification is not, as we saw, undermined by his doubt. Suppose, at time  $t$ , he decides to believe that there is a red table before him on the basis of his color experience. He thus forms the belief  $p$  at  $t$  but his doubt counteracts with his belief obstructing the manifestation of his propositional justification for  $p$ . Due to the adverse effect of his doubt, his belief is not doxastically justified. Now, this would seem to constitute a counterexample to (NPJ\*) for, while it is true that S has propositional justification for  $p$  at  $t$  (in virtue of R), it is not true that if he were to believe  $p$  at  $t$ , his belief would be doxastically justified then. The subject's doubt prevents him from having a doxastically justified belief.

<sup>30</sup> Ibid., p. 365. Irrational doubts may not always behave the way described here. But they can surely behave that way in the particular cases that Pryor has in mind and which are also of concern to us here.



In response to this objection, one might suggest revising (NPJ\*) to include a clause designed to exclude such doubts. Bird also considers a similar move in the case of his antidotes objection to Lewis's (RCA).<sup>31</sup> So let us first see how (RCA) be can revised to accommodate antidotes.

(RRCA)  $x$  is disposed at  $t$  to manifest  $M$  in response to  $s$  iff  $x$  has some property  $B$  at  $t$ , and retains  $B$  at  $t'$  such that were  $x$  to undergo stimulus  $s$  at  $t$  and retain  $B$  until  $t'$ , *and nothing extrinsic to  $x$  and  $S$  were to act to prevent  $s$  and  $B$  causing  $M$* ,  $s$  and  $B$  would jointly cause  $x$  to manifest  $M$

Likewise (NPJ\*) can be revised along the following lines.

(RNPJ\*)  $S$  has propositional justification at  $t$  only if  $S$  has reasons  $R$  such that were  $S$  to believe  $p$  (properly) on the basis of  $R$  *and no beliefs or doubts were present to rationally obstruct or oppose  $S$  from believing  $p$* , then  $S$ 's belief would be doxastically justified

In the case of physical dispositions, the revised version of (RCA) has been criticized for being, among other things, question-begging. It has been pointed out that the notion of "prevention" is itself dispositional.<sup>32</sup> I think a similar problem arises for the revision of (NPJ\*). Indeed, even if there may be some lingering doubts as to whether "prevention" is dispositional, there is no doubt that the notion of "rationally obstructs" is dispositional in that it was initially understood and defined in terms of propositional justification. Recall how Pryor described the rational commitments of a subject's belief in  $p$ . To identify such commitments, we were supposed to consider what would be the epistemic effects of one's *having justification* for that belief. If it turns out that one such effect was to have justification to believe  $q$ , then the subject's belief in  $p$  rationally commits him to believe  $q$ . So the revised version of (NPJ\*) is question-begging in so far as it is intended as an explication of propositional justification in terms of doxastic justification.

To conclude, it was argued that the best way to understand how propositional and doxastic justification relate to one another is by seeing them in terms of an (epistemic) dispositional property and its manifestation respectively. We have seen that, thus understood, both the extant theories describing how the two notions are related as well as the order of their appearance in the justification debate turn out to correspond closely to the way and manner in which theories about the semantic analysis of dispositional sentences have been introduced in the dispositions debate. In view of the bleak fate of finding an adequate analysis of dispositional sentences, we arrived, not surprisingly, at the conclusion that attempted articulations of how propositional and doxastic justification are related seem to share the same fate.

Turri, we may recall, claimed that (PJ) reverses the direction of explanation of doxastic justification in terms of propositional justification [as advertised by (Basis)]. But, as we saw, (Basis) can also be written the following form.

<sup>31</sup> Bird (1998).

<sup>32</sup> Martin and Heil (1998).

(Basis) If S has propositional justification for p (on the basis of reasons R), then (S believes that p on the basis of R  $\rightarrow$  S's belief that p is doxastically justified)

Here we may view (Basis) as articulating propositional justification in terms of doxastic justification (the consequent of the conditional now describes a necessary condition for having propositional justification. We can even stipulate that this necessary condition is also a dependence condition in that propositional justification depends upon the satisfaction of the consequent). So perhaps it is not so important what is explained in terms of what as long there is an adequate way of describing how the two species of justification are related to one another.

We have seen, however, that the prospect for finding such an account is rather gloomy. We have looked at various proposals for relating propositional and doxastic justification by conditional claims of increasing complexity (first the material conditional, then the simple counterfactual conditional, then a counterfactual conditional further elements, such as keeping the causal basis fixed, etc.). These all had the form:

(J) If S is propositionally justified for p then [S believes p **conditional relation to** S has doxastic justification for p]

We noted however that for each of the different, increasingly complex conditionals in place of '**conditional relation to**' we found counterexamples. So for no conditional is (J) correct. We also noticed that these counterexamples were exact counterparts of counterexamples to the following.

(C) If x is disposed to be M when s then [x is s **conditional relation to** x is M] for the same replacements for '**conditional relation to**'. The best diagnosis of this coincidence is that 'S is propositionally justified for p' cannot be analyzed in terms of any kind of conditional, for the same but more general reason that 'x is disposed to be N when s' cannot be. That is to say, the best diagnosis is that 'S is propositionally justified for p' is itself a dispositional concept, and that the correct analysis of the latter is:

(J\*) If S is propositionally justified for p then S is disposed to believe p with doxastic justification in response to believing that p

It might be thought that (J\*) is vulnerable to the same counterexamples we have discussed. But that would be the case only if one assumes some version of (C). Put another way, (J) is a consequence of (C) and (J\*). (J) is false because (C) is false not because (J\*) is false.<sup>33</sup>

I wish to end this discussion by setting forth a *highly tentative* conjecture regarding the priority of doxastic justification over propositional justification. My suggestion is based on and exploits Davidson's theory of radical interpretation according to which belief ascription is constrained by certain constitutive principles. Very roughly, the idea is that just as the meaning of theoretical terms of a theory is given by what the theory says about them, the nature of attitudes like "belief" and

<sup>33</sup> Thanks to Alexander Bird for help with this conclusion.

“desire” is also revealed by our everyday theory of folk psychology. This theory, on Davidson’s account of intentional content, is founded on the so-called principle of charity that is an essential ingredient of Davidson’s project of radical interpretation according to which an adequate semantic theory for a language is a Tarski-style truth theory that needs to be confirmed for particular speakers on the basis of their behavior.

Davidson takes the evidence for the semantic theory to consist in the conditions under which speakers hold sentences true. But the holding of a sentence to be true by a speaker is a function of two things: what she means by that sentence as well as what she believes. To know either of these, however, requires knowing the other. We can break into the closed circle of belief and meaning by “by holding belief constant as far as possible while solving for meaning”.<sup>34</sup> Here is where the principle of charity comes in. The interpreter has to assume that the speaker perceives his environment roughly as she does. To uncover the speaker’s beliefs, the interpreter first projects herself into his shoes to find out what beliefs she would rationally hold under those (evidential) circumstances. Since she can unproblematically access the contents of her own beliefs, she concludes that those are the beliefs that the speaker *ought* to hold.

For example, suppose the interpreter notes that a speaker holds true ‘it is raining’ in their vicinity. She can take this as evidence that the sentence means “it is raining” on the ground that she does or would rationally believe that it is raining under the said condition, and that, by the principle of charity, this is what the speaker ought to believe as well. Now, I take it that when the interpreter is trying to find out what belief she would *rationally hold* when, say, there is a downpour, we are talking about her doxastically justified (rational) belief. On the other hand, when she is prompted by the principle of charity to conclude that this is what the speaker *ought* to believe under the same circumstances, we are primarily concerned with propositional justification (rationality)—for even if the speaker had asserted ‘it’s raining’ on the ground that the tea leaves had told him so, this would still be the belief that, by the charity principle, he *ought* to hold. In any case, it is by discovering her rational response (doxastically justified belief) in response to their shared evidential environment that the interpreter proceeds to identify what proposition is rational (propositionally justified) for the speaker to believe.

For our purposes here, we can, however, ignore the interpreter/interpretee distinction for, as Davidson emphasizes, charity begins at home. The interpreter’s beliefs are as much subject to the constraint of charity as are the beliefs of the interpretee. If my epistemic gloss on the process of charitable belief attribution is correct, there is an epistemic sense in which doxastic justification is prior to propositional justification. Whether this has any significant consequences could be a topic for another paper.

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<sup>34</sup> Davidson (1984, p. 137).

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