

# **BRANDOM'S ACCOUNT OF REASONING: NONMONOTONIC, BUT DOES NOT ALLOW ENTITLEMENT RECOVERY**

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**ABSTRACT:** In most everyday instances of reasoning, reasoners can gain, lose, and reacquire entitlement to (or justification for) a possible commitment (or belief) as a result of their consecutively acquiring new commitments. For example, we might initially conclude that 'Tweety can fly' from 'Tweety is a bird,' but later have to reject this conclusion as a result of our coming to learn that Tweety is a penguin. We could, even later, reacquire entitlement to 'Tweety can fly' if we became committed (and presumably entitled) to the claim 'Tweety has a jetpack.' I will call this very common feature of reasoning *entitlement recovery*. In this paper I will argue that the types of inferential relations that are central to Brandom's entire account of language and reasoning make entitlement recovery impossible. I will then briefly attempt to diagnose why this problem arises for Brandom and suggest how his account should be modified so that it will successfully allow entitlement recovery.

## **I. INTRODUCTION**

In many everyday instances of reasoning, reasoners can gain, lose, and reacquire entitlement to (or justification for) a possible commitment (or belief) as a result of their consecutively acquiring new commitments. For example, we might initially conclude that 'Tweety can fly' from 'Tweety is a bird,' but later have to reject this conclusion as a result of our coming to learn that Tweety is a penguin. We could, even later, reacquire entitlement to 'Tweety can fly' if we became committed (and presumably entitled) to the claim 'Tweety has a jetpack.' I will call this very common feature of reasoning *entitlement recovery*. In this paper I will argue that the types of inferential relations that are central to Brandom's entire account of language and reasoning make entitlement recovery impossible. I will then briefly attempt to diagnose why this problem arises for Brandom and suggest how his account should be modified so that it will successfully allow entitlement recovery.

## II. MATERIAL INFERENCE AND REASONING THAT IS NONMONOTONIC AND ALLOWS ENTITLEMENT RECOVERY

Brandom holds an inferentialist theory of language and reasoning. According to his theory, a practice is linguistic and rational if and only if those engaged in it can be interpreted as making inferences. The propositional content of a sentence is its inferential role in what Brandom calls the game of giving and asking for reasons (hereafter referred to as the ‘reasons game’). The sort of inferences that comprise the inferential role of a sentence and determine correct play in the reasons game are what Brandom calls *material* inferences. Good material inferences like the one from ‘Fido is a dog’ to ‘Fido is a mammal’ do not purport to be formally valid and therefore do not need the additional premise ‘IF Fido is a dog THEN Fido is a mammal.’ Conditionals and “if ... then” statements have the function of making explicit these material inferential relations, showing which conclusions materially follow from which sets of premises.<sup>1</sup>

In addition to not needing to be formally valid, material inferences are frequently *nonmonotonic*. Reasoning that is monotonic, like the sort seen in traditional deductive logic, requires that whatever can be inferred from one set of premises can necessarily be inferred from any superset of it. For example, in reasoning modeled purely on classical logic we can infer  $q$  from the set of premises  $(p, p \rightarrow q)$ , and there are no propositions that can be added to this premise set that can make it so that  $q$  can no longer be inferred. Reasoning where this does not hold is nonmonotonic. Brandom writes

material inference is not in general monotonic—even on the theoretical side. It can be in special cases, say, in mathematics and fundamental physics. But it never is in ordinary reasoning and almost never in the special sciences. (Reasoning in clinical medicine, for instance, is resolutely nonmonotonic.) Consider the arguments that are codified in the following conditionals:

1. If I strike this dry, well-made match, then it will light. ( $p \rightarrow q$ )
2. If  $p$  and the match is in a very strong electromagnetic field, then it will *not* light. ( $p \& r \rightarrow \sim q$ )
3. If  $p$  and  $r$  and the match is in a Faraday cage, then it will light. ( $p \& r \& s \rightarrow q$ )
4. If  $p$  and  $r$  and  $s$  and the room is evacuated of oxygen, then it will *not* light. ( $p \& r \& s \& t \rightarrow \sim q$ )

The reasoning we actually engage in always permits the construction of inferential hierarchies with oscillating conclusions like this. (Brandom 2000, 87–88)

It is crucial to see that nonmonotonicity (in its strictest sense) is not the *only* important and interesting feature of the reasoning in Brandom’s match-lighting scenario. The scenario doesn’t just show us that conclusion  $q$  inferentially follows from premise  $p$ , but not from the larger set of premises  $(p, r)$ , which is a violation of monotonicity. It also shows us that  $q$  *will* inferentially follow from a third even larger set of premises  $(p, r, s)$  that contains the two smaller sets. It shows that as

we add new claims to our set of premises we may not be permitted to infer what we could previously infer from the smaller set, AND that as we add even further claims to our new set of premises we may *reacquire* permission to infer what we previously were not permitted to infer. This latter feature is what I am calling *entitlement recovery*.

Clearly, any instances or patterns of reasoning that allow entitlement recovery will also be nonmonotonic, but it is not the case that every instance or pattern of reasoning that is nonmonotonic will also allow entitlement recovery. An account of reasoning would be nonmonotonic if it was able to describe reasoners as appropriately inferring some claim  $p$  from a set of premises  $A$ , but not from its superset  $A'$ . But it is possible that this account of reasoning would not have any means to describe reasoners as appropriately inferring  $p$  from any superset of  $A'$ .

I take it that what Brandom commits himself to in the quotation provided above is more than just the predominance of nonmonotonic reasoning in the strictest sense. He is also committing himself to the predominance of reasoning that allows entitlement recovery. This is made especially apparent in the last sentence in the quotation from Brandom above, "The reasoning we actually engage in always permits the construction of inferential hierarchies with oscillating conclusions like this" (2000, 88). Brandom is surely correct on this, since most good inductive reasoning requires that we be able to continually oscillate between accepting and rejecting some claim as new evidence becomes available to us. If such reasoning were nonmonotonic, but did not allow for entitlement recovery, then we could never become entitled to accept a previously refuted claim as a result of our acquiring new evidence. (More on this in Section III).

Another important feature of entitlement recovery and Brandom's match lighting scenario is that it crucially involves inferential relations that are defeasible. In saying that an inferential relation is *defeasible*, I do not mean that the inferential relation is materially good in some situations, but not in others. What I mean is that the inferential relations can remain good even in contexts where someone may appropriately accept the inferential relation's premises, but not its conclusion. Such inferential relations' premises provide rational support for a conclusion, while allowing that there could at the same time be stronger reasons against the conclusion. If the match is in a strong electromagnetic field (or 'EMF' for short), then someone committed and entitled to 'Match is struck' still has a good, but *defeated*, reason for the claim 'Match Lights.' In this case we would say that the claim 'Match in EMF' is a *defeater* for the defeasible inferential relation leading from the premise 'Match struck' to the conclusion 'Match lights.' I will use the expression '*defeater-maker*' to refer to the inferential relation responsible for making some claim(s) (such as 'Match in EMF') a defeater for another inferential relation (such as the one expressed as *Match Struck*  $\rightarrow$  *Match Lights*).

### III. ENTITLEMENT RECOVERY IS A COMMON FEATURE OF OUR REASONING

No doubt some readers may question whether entitlement recovery is indeed a common or otherwise important phenomenon.<sup>2</sup> Brandom is by no means unique in

recognizing the importance and predominance of nonmonotonic reasoning. Since the late 1970s and early 1980s there has been a tremendous amount of research on nonmonotonic reasoning by many theorists in areas such cognitive science, formal epistemology and artificial intelligence (see, for example, McCarthy 1980; Reiter 1980; Pollock 1987). I will not here defend the importance of defeasible (or nonmonotonic) reasoning more generally. Given the extensive literature, I think that the burden of proof is on those who want to deny its importance. I will, however, briefly argue that entitlement recovery is an important part of defeasible reasoning.

Philosophers unfamiliar with defeasible (or nonmonotonic) reasoning are typically tempted to turn defeasible inference into the *indefeasible* inference that they are more familiar with—typically by requiring reasoners to rule out all the potential defeaters (or insisting that inferences are only good if their premises rule out all potential defeaters). This is one of the key temptations that Brandom is trying to dissuade with the match-lighting scenario. While a reasoner can try to rule out many potential defeating conditions (such as the match's being wet or poorly made) there will always be some other defeaters (such as the match's being in an electromagnetic field) that the reasoner will miss. More importantly, a reasoner cannot even *in principle* rule out all potential defeaters for the inference because whether or not some claim is a defeater for the particular inference will depend upon the presence or absence of other collateral premises (such as the match's being in a Faraday cage), whose own impact on the inference will depend upon the presence or absence of yet further collateral premises (such as the match's not having oxygen) and so on. (Brandom 2000, 87–89)<sup>3</sup>

It is admittedly difficult to come up with examples like the match-lighting scenario, where at each step it looks like the conditionals expressing material inferential relations have been carefully formulated to rule out all the potential defeaters, only to find at the next step that there is some other factor that has not been considered. The difficulty in formulating these sorts of examples might therefore lead us to think that instances of reasoning that allow entitlement recovery are rather uncommon and perhaps not very important. In response to this worry I would like to point out that the defeasible inferential relations involved in entitlement recovery (or defeasible reasoning more generally) can be perfectly good *without giving the impression that their premises have ruled out all the potential defeaters*. Once we drop this requirement we can easily find examples of entitlement recovery throughout our everyday reasoning—where we are quite obviously *not* trying to rule out all possible defeaters. All we need look for are those situations where we (appropriately) change our minds back and forth on some topic as a result of our successively acquiring new information. Here is a simple example:

Suppose I am reasoning about whether or not my wife and I have potatoes (available on hand). Based on my belief that we very recently bought potatoes, I infer that we do have potatoes. However, upon seeing that the potato basket in the garage is empty, I come to doubt that we have potatoes. Shortly after this, my wife tells me that she moved the potatoes to a cooler part of the house (but left the filthy potato basket in the garage). Upon learning this new information, I once again come to believe that we have potatoes in the house.

IF we bought potatoes recently, THEN we have potatoes ( $p \rightarrow q$ )

IF  $p$  and the potato basket is empty THEN we do not have potatoes ( $p \& r \rightarrow \sim q$ )

IF  $p$  and  $r$  and wife says she moved potatoes THEN we have potatoes ( $p \& r \& s \rightarrow q$ )

Different readers might prefer to accept slight variations on these patterns of inference. That is fine. My point is not to defend the material goodness of these specific patterns of inference, but to show that in everyday reasoning (where we expect one another to *not* rule out a good many of the potential defeaters for our inferences) we frequently have rational grounds to accept some claim we previously had rational grounds to deny (or at least *not* accept). I would go so far as to say that someone who could not *rationally* change their mind back and forth in response to their acquiring new beliefs (as we see in this and other examples) could not be a rational person. In Brandom-speak, such a person would not be appropriately sensitive to the socially instituted norms governing correct play in the game of giving and asking for reasons—a practice where we expect people to be receptive to reasons for claims that they were previously rationally obligated to deny (or not accept).

Imagine someone who on a Tuesday acquired good defeasible reasons that rationally obligated her to disavow her belief that it would be sunny on Wednesday (perhaps because of a weather report saying it would rain). Suppose that when Wednesday arrives this person is unable to revise her beliefs in a way that is properly sensitive to the overwhelming evidence that it is in fact sunny (reliable people telling her it is sunny, the very bright sky, etc.). Such a person would clearly be unreasonable in her insisting that it is not sunny on Wednesday. If such a person acted like this generally then they might barely count as rational.<sup>4</sup>

Like the examples just given, the examples of defeasible reasoning that permeate the defeasible reasoning literature are of the everyday sort and do not attempt to secure anything close to the rational certainty (or necessity) that has historically captivated many philosophers; nor are they (typically) supposed to conform to ideals of scientific reasoning (though this does not necessarily mean that scientific reasoning cannot be understood as a form of defeasible reasoning). Consider some of the examples from the literature on nonmonotonic logic:<sup>5</sup>

If Tweety is a bird Then Tweety can fly (Reiter 1980, 82)

If  $x$  is Canadian Then  $x$  speaks English (Delgrande and Schaub 2000, 44)

If Mary's employer is in Vancouver Then Mary lives in Vancouver

If Mary's spouse lives in Toronto Then Mary's lives in Toronto (Reiter 1980, 86)

If  $x$  is a Republican Then  $x$  is not a pacifist

If  $x$  is a Quaker Then  $x$  is a pacifist

Nixon is a Quaker

Nixon is a republican (the popular Nixon diamond example)

If  $x$  is a mammal Then  $x$  cannot fly

If  $x$  is a bat Then  $x$  can fly  
 If  $x$  is a dead creature Then  $x$  cannot fly  
 Dracula is a dead creature  
 Dracula is a bat (Poole 1988, 35)

The following is a particularly good example of entitlement recovery:

Jim and Jane have the following habits:

1. Normally, Jim and Jane go to at most one attraction when they go out in an evening.
2. Jim prefers the theatre to the night club.
3. Jane prefers the night club to the theatre.
4. If Jim invites Jane then he respects her preferences (and vice versa).
5. Normally Jim invites Jane.
6. An exception to 1 is Saturday.
7. An exception to 5 is Jim's birthday, where Jane invites Jim.

If no further information is given we conclude that Jim and Jane will go to the night club. When we learn that Jim has birthday we revise this and conclude that they go to the theatre. However, the day in question is a Saturday. Hence, they should go to both attractions. Finally the news tells that the theatre is closed for work. Thus we again conclude that they go to the night club. (Delgrande and Schaub 2000, 59)

While the expression 'entitlement recovery' does not (so far as I can tell) appear in the defeasible reasoning literature, many theorists in the field are certainly trying to develop systems of logic and models of reasoning that allow it. One of the bigger problems addressed in the field is how to manage conflicting defeasible reasons (See for example Delgrande, Schaub, Tompits, and Wang 2004; Pollock 1995). As the example with Jim and Jane shows, sometimes a defeasible reason for one conclusion can get trumped by another defeasible reason, and this *trumping* defeasible reason can itself become trumped by an even stronger defeasible reason (or as I prefer to put it, *defeating* relations can themselves be *defeated*). When this is possible, entitlement recovery is (*certis paribus*) possible.

It is not the goal of this paper to determine how successfully different accounts of defeasible reasoning manage to accommodate entitlement recovery. I think it is fair to say that some accounts, for example John Pollock's (1987 and 1995), seem to quite easily accommodate entitlement recovery. Other accounts, for example different elaborations on default logic, are probably more or less successful in different circumstances.<sup>6</sup>

#### IV. WHAT IS AT STAKE FOR BRANDOM

The problem of accounting for reasoning that is nonmonotonic and allows entitlement recovery takes a different form for Brandom than it does for most other researchers. Most accounts of nonmonotonic reasoning take propositional and

conceptual content for granted or assume that content can be explained in terms of representation. They also typically assume that one's being able to make good inferences (and hence reason *correctly*) depends upon one's ability to form beliefs in accordance with the right *formal* rules of reasoning.

Brandom, on the other hand, aims to provide a theory of content based on how reasoners unreflectively reason—not by following explicit rules of reasoning, nor by forming beliefs in accordance with the rules of any particular system of formal logic. Material inference, rather than formal inference, takes center stage in Brandom's account. This makes it all the more important for Brandom (in comparison to most other theorists) to be able to give an account of reasoning that is nonmonotonic and allows entitlement recovery. For if Brandom held, as most theorists do, that content is grounded in representation then he could have a theory of content that was largely independent of any account of defeasible reasoning. But this is clearly not the case. Brandom is committed to explaining the contents of sentences in terms of their inferential role in unreflective reasoning practices and therefore he cannot have an account of content without having an adequate account of reasoning that is nonmonotonic and allows entitlement recovery.

Central to Brandom's inferentialist account of language and reasoning are three different types of material inferential relations that sentences and the propositions they express can stand in: commitment-preserving, entitlement-preserving, and incompatibility.<sup>7</sup> By using these three types of inferential relations we are supposed to be able to describe correct play in the game of giving and asking for reasons. They should be able to tell us when we are entitled to make certain moves (paradigmatically assertions) and how making these moves would entitle or obligate us (or our interlocutors) to make various other moves.<sup>8</sup>

While it is well beyond the scope of this paper to fully explain the role that commitment-preserving, entitlement-preserving, and incompatibility relations play in Brandom's broader account of language and reasoning, I will say that it is difficult to overstate how central they are. On Brandom's account, a sentence's propositional content is determined by its different roles as premise or conclusion in these three types of inferential relations. Brandom then uses this account of propositional content to build his theories about sub-sentential content, reference, objectivity, logical vocabulary, communication, and propositional attitude ascription.<sup>9</sup> If there is a problem with the way that Brandom's three types of inferential relations handle reasoning with entitlement recovery (part of our everyday reasoning) then this problem will detrimentally infect almost every aspect of Brandom's account.

Before moving on I want to address a potential confusion. Typically the property of non-monotonicity applies to a single inferential relation  $\vdash$ , such that there is some  $A$  that is a consequence of  $X$  (expressed as  $X \vdash A$ , but which is not a consequence of a larger set of premises that  $X$  is contained in ( $X, Y \not\vdash A$ ). There are (at least) two complications that arise when discussing non-monotonicity and entitlement recovery as they relate to Brandom's account: (1) Brandom's account involves three different inferential relations instead of one; (2) there are two different kinds of things that may be related by these different inferential relations: commitments and/or entitlements.<sup>10</sup>



The most fruitful way to think about non-monotonicity and entitlement-recovery as they relate to Brandom's account is to consider the *overall impact* that the three different inferential relations *jointly* have on score-updating—how, according to these inferential relations, scorekeepers are supposed to add and remove commitments and entitlements in response to their (or their interlocutors') acquiring other commitments and entitlements.<sup>11</sup> The three different types of inferential relations should jointly impact scorekeeping in such a way that they could (1) entitle reasoners to some claim *q* if they became committed and entitled to *p*; (2) dis-entitle reasoners to *q* if they became committed and entitled to *p* & *r*; (3) entitle reasoners to *q* if they became committed and entitled to *p* & *r* & *s*. It would not be a failing of Brandom's account if there were no *particular* type of inferential relation that allowed entitlement recovery, but it would be a failing of Brandom's account if the *overall interaction* of the different types of inferential relations did not allow entitlement recovery.

The critical question therefore becomes, *can we correctly describe the sort of reasoning in the match lighting scenario (which involves entitlement recovery) using only Brandom's three types of inferential relations?* In preparing to argue for a negative answer to this question I will now briefly explain each type of inferential relation and the role that they can play in the match lighting scenario.

## V. BRANDOM'S THREE TYPES OF MATERIAL INFERENTIAL RELATIONS

The first type of inferential relation is *commitment-preserving*. Commitment-preserving relations are primarily employed in deductive reasoning. "Anyone committed to the premises of such inferences is committed thereby to the conclusions" (Brandom 1994, 168). For example, 'Fido is a mammal' is a commitment-preserving consequence of 'Fido is a dog,' in that anyone committed to 'Fido is a dog' is consequentially committed to 'Fido is a mammal,' no matter what else that person happens to be committed to and entitled to.

This type of inferential relation plays no significant role in the match lighting example (or in entitlement recovery in general) because it cannot be defeated and because it cannot be a defeater-maker (given that no other types of material inferential relations have defeating conditions that commitment-preserving relations play a central role in violating).<sup>12</sup>

The next type of inferential relation is *entitlement-preserving*. Anyone who is both committed and entitled to the premises of an entitlement-preserving relation will be consequentially entitled that relation's conclusion—*unless the entitlement-preserving relation is defeated*. Brandom writes:

As will appear, entitlement-preserving inferences are always defeasible; the entitlement one acquires thereby is only *prima facie*. One is not entitled to the conclusion of a good entitlement-preserving inference if one is committed to something incompatible with it. (2008, 102n2; italics in original)

Clearly, entitlement-preserving relations play an important role in the match lighting scenario.<sup>13</sup> They are defeasible because one may only infer their



conclusions from their premises if there are no collateral premises present that provide countervailing evidence against the conclusion. As we shall see, however, the match lighting scenario cannot be plausibly construed as involving *only* entitlement-preserving relations.

One feature of Brandom's conception of entitlement (which will play a significant role in this paper) is that it allows reasoners to be entitled to two incompatible claims at the same time so long as one has not yet undertaken commitment to either of them (Brandom 1994, 675n44). As a result of this, someone's *gaining* entitlement to one claim cannot result in that person's *losing* entitlement to a different claim. Since the conclusions of entitlement-preserving relations consist only of entitlements (rather than commitments) it follows that someone's being committed and entitled to the premises of one entitlement-preserving relation could not result in that person's losing entitlement to the conclusion of another entitlement-preserving relation.

The only way in Brandom's account by which someone can lose entitlement to a claim by acquiring new commitments (new beliefs) is through *incompatibility relations*, the third type of inferential relation.

We can say that two assertible contents are *incompatible* in case *commitment* to one precludes *entitlement* to the other. Thus commitment to the content expressed by the sentence "The swatch is red" rules out entitlement to the commitment that would be undertaken by asserting the sentence "The swatch is green." (Brandom 2000, 194)

Incompatibility relations are the only type of inferential relations in Brandom's account by means of which one claim can be a reason *against* another claim, and by which a claim can provide countervailing evidence against the conclusion of a defeasible inferential relation. Incompatibility relations are therefore the only type of inferential relation that can be *defeater-makers*—inferential relations responsible for claims being defeaters for defeasible inferential relations. As stated in the quotation given above (from Brandom 2008, 120n2), even if one is committed and entitled to the premises of an entitlement-preserving relation, one cannot be entitled to the conclusion of that relation if one is also committed to something incompatible with that conclusion.

Another crucial feature of incompatibility relations is that they, unlike entitlement-preserving relations, cannot be defeated. Brandom writes,

[I]f one set of claims is incompatible with another, so too is any larger set containing it. That is, one cannot remove or repair an incompatibility by throwing in some further claims. I call this the 'persistence' of incompatibility. If the fact that the monochromatic patch is blue is incompatible with its being red, then it is incompatible with its being red and triangular, or its being red and grass being green. (2008, 123)

This "persistence" of incompatibility just is *monotonicity* (in the technical sense). If the conditional  $(p \& r \rightarrow \sim q)$  expresses a good incompatibility relation then it follows that  $(p \& r \& s \rightarrow \sim q)$  also expresses a good incompatibility relation. Therefore, incompatibility relations always trump entitlement-preserving relations—incompatibility relations can make claims defeaters for entitlement-

preserving relations, but entitlement-preserving relations cannot make claims defeaters for incompatibility relations.

## VI. BRANDOM'S THREE TYPES OF INFERENTIAL RELATIONS DO NOT ALLOW ENTITLEMENT RECOVERY

I have just argued that if we are going to understand the match lighting scenario in terms of Brandom's three types of inferential relations then we need to interpret some of the conditionals in the example as expressing entitlement-preserving relations, and others—the defeater-maker ones—to express incompatibility relations. To identify which of the conditionals Brandom takes to express incompatibility relations, and which he takes to express entitlement-preserving relations, we simply need to recall that incompatibility relations are the only type of inferential relation by which someone can lose entitlement to one claim as a result of their being committed to others. This means that we should interpret every conditional having *~Lights* as a consequent as expressing incompatibility relations.<sup>14</sup> By elimination, and by the fact that Brandom (1994, 168–169) uses the inference from 'Match is struck' to 'Match will light' as an example of an entitlement-preserving inference, we should interpret conditionals in the example that do not have negated conclusions as expressing entitlement-preserving relations. As a result, we can quite naturally understand the match-lighting scenario in terms of Brandom's different types of inferential relations in the manner shown below.<sup>15</sup>

A Natural Interpretation of the Match Lighting Scenario in Terms of Brandom's Different Types of Inferential Relations:

Step 1: If I strike this dry, well-made match, then it will light.

$(p \rightarrow q)$  *Entitlement-preserving relation*

Step 2: If  $p$  and the match is in a very strong electromagnetic field, then it will *not* light.

$(p \& r \rightarrow \sim q)$  *Incompatibility relation*

Step 3: If  $p$  and  $r$  and the match is in a Faraday cage, then it will light.

$(p \& r \& s \rightarrow \sim q)$  *Entitlement-preserving relation*

Step 4: If  $p$  and  $r$  and  $s$  and the room is evacuated of oxygen, then it will *not* light.

$(p \& r \& s \& t \rightarrow \sim q)$  *Incompatibility relation*

Brandom's three types of inferential relations *can* be successfully used to describe nonmonotonic reasoning in virtue of how incompatibility relations and entitlement-preserving relations interact. (Step 1) Because of the entitlement-preserving relation expressed by *Match Struck*  $\rightarrow$  *Match Lights*, someone  $S$  who is committed and entitled to the claim 'Match struck' will be consequentially entitled to the claim 'Match lights' but only if she is not committed to anything incompatible with 'Match lights.' (Step 2) Such a person could then lose entitlement to 'Match lights' as soon as she becomes committed to claims (or sets of claims) incompatible

with it, for example the combined claims 'Match Struck' & 'Match in EMF.' Here we see that what S can infer from one set of premises cannot be inferred from a superset of it—a violation of monotonicity. So far, so good for Brandom's three types of inferential relations.

Where Brandom's three types of inferential relations fail is in their not allowing entitlement recovery. At Step 3 S should be able to *reacquire* entitlement to the claim 'the match will light' if she later becomes committed and entitled to the claim 'the match is in a faraday cage.' But the types of inferential relations that Brandom employs do not allow this. The reason is simply that the inference from the premises 'Match struck' & 'Match in EMF' & 'Match in Faraday cage' to the conclusion 'The match will light' is *entitlement-preserving* and therefore S can only infer the conclusion from those premises if she is not also committed to anything incompatible with that conclusion. But because 'Match struck' & 'Match in EMF' are together incompatible with the claim 'Match Lights,' S cannot become entitled to 'Match lights' unless and until she ceases to be committed to claims incompatible with it—no matter what other new commitments and entitlements she might acquire!

The crux of the problem is this:

- (1) Reasoning that allows entitlement recovery must have defeater-makers that can be defeated.
- (2) On Brandom's account the only type of inferential relation that can be defeater-makers is incompatibility relations and these cannot be defeated.

Because our everyday reasoning involves entitlement recovery, and because Brandom's account is built around his three types of inferential relations, it follows that Brandom's account fails as a theory of reasoning and a theory of content inasmuch as it fails to capture the inferences involved in any instance of entitlement recovery.

## VII. ADDRESSING A POSSIBLE OBJECTION

It is admittedly surprising that Brandom's account of language and reasoning would fail to be able to describe his own example of what he rightly takes to be a common part of our everyday reasoning. We might therefore look for other ways that incompatibility relations could be defeated on Brandom's account.

One suggestion is that incompatibility relations could make claims defeaters for other incompatibility relations. We might say, for example, that the claim 'Match in Faraday cage' is incompatible with the incompatibility relation:

(IR3) (*Match struck & Match in EMF*)  $\rightarrow \sim$ *Match lights*

This would mean that the claim 'The match is in a Faraday cage' is not a reason against the claim 'The match will not light,' but a reason against the incompatibility relation that 'Match struck' & 'Match in EMF' jointly stand in with 'Match lights.'<sup>16</sup> This would allow for commitments to act as evidence against there being some inferential relation between certain claims while remaining silent on whether one can be entitled to the claims related.

The problem with this suggestion is that it effectively changes the phenomenon we are trying to capture. The phenomenon does not simply consist of reasoners being able to gain, then lose, and then reacquire entitlement to some claim. Entitlement recovery would not be a very interesting feature of reasoning if it could be explained simply in terms of reasoners changing their minds about the various inferential relations they accept. A large part of what makes the match lighting scenario (as an instance of entitlement recovery) interesting is that reasoners engaged in it can be rationally obligated to change their views about whether the match will in fact light, *without changing their views about what would be good reasons for themselves or others to believe (or not believe) that the match will light*. The inferential relations should be defeasible in the sense that they can remain materially good even in circumstances where someone should accept their premises but not their conclusions (perhaps because of some stronger counter-evidence).

Suppose that we know that the match actually is in a Faraday cage, but our interlocutor S is unaware of this. Also suppose that S is committed and entitled to the claims 'The match is struck' and 'The match is in an EMF.' Presumably, we would not in these circumstances take S to be entitled to the claim 'The match will light.' Why? *Because we continue to take the inferential relation expressed as 'Match struck & Match in EMF'  $\rightarrow$   $\sim$ Match lights' to be materially good and therefore rationally binding on S even though it is defeated for those of us who know that the match is in a Faraday cage.* Even though the inferential relation plays a lesser role in our assessing what we are entitled to (because it is defeated for us), it still plays an important role in our assessing what claims *other* people are entitled to (because it may not be defeated for them). Participants in Brandom's reasons game must not only be competent at updating their own beliefs, they must also be competent at keeping track of (or keeping score on) their interlocutor's commitments and entitlements.

If we treated the claim 'Match in Faraday cage' as incompatible with IR3 then 'Match in Faraday cage' would not be a *defeater* for IR3 but rather a reason for out and out rejecting IR3. Once we reject an inferential relation we would no longer use it to keep track of our interlocutors' or our own commitments and entitlements—making us likely to update score incorrectly. There are indeed situations where we should reject previously accepted inferential relations in response to newly acquired commitments, but this is a different phenomenon from entitlement recovery.

### VIII. DIAGNOSIS OF THE PROBLEM AND STEPS TOWARD A SOLUTION

I argued above that Brandom's three types of inferential relations do not allow entitlement recovery because none of them can be both defeater-makers and defeated. The only type of inferential relation that can be defeated is entitlement-preserving relations; and the only type that can be defeater-makers is incompatibility relations. This raises two questions:

- (1) Why can't incompatibility relations be defeasible?
- (2) Why can't entitlement-preserving relations make claims defeaters?

I think that the answer to question (1) is fairly straightforward. Incompatibility relations are supposed to underlie modal reasoning.<sup>17</sup> Because modal reasoning is supposed to be quite strict (free of exceptions), we expect a degree of certainty with it that would be undermined if incompatibility relations were defeasible.

It is more difficult to give a *good* answer to question (2). As explained above, the main reason why entitlement-preserving relations, on Brandom's account, are unable to be defeater-makers is that reasoners can be entitled to two or more incompatible claims at the same time (so long as the reasoner is not committed to any one of those claims).

This, however, is a wholly unsatisfactory answer unless we are given a successful justification for the assertion that reasoners can be entitled to two or more incompatible claims at the same time. The only justification that Brandom seems to give is that reasoners can have good inductive reasons for two incompatible claims. He writes,

In this way one may be *entitled* to each of two mutually incompatible claims, so long as neither has been endorsed and commitment to it undertaken. So one might have *good inductive reasons* for believing that the barn is on fire (smoke, the particular noises that would usually accompany it, and so on) and a different set of *good inductive reasons* for believing it is not on fire (the alarm has not rung, it is pouring rain, the barn was just inspected, and so on). Either conclusion by itself could be defended. (1994, 657n44; italics added)

In this quotation, Brandom is treating 'S's having a *good reason* for *p*' as consisting of S's being committed and entitled to the premises of an entitlement-preserving relation that has *p* as a conclusion. If  $r \rightarrow p$  and  $s \rightarrow q$  express good entitlement-preserving relations, then someone committed and entitled to *r* and *s* would have *good defeasible reasons* for *p* and *q* even if *p* and *q* are incompatible with one another. This seems plausible enough.

The problem is that Brandom's argument does not show what he wants it to show. Having a *good defeasible reason* for some claim *p* is not the same as being *entitled* to *p*. Recall the quotation above:

As will appear, entitlement-preserving inferences are always defeasible; the entitlement one acquires thereby is only *prima facie*. One is not entitled to the conclusion of a good entitlement-preserving inference if one is committed to something incompatible with it. (Brandom 2008, 102n2; italics in original)

If we stick with Brandom's conception of 'having a good reason' (at least in the text quoted earlier) then it is actually quite common for people to *not be entitled* to claims that they *have good reasons* for.<sup>18</sup> Because entitlement-preserving relations can be defeated by commitments to claims that are incompatible with their conclusion, someone can be committed and entitled to their premises (thereby having good defeasible reasons for their conclusions) without actually being entitled to their conclusions. Even though Brandom's argument shows (successfully I think) that one can have *good defeasible reasons* for two incompatible claims, it does not show that one can be *entitled* to two incompatible claims.<sup>19</sup>

In addition to Brandom's not being able to adequately justify his claim that reasoners can be entitled to two incompatible claims at once, there also seem to

be good prima facie reasons for holding that someone entitled to a claim  $p$  cannot also be entitled to any claims that are incompatible with  $p$ . Suppose that I have, what would be in normal circumstances, sufficient evidence for believing the match will light. Suppose that I also happen to have significantly stronger evidence for believing that the match will remain unlit. It would seem that my evidence in favor of the match remaining unlit would count as evidence against the match lighting. If I have enough evidence to be entitled to the belief ‘the match will remain unlit,’ then I don’t have enough evidence to be entitled to the belief ‘the match will light.’ A case could also be made that if I have roughly equal evidence in favor of the two incompatible claims, then I cannot be entitled to either claim and should remain agnostic about whether the match lights/remains unlit (though I would still have good but defeated reasons for both claims).

What the foregoing discussion reveals is the first significant step towards modifying Brandom’s account of language and reasoning so that it would allow entitlement recovery. In order for an account of reasoning to allow entitlement recovery, it must have inferential relations that can be both defeated and defeater-makers. On Brandom’s original account, entitlement-preserving relations can be defeated, but cannot be defeater-makers. However, if we revise Brandom’s account so that reasoners can no longer be entitled to two incompatible claims, then we begin to provide a means by which entitlement-preserving relations can be defeater-makers for other entitlement-preserving relations—by which the premises set of one entitlement-preserving relation can be a defeater for another entitlement-preserving relation. We could, for example, begin to reconstruct the match-lighting scenario as follows:

- 1: The match will light if and only if it is not the case that the match remains unlit.  
 $q \leftrightarrow \sim u$  *Incompatibility relation*<sup>20</sup>
- 2: If I strike this dry, well-made match, then it will light.  
 $p \rightarrow q$  *Entitlement-preserving relation*
- 3: If  $p$  and the match is in a very strong electromagnetic field, then it will *not* light.  
 $(p \& r) \rightarrow u$  *Entitlement-preserving relation*
- 4: If  $p$  and  $r$  and the match is in a Faraday cage, then it will light.  
 $(p \& r \& s) \rightarrow q$  *Entitlement-preserving relation*
- 5: If  $p$  and  $r$  and  $s$  and the room is evacuated of oxygen, then it will *not* light.  
 $(p \& r \& s \& t) \rightarrow u$  *Entitlement-preserving relation*

Because ‘the match will light’ and ‘the match will remain unlit’ are incompatible, some of the entitlement-preserving relations that have ‘the match will light’ as a conclusion could be defeater-makers for other entitlement-preserving relations that have ‘the match will remain unlit’ as a conclusion.

However, while the suggested modification to Brandom's account would make it so that entitlement-preserving relations can compete with one another, it would not yet tell us when the premises of one entitlement-preserving relation provide a stronger reason for a claim than the premises of a competing entitlement-preserving relation—when one entitlement-preserving relation is a defeater-maker for another entitlement-preserving relation but not vice versa. In situations where a reasoner is committed and entitled to the premises of several competing entitlement-preserving relations, we need a way of determining which, if any, of these inferential relations would remain undefeated (and hence which conclusions the reasoner would become entitled to).

Suppose that  $p \rightarrow q$  and  $r \rightarrow s$  are materially good entitlement-preserving relations, and that they are competing with one another in virtue of  $q$  being incompatible with  $s$ . When would  $p$  be a much stronger reason for  $q$  than  $r$  is a reason against  $q$ ? The answer is surprisingly simple: Even when having  $r$  as a co-premise,  $p$  would remain a defeasible reason for  $q$ . That is,  $p$  is a (sufficiently) stronger defeasible reason for  $q$  than  $r$  is a defeasible reason against  $q$  if and only if  $(p \& r) \rightarrow q$  expresses a materially good entitlement-preserving relation.<sup>21</sup> There is nothing about the entitlement-preserving relations expressed by  $p \rightarrow q$  and  $r \rightarrow s$  that tells us which of them is the stronger reason, so we let  $p$  defeat  $r \rightarrow s$  and let  $r$  defeat  $p \rightarrow q$ . However,  $r$  cannot be a defeater for  $(p \& r) \rightarrow q$  because this entitlement-preserving relation already takes into account  $r$ 's contribution to the overall evidence for and against  $q$ . Furthermore, because one's having sufficient evidence for  $q$  requires that one not have sufficient evidence for something incompatible with  $q$ , it cannot be the case that  $(p \& r) \rightarrow q$  and  $(p \& r) \rightarrow s$  both express materially good entitlement-preserving relations. Drawing from this, I will now propose general conditions for when the premise set of one entitlement-preserving relation will be a defeater for another entitlement-preserving relation.

(Assuming that  $IRx$  and  $IRy$  are two different entitlement-preserving relations)

$IRx$ 's premise set is a defeater for  $IRy$  IF AND ONLY IF

$IRx$ 's conclusion is incompatible with  $IRy$ 's conclusion

AND

$IRy$ 's premise set is not a superset of  $IRx$ 's premise set.

The first modification that I argued we should make to Brandom's account is that it should not allow reasoners to be entitled to two incompatible claims at once, thus allowing two different entitlement-preserving relations to compete with one another if their conclusions are incompatible with one another. The second modification that I suggested is that one entitlement-preserving relation can be a defeater-maker for another competing entitlement-preserving relation only if the second relation's premise set is not a super set of the first relation's premise set.

When an inferential relation is defeated on this account, it will still continue to function as a defeater-maker. That is, the premises of a defeated inferential relation can undermine entitlement to the conclusions of other defeasible inferential relations even without successfully establishing entitlement to the conclusions of the inferential relations that they are premises for. This yields two benefits. The first is



that it allows two competing inferential relations to defeat one another if neither of those inferential relation's premise sets are super sets of each other.<sup>22</sup> For example, the following two entitlement-preserving relations should defeat one another:

*Today is the last Saturday before Christmas* → *The mall will be busy today*

*There is a blizzard today* → *The mall will be quiet today*

If one reason is stronger than the other then it will be in virtue of another entitlement preserving relation, e.g.:

*(Today is the last Saturday before Christmas & There is a blizzard today)* → *The mall will be quiet today*

The second benefit of having defeated inferential relations continue to be defeater-makers is that it allows scorekeepers to continue using inferential relations that are defeated for themselves to function as defeater-makers for their interlocutors (who may not be themselves committed to whatever claims defeated the inferential relation).<sup>23</sup>

With these modifications, Brandom's account should now be able to allow entitlement recovery. To demonstrate this I will apply the modified account to Brandom's own match lighting scenario. Let us suppose that 'Match lights' is incompatible with 'Match remains unlit' and that the following three conditionals express materially good entitlement-preserving relations.

(IR4) *Match struck* → *Match lights*

(IR5) *(Match struck & Match in EMF)* → *Match remains unlit*

(IR6) *(Match struck & Match in EMF & Match in Faraday Cage)* → *Match lights*

Let us suppose that some reasoner S starts off committed and entitled to 'Match struck' (but is not committed to 'Match in EMF' or 'Match in Faraday cage'). Assuming that (IR4) is not defeated for S by any of S's other commitments, it would follow that S is entitled to 'Match lights,' but not entitled to 'Match remains unlit.'

Next, let us suppose that S becomes newly committed and entitled to 'Match in EMF' (how she becomes committed and entitled to this premise doesn't presently matter). S now has defeasible reasons for both 'Match lights' and 'Match remains unlit,' but she cannot be entitled to both claims because they are incompatible with one another. Because they are incompatible and (IR5)'s premise set is a super set of (IR4)'s premise set, it follows that (IR5) is a defeater-maker for (IR4), and (IR4) is not a defeater-maker for (IR5). Therefore, the consequence of S's coming to be committed and entitled to 'Match in EMF' is S's losing her prior entitlement to 'Match lights' and gaining entitlement to 'Match remains unlit.'

Because S can lose entitlement to a claim as a result of acquiring additional commitments, we see that the suggested revisions to Brandom's account still allow for reasoning to be nonmonotonic. To show that the revisions also allow entitlement recovery it must allow S to *reacquire* her entitlement to 'Match lights' by acquiring further commitments and entitlements (and without changing the set of inferential relations involved). It was here that Brandom's original account failed.

Continuing the example, let us now suppose that S becomes committed and entitled to 'Match in Faraday cage.' As a result of this S is committed and entitled to all the premises of (IR6). Because (IR6) and (IR5) have incompatible conclusions and because (IR6)'s premise set is a superset of (IR5)'s premise set, it follows that (IR5) is defeated for S, while (IR6) remains undefeated. S therefore loses her entitlement to 'Match remains unlit' but reacquires entitlement to 'Match Lights.' This is exactly how reasoning in the match-lighting scenario should proceed, showing that the modified version of Brandom's account would succeed in allowing entitlement recovery.<sup>24</sup>

### IX. DOES ENTITLEMENT RECOVERY REQUIRE THAT REASONING BE SKEPTICAL (RATHER THAN CREDULOUS)?

I have argued that in order for an account of reasoning to allow entitlement recovery it must have inferential relations that can be both defeated and be defeater-makers. In order to make it so that entitlement-preserving relations could be defeater-makers for other entitlement-preserving relations, they need to be able to compete with one another and therefore we needed to modify Brandom's account so that it no longer allowed reasoners to be entitled to two or more incompatible claims at once.

This raises an interesting question; must *any* account of reasoning that allows entitlement recovery prohibit reasoners from being entitled to two incompatible claims at once? Admittedly, most accounts of reasoning do not have reasoners updating a set of *entitlements* in addition to a set of beliefs (or commitments). To get past this difficulty, we can think of the set of claims that a reasoner is *entitled* to undertake commitment to in terms of the different sets of claims that the reasoner is *permitted to add* to her present set of beliefs—which would result in her having various different new sets of beliefs. We can then understand incompatibility as logical inconsistency. The above question can now be usefully reframed by appealing to a commonly recognized distinction in the defeasible reasoning literature between credulous and skeptical reasoning: *does entitlement recovery require reasoning to be skeptical (rather than credulous)?*

John Pollock characterizes the distinction as follows, "Roughly, skeptical reasoners withhold belief when they have equally good reasons for and against a conclusion, and credulous reasoners choose a conclusion at random" (Pollock 1995, 62–65). In Brandom-speak, skeptical reasoners are not entitled to undertake commitment to conclusions that they have equally good reasons both for and against, and credulous reasoners are entitled to choose to undertake commitment to either conclusion (perhaps at random).

While one of the most *noticeable* differences between skeptical and credulous reasoning is in how they each handle cases where reasoners have equally good reasons for conflicting claims, this is only a superficial difference. What distinguishes skeptical reasoning from credulous reasoning is that skeptical, but not credulous, reasoning allows for premises to act as defeasible reasons *against* certain conclusions.

By not allowing reasoners to accept logical inconsistencies, both skeptical and credulous reasoning allows for premises to act as *indefeasible* reasons *against*

certain conclusions. Believing  $\sim p$  is a reason for *not believing*  $p$ , and should one find oneself with a logical inconsistency in one's set of beliefs then one has a rational obligation to rectify it by disavowing one or some of the beliefs responsible for the inconsistency. If a set of claims  $A$  is logically inconsistent with some claim  $p$  then someone who holds beliefs in the members of  $A$  has an *indefeasible* reason for *not believing*  $p$ . (Again this largely corresponds to Brandom's incompatibility relations, which are likewise indefeasible.)

The underlying issue that distinguishes credulous reasoning from skeptical reasoning is whether or not rational agents can have *defeasible* reasons that can rationally obligate them to *withhold* (or disavow) belief in particular claims. Can someone's believing a certain set of claims  $A$  rationally obligate her to refrain from believing some claim  $p$  even if  $p$  is not logically inconsistent (or incompatible) with  $A$ ? If reasoning is credulous then the answer is no. If reasoning is skeptical then the answer is yes.

In credulous reasoning one can have defeasible reasons that can rationally *permit* one to adopt some *new* belief, but one cannot have defeasible reasons that rationally obligate someone to *disavow* some already held belief (or obligate them to refrain from accepting some new belief). One's having a defeasible reason *for*  $\sim p$  would not constitute one's having a defeasible reason *against*  $p$ . This explains why credulous reasoners are permitted to accept (perhaps randomly) either  $p$  or  $\sim p$  if they have equally good defeasible reasons for them (though the consistency requirement prevents them from choosing to accept both  $p$  and  $\sim p$ ). A corresponding explanation can be given for why reasoners in Brandom's account can be entitled to two or more incompatible claims at once: a reasoner's having a defeasible reason for some claim does not constitute her having a defeasible reason against anything incompatible with that claim.

The reason why skeptical reasoning requires that someone withhold belief when they have equally good defeasible reasons for and against some conclusion is simply that it, unlike credulous reasoning, recognizes that our defeasible reasons *for* some conclusions are at the same time reasons *against* other conclusions. If someone has just as good defeasible reasons for  $p$  as she does for  $\sim p$ , then that person also has equally good defeasible reasons *against*  $p$  as she does *against*  $\sim p$ . To say that such a person can choose (perhaps at random) to accept either  $p$  or  $\sim p$  is to simply ignore the fact that this person has rational obligations to *refrain* from believing either  $p$  or  $\sim p$ .

A proponent of credulous reasoning might be tempted to downplay the importance of reasoners being able to have defeasible reasons *against* certain claims, or even deny that such reasons can give rise to rational obligations to withhold (or disavow) beliefs. The problem with this, as I have argued above, is that entitlement recovery requires that there can be defeater-maker inferential relations that are themselves defeasible. This means that some of the reasons that we can have against certain conclusions must be defeasible (and therefore cannot simply depend upon obligations to maintain a logically consistent set of beliefs). As we saw in the match-lighting scenario, it must be possible for someone to have a rational obligation to disavow their belief that the struck match will light (upon their learning that the match is in a strong electromagnetic field). But if the rational obligation

to disavow the belief can only be based on an *indefeasible* reason, it will not be rationally permissible for the reasoner to once again believe that the match will light (should the person come to learn that the match is in a Faraday cage). This was exactly the problem that Brandom's account faced.

Entitlement recovery requires that reasoning be skeptical rather than credulous because entitlement recovery requires that there can be *defeasible* reasons against certain conclusions—reasons that can yield rational obligations to disavow previously held beliefs.<sup>25</sup>

## ENDNOTES

1. For further details on Brandom's inferentialist account of propositional content see Brandom 1994, chap. 2 and Brandom 2000, chap. 1. For further details on the game of giving and asking for reasons see Brandom 1994, chap. 3 and Brandom 2000, chap. 6. Brandom 2008 argues that a sentence's having an inferential role is necessary for its having propositional content, but Brandom does not argue (nor deny) that it is sufficient (see page 111n18).

2. My thanks to an anonymous reviewer for pointing out that something more needs to be said about this.

3. Whether or not one is convinced by Brandom's argument for the importance of defeasible inference is not especially important for my overall thesis. My present point is that the match-lighting scenario is not just an example of reasoning that is nonmonotonic and allows entitlement recovery; it is being used to show that we cannot in principle rule out all potential defeaters. As mentioned above, I am not going to argue for the importance of defeasible inference here.

4. No doubt we can explain the irrationality in the example by appealing to the violation of this or that principle of rationality (e.g., trusting yesterday's predications over present experiences). This is not a challenge to my argument for the importance of entitlement recovery. One way to develop an account of reasoning that does allow entitlement recovery is by coming up with ways to weigh different principles of rationality against each other (e.g., coming up with ways to assess when one piece of inductive evidence is stronger than some counter-evidence.) This is in large part what John Pollock attempts to do. However, this is not an approach that Brandom could accept for reasons that we will see in the next section.

5. For simplicity's sake I have taken a few liberties in presenting most of these examples. My point is about the mundane and casual nature of the examples, not about how they are expressed formally or otherwise.

6. I suspect that what counts as a *successful* accommodation of entitlement recovery (or even defeasible reasoning more generally) will be different for those theorists trying to develop a system of logic than it will be for a cognitive scientist like Pollock who is essentially trying to design a reasoner. As will be discussed in the next section, Brandom's aim is neither of these.

7. Brandom 1994, chap. 4, also appeals to reliability inferences when discussing perception and action, but I will be limiting the present discussion to theoretical reasoning (not involving perception and action), which Brandom claims can be understood in terms of the three types of inferential relations just mentioned.

8. For the purposes of this paper we do not need to know the finer details of Brandom's reasons game or his account of how sentences come to stand in different inferential relations. These are most thoroughly addressed in Brandom 1994, chap. 3.

9. This is really the main project of Brandom's 1994 book *Making It Explicit* (and most of Brandom's research generally)—showing how we can explain many of the philosophically interesting features of language and reasoning in terms an inferential role theory of content.

10. Thanks to an anonymous reviewer for pointing out the potential confusion.

11. The interaction of the three types of inferential relations is most thoroughly explained in the latter portion of Brandom 1994, chap. 3. What I like to call the 'scorekeeping algorithm' for assertions is presented on pages 190–191.

12. Those familiar with some of the finer details of Brandom's scorekeeping account may object to this, arguing that commitment-preserving relations do indeed have defeating conditions when they are used to update the set of claims someone is entitled to (as stated in Brandom 1994, 191). For example if someone is entitled to 'Fido is a dog' then that person is consequentially entitled to 'Fido is a mammal' *unless* that person is committed to something incompatible with 'Fido is a mammal.' In response to this, I would like to direct the reader to Brandom 1994, 674n43, which indicates that anything incompatible with the conclusion of a commitment-preserving relation will also be incompatible with its premises. Therefore, if  $p$  is incompatible with 'Fido is a mammal,' then it will also be incompatible with 'Fido is a dog' and someone committed to  $p$  cannot be entitled to either of those claims. Incompatibility relations, rather than commitment-preserving relations, would be doing all the work here.

13. This is further supported by the fact that Brandom 1994, 168–169, uses the match's lighting when struck as an example of an entitlement-preserving relation.

14. This is further supported by Brandom 1994, 115, "To assert that  $p$  is incompatible with  $q$ , one asserts the conditional whose antecedent is  $p$  and whose consequent is the negation of  $q$ ." Furthermore, formal negation is not even a part of primitive reasons games. Rather, we are to understand formal negation in terms of incompatibility relations (Brandom 1994, 115 and 381–383)

15. Not a lot hangs on what type of inferential relations Brandom *intended* the different conditionals in his example to express. My argument is that there is *no* combination of commitment-preserving, entitlement-preserving, and incompatibility relations, (as they are presently understood in Brandom's account) that we can use to correctly describe the reasoning in the example.

16. In John Pollock's terminology this would mean that the claim 'Match in Faraday cage' would not *rebut*, but *undercut* the inferential relation expressed as (*Match struck & Match in EMF*)  $\rightarrow \sim$ Match lights. See Pollock 1987 and 1995.

17. While I won't explore the details here, this is spelled out in Brandom 2008. See chaps. 4 and 5 in particular.

18. A few points worth remembering to avoid confusion: (1) Entitlements should not be understood as tentatively held commitments. S's being *entitled* to  $p$  means that it is rationally appropriate for S to undertake *commitment* to  $p$ . (2) Entitlements are not themselves *defeasible*; but one's set of entitlements are rationally *revisable*—just as one's set of commitments are. Only inferential relations can be defeasible and, as discussed in the previous section, this is importantly different from their being refutable.

19. Throughout this paper I will be using the expressions of the form 'S has a good reason for x' in much the same way that Brandom does in the quotation above. I recognize that expressions of this form can be correctly used in a lot of other ways, and I emphasize that my present argument does not depend on any particular usage being the only correct one. My present argument only depends upon the possibility that someone can be committed and entitled to a defeasible inferential relation's premises without actually being entitled to that inferential relation's conclusion.

20. Ideally, incompatibility relations should be expressed without appealing to formal negation (perhaps as  $q//u$ ) because formal negation is itself explained in terms of incompatibility relations. For this same reason, our explanations of entitlement recovery cannot do away with incompatibility relations in favor of formal negation. I am largely glossing over these details for simplicity's sake. See Brandom 1994, 115 and 381–383)

21. I add the qualification 'sufficiently' because even though  $p$  might provide stronger evidence in support of  $q$  than  $r$  does against  $q$ , the overall evidence that  $p$  and  $r$  provide for  $q$  might not be enough to justify  $q$ . It is therefore possible that the evidence that  $p$  provides for  $q$  and the evidence that  $r$  provides for  $s$  effectively cancel each other out.

22. If we changed the account of defeat above so that  $IRx$ 's premise set defeats  $IRy$  IFF their conclusions are incompatible and  $IRx$ 's premise set *contains*  $IRy$ 's premise set, then we would lose this benefit.

23. Recall the discussion above in section VII, which explains how defeated but nonetheless good inferential relations continue to play an important role in scorekeeping practices.

24. Brandom's account of how reasoners update score in response to assertions (what I like to call his 'scorekeepingeing algorithm') would also need to be changed. It is beyond the scope of this paper to delve into these details. See Brandom 1994, 190–191 for Brandom's scorekeeping algorithm. See Schaefer 2012, 168–176 for an account of how the scorekeeping algorithm should be modified.

25. I'm greatly indebted to Mark McCullagh for many very helpful comments on earlier versions of this paper.

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