Reasoning and Presuppositions

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1. Introduction

It is a platitude that when we reason, we *often* take things for granted, sometimes even justifiably so. The chemist might reason from the fact that a substance turned litmus paper red to that substance being an acid. In so doing, they take for granted, reasonably enough, that this test for acidity is valid. We ordinarily reason from things looking a certain way to their being that way. We take for granted, reasonably enough, that things are as they look.

Although it is a platitude that we often take things for granted when we reason—whether or not justifiably—one might think that we do not *have* to. In fact, it is a natural expectation that were we not pressed by time, lack of energy, or lack of focus, we could *always* in principle make explicit in the form of premises *every* single presupposition we make in the course of our reasoning. In other words, it is natural to expect *Explicitness* to be true:

> *Explicitness:* Presuppositionless reasoning is possible.

Explicitness is a reassuring thought. It tells us that, at least in ideal circumstances, we can always inspect our reasoning by making explicit one-by-one the considerations upon which our conclusion relies.

So it is not surprising that in analytic philosophy, several prominent philosophers have assumed *Explicitness*. Consider Frege (1967: vi):

> It cannot be demanded that everything be proved, because that is impossible. But we can require that all propositions used without proof be expressly declared as such, so that we can see distinctly what the whole structure rests upon.

In this passage, Frege seems to endorse the claim that every proposition that has a bearing in a proof for a conclusion could at least in principle be spelled out as a further premise. In an

exchange with Frege, Hilbert (1899) expresses the same sentiment, when he says that in axiomatizing geometry,

> [...] I do not want to presuppose anything as known (Hilbert 1899, *Letter to Frege*).

Finally, consider Grice (2001: 9), arguing that every reasoning R can be mapped into an ideal reconstruction of R that makes explicit everything that is implicit in R:

> Perhaps the most attractive idea is to suppose that we should consider ourselves faced not just with one argument or piece of reasoning (Jill's actual reasoning), but with two, one of which is actual (Jill's reasoning) and the other of which is non-actual or ideal (a reconstruction of Jill's argument incorporating as a premiss the proposition which we are taking her to have had non-explicitly in mind: the former will be informal, the latter formal (and often canonical). Jill's actual argument will be informally valid just in case there is a legitimate reconstruction of it which is formally valid and which supplements the informal argument with premises which are true (as well as being propositions which, in some sense, Jill has in mind) (Grice 2001, *Aspects of Reason*).

In order for an ideal reconstruction of a piece of reasoning to be feasible, Grice seemed to think that *Explicitness* must be true.

Thus, *Explicitness* is both natural and widely assumed. In this essay, I am going to argue that *Explicitness* is false. *Presuppositionless reasoning is impossible*. This is, I contend, one of *the* lessons of a long-standing paradox about inference and reasoning known as Lewis Carroll's (1985) regress of the premises. Many philosophers agree that Carroll's regress teaches us something foundational about reasoning. I part ways about what it is that it teaches us. What it teaches us, I am going to argue, is that *Explicitness* is false—i.e., that reasoning is *constitutively* presuppositional.

I start by reviewing the chief motivations for an influential view of reasoning—that here I will call **Reasoning**—and by reviewing the regress challenges that that view notoriously faces (§2). Then I discuss some of the problems affecting the most prominent responses to these

challenges—i.e., the "blind reasoning" response, the "rule-following" response, and the "non-causal reasoning" response (§3-§4). In §5-§7, I motivate and develop a different response. In §8-§9, I show that the resulting view of reasoning can overcome the challenges affecting **Reasoning**, and at the same time retain all the features that make **Reasoning** attractive. However, it is incompatible with *Explicitness* (§10). Therefore, I suggest we adopt it and we deem *Explicitness* false instead.

2. Reasoning and regress

2.1 The Simple Causal View

What is reasoning? Its grammar suggests some sort of process or *transition*. Throughout, I will be assuming that reasoning is a transition between *doxastic states*[1][2] but I am using 'doxastic' broadly, to include not just beliefs and credences, but also attitudinal states such as suppositions and acceptances. Furthermore, it is reasonable to presume that the relevant transition be *causal*—i.e., that it is the same sort of transition for which cognitive scientists provide causal models (e.g. Johnson-Laird 1983; Khemlani & Johnson-Laird 2012; Johnson-Laird & Khemlani 2013).[3] If so, the question is: what *kind* of causal transition is reasoning?

On a simple causal analysis, reasoning from a premise-belief P to another conclusion-belief C is a matter of one's belief P *causing* one's belief C (Armstrong 1968).[4] As

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[1] I am interested in the question of *what reasoning is*, not merely in the question of *what explicit, conscious, and active reasoning is*. I think, with others, that reasoning can be unconscious (Siegel 2017, Quilty-Dunn and Mandelbaum 2018) and sub(agential) systems may undertake reasoning tasks. Often through reasoning we come to conclusions that are incompatible with our beliefs and because of that we go back to revise our acceptance of the premises (cf. Harman 1986). If so, a more accurate characterization of reasoning is as a causal transition between doxastic states that are weaker than beliefs, such as credences or acceptances (Cf. Staffel 2013 and Staffel forthcoming). For simplicity, though, I will keep talking about beliefs in the main text.

[2]Some allow there to be inferences that take perceptual states as inputs. For example, according to Siegel (2016: 77) responses to perceptual states can be inferences. My usage of "reasoning" is more restrictive. I follow Burge 2010 in calling transitions that can happen between informational states that are not doxastic "computation" rather than "reasoning" or "inferences." As I will use the term, reasoning proper only happens between doxastic or attitudinal states. This aspect of my approach is not merely terminological. The distinction between responses to informational states that count as reasoning and responses to perceptual states that are not reasoning responses will be important in my strategy for dealing with Lewis Carroll's regress.

[3] Some have denied the causal nature of reasoning (Boyle 2010; Valaris 2014). I will return to this view later in §4.

[4] Throughout I will adopt the convention of referring to beliefs that constitute the premise attitudes of a piece of reasoning with the variable *P* and beliefs that constitute the conclusion attitude of a piece of reasoning with the variable *C*.

many authors have noticed, the simple causal view is not extensionally adequate. For a start, it faces the deviant causal chains problem (cf. Plantinga 1993): I see Aline. This causes me to believe that I see Aline, which causes me to drop the coffee I had been holding, which causes a stain on my shirt, which leads me to believe that my shirt is stained. My belief that I see Aline is part of the causal explanation for why I believe that my shirt is stained. But I have not reasoned from my belief that I see Aline to my belief that my shirt is stained. Even putting the the problem of deviant causal chains aside, consider (cf. Broome 2013: 225; Boghossian 2014: 3) the case of a depressive person whose positive beliefs always cause by association negative beliefs (*Depressive Association*). They have not thereby inferred that life is miserable from their belief that they are having fun. Or suppose (cf. Longino 1978:21) one's belief that believing in an afterlife is beneficial motivate one to believe in the existence of God (*Pascal's Wager*). One has not thereby reasoned from the beneficial character of a belief in an afterlife to the existence of God.

The second major problem for the simple causal view is that it makes it rather mysterious why reasoning is epistemically assessable in the way it is. It is a datapoint that we can epistemically assess reasoning under at least two dimensions:

> (*Support*) on the basis of whether or not the premises support the conclusion;[5]
> (*Justifiedness*) on the basis of whether the reasoner themselves is or not justified in drawing the conclusion.

Support and *justifiedness* might come apart. For example, one might infer *xn + yn is not equal to zn* from *x, y, z, and n are whole numbers and n is greater than 2* (*Fermat's Theorem*; Cf. Boghossian 2011: 227). We know from Fermat's Theorem that this inference is reliably truth-preserving. But suppose one reaches the conclusion while being unaware of the theorem and without having proved it oneself. Or consider *Deadly Spots*, where Tom believes that certain spots on people's faces indicate that they have been marked by a demon, and once so marked they will soon die. Even though the presence of the spots on Bob's face *does* in fact indicate that

[5] Support may be a matter of entailment, as in the case of deductive reasoning, a matter of probabilistic support, as in the case of inductive, abductive reasoning, and practical reasoning.

Bob will soon die, and the rule SPOTS OF THIS KIND → DEATH is very, maybe even perfectly, reliable, in this circumstance Tom would not be justified in reaching this conclusion (cf. Valaris 2017).

The simple causal view falls short when it comes to explaining why reasoning is epistemically assessable in this way. According to this view, reasoning is a matter of certain premise-beliefs P1, …, Pn causing a conclusion-belief C. On the usual understanding of causation, that means that if we hold P, then we cannot help but hold C. But if we cannot but have the belief C given that we have the belief P, and the inference is reliably truth-preserving, it is obscure in what sense we *should not* have the belief P. So on this view, it is hard to see why we would even assess reasoning for *justifiedness* (Longino 1978: 24-5).

2.2 *A more complex causal view*

These problems motivate developing the simple causal view into a more complex causal view, by imposing the so-called **taking condition** on reasoning (cf. Frege 1979:3; Longino 1978; Thompson 1980; Audi 1986; Boghossian 2014):

> **Taking condition:** Reasoning from P1, …, Pn to C requires taking P1, …, Pn to support C.

The resulting account of reasoning is:

> **Reasoning:** S's reasoning from P1, …, Pn to C is a causal transition whereby S comes to believe C from S's believing P1, …, Pn because S takes P1, …, Pn to support C.

According to **Reasoning**, reasoning is a causal transition that has S's premise beliefs as inputs, S's conclusion belief as output, and the taking as causal intermediary. **Reasoning** has several virtues. For a start, it solves at least *some* of the extensional adequacy problems. On this view, the subjects in *Pascal's Wager* and in *Depressive Association* do not count as reasoning for they do not take their premise beliefs to support the conclusion. **Reasoning** also provides a

unified account of reasoning across varieties of reasoning (inductive, deductive, abductive, and practical), while accounting for their differences. It tells us that *in all such cases*, reasoning requires taking certain premises to support the conclusion, even though what counts as relevant support varies with the kind of reasoning—*entailment* for deductive reasoning, *probabilistic support* for inductive and abductive reasoning, and *counting in favor of* forming a certain plan or intention in the case of practical reasoning. Like the simple causal view, **Reasoning** cashes out reasoning entirely in causal terms and so it is in line with cognitive scientists' causal modeling.

A final virtue of **Reasoning** is that it provides a simple and clear answer to the question why reasoning is epistemically assessable in the way it is. Taking *that the premises support the conclusion* is naturally taken to be a propositional attitude. And propositional attitudes are the sort of things that can be epistemically assessable both for truth and justifiedness. So, **Reasoning** correctly predicts that one is not justified in *Fermat's Theorem* and *Deadly Spots*, for the subjects' taking in these examples is not justified. Furthermore, it allows both for *fallacious reasoning*—when the reasoner erroneously takes the premise to support the conclusion—and for *unjustified, though valid, reasoning*, when the taking, though true, is not justified.

*2.3 The challenges to **Reasoning***

This is no to say that **Reasoning** does not face its own problems. Three challenges stand out:

(a) *Deviant Causal Chains Challenge*. Consider Neta's (2013:390) example of Roderick, who on on his deathbed thinks back on his otherwise worthless life and finds comfort in the thought that he had at least solved the Gettier problem. But then Tim bursts into his room and proves to Roderick that his solution to the Gettier problem is unsuccessful. Believing that his solution to the Gettier problem is unsuccessful, and also that this very fact supports the conclusion that his life was worthless, Roderick falls into a state of despair, and, out of despair, believes that his life was worthless. Roderick has not reached this conclusion by reasoning, and it is not on the strength of any such reasoning that Roderick believes that his life was worthless. In this case, unless it is stipulated that the causal relation between the premise belief and the taking and the conclusion be

non-deviant, **Reasoning** incorrectly predicts that Roderick has reached his conclusion by reasoning.

(b) *Overintellectualization Challenge*. **Reasoning** requires the reasoner to form an opinion as to whether the premises epistemically support the conclusion; but surely, the objection goes, one might be able to reason *without* possessing concepts quite as sophisticated as that of *epistemic support* (Wright 2014).

(c) *Regress Challenge.* As epistemologists are acutely aware, **Reasoning** faces a major regress challenge (cf. Fumerton 1995; Greco 1999; Boghossian 2014, 2016, forthcoming; Hlobil 2014; Chudnoff 2013, 2014; Wright 2014; Broome 2014; Siegel 2016).

Let me recall how (c) arises. Suppose one reasons from premises P1, …, Pn to a conclusion C, in accordance with **Reasoning**. The two crucial components of **Reasoning** are the taking condition (*Premise 1*) and its causal nature (*Premise 2*):

(*Premise 1: Taking Condition*): One reasons from premises P1, …, Pn to a conclusion C by taking P1, …, Pn to support C.

(*Premise 2: Causal Construal*): Reasoning from P1, …, Pn to C by taking P1, …, Pn is a matter of undergoing a causal process that has P1, …, Pn as inputs, the taking as causal intermediary, and C as output.

But taking P1, …, Pn to support C is plausibly a matter of holding a *belief* towards the proposition that P1, …, Pn support C:

(*Premise 3: Doxastic Construal of the Taking)* Taking that P1, …, Pn support C is a belief.

Finally, it seems natural that, if the taking is playing any role in reasoning, its role is that of a premise:

(*Premise 4*: *Taking as a Premise*) Reasoning to C from P1, …, Pn by taking it that P1, …, Pn support C is a matter of reasoning to C from P1, …, Pn and the further premise-belief (Pn+1) that P1, ..., Pn support C.

But according to **Reasoning**, reasoning to C from P1, …, Pn and from the further premise-belief (Pn+1) that P1, ..., Pn support C amounts to reasoning from P1, …, Pn *and from* Pn+1 to C by taking it that P1, …, Pn *and* Pn+1 support C. But is not that taking also a belief? And if so, is not that a further premise? From (P*remise 1*)-(*Premise 4*) an infinite regress ensues.

Henceforth, I will refer to this regress as to the "structural regress of the premises," as it arises from considerations having to do with the *structure* of reasoning. The structural regress differs from the *epistemic* regress—or the regress of justification. The latter arises when you ask what *justifies* one in taking that the premises support the conclusion and is triggered by requiring that the justification of the taking be inferential. While the epistemic regress can be stopped by allowing non-inferentially justified takings (cf. Audi 1996; Dogramaci 2010), that by itself does nothing to stop the structural regress.

In the following I argue that all these challenges that **Reasoning** faces—i.e., the *deviant causal chains challenge*, the *overintellectualization challenge*, and the *regress challenge*—are not good reasons to abandon **Reasoning**. In §3-§4, I review the most common responses to the regress challenge and the problems that they face. In §5-§8, I show that the regress challenge can be overcome by developing **Reasoning** into what I call the *Presuppositional View of Reasoning*. In §9, we will see that, appropriately developed, this view can also overcome the other two problems affecting **Reasoning**—i.e., the deviant causal chains problem and the overintellectualization problem.[6]

[6] I will not be able to consider every single worry that has been raised against **Reasoning** in the literature. For example, Siegel (2016: 95-98) raises several interesting counterexamples to the **Taking Condition**, that would require careful discussion. I will only say this: In at least some cases, however, Siegel's (2016) counterexamples rely on a more permissive notion of inference that Siegel privileges, one on which also perceptual and experiential

3. Blind reasoners and rule-followers

The most common responses to the structural regress reject either *Premise 1* or *Premise 3*.

Rejecting *Premise 1* amounts to taking reasoning to be *blind*, in the sense that it does not require the reasoner to take the premises to support the conclusion (cf. Wright 2014; Dogramaci 2016; Rosa 2017). As it stands, this move simply sends us back to square one: having gotten rid of the taking, how do we now demarcate reasoning from causal transitions that are not reasoning? A possible proposal is that one reasons from P1, …, Pn to C when one's beliefs P1, …, Pn rationalize one's belief C. But as the blind reasoning theorists acknowledge (Wright 2014:37), this view overcomes the regress at the cost of forfeiting the extensional adequacy of **Reasoning**, for it predicts that any instance of fallacious reasoning is not an instance of reasoning. Consider for example patterns of inference whereby reasoners deny the antecedent. Here, there is no sense in which accepting that *if p then q* makes it rational for one to embrace the conclusion that *if not p then not q*. If one takes it to be a *desideratum* of a theory of reasoning that it predict that these sort of transitions, though fallacious, can nonetheless count as reasoning, one cannot rest content with this proposal.[7] And in absence of an alternative positive proposal that fares better, simply giving up *Premise 1* leaves us in the dark about what reasoning is.

The other prominent option is to give up *Premise 3*. Proponents of this response suggest we retain the taking condition but we think of it in non-propositional terms—i.e., in terms of the notion of *following a rule* (Broome 2013; Boghossian 2014).[8] How are we to understand the relevant notion of following a rule in such a way as to retain all the advantages of **Reasoning**?

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states can be inputs to an inference. These counterexamples do not apply, however, if one imposes (as I am doing in this essay) that the inputs to reasoning can only be doxastic. For other worries against **Reasoning** that I will not be able to address, cf. Hlobil (2014) and Wright (2014).

[7]This is not an objection to Wedgwood (2006: 662-3), who also spells out reasoning in terms of the notion of "causation in virtue of rationalization" but who explicitly restricts the scope of his theory to rational reasoning.

[8] Chudnoff (2014: 24-31) also proposes we reject this premise. According to Chudnoff, the taking is an intuition which is not a premise-belief because it has a different direction of fit from beliefs and should be modeled as a mental imperatives. Chudnoff's proposal is fascinating and would deserve more discussion than I can provide here. However, I have two worries with it: one objection is that accounting for how an inference complies with the relevant imperatives may trigger a different sort of regress, for identifying the conditions for the satisfaction of an imperatives may itself require undergoing an inference (cf. Boghossian 2014). A second objection is that thinking of intuitions along the lines of imperatives does not obviously afford an explanation of the epistemic assessability of reasoning.

On the most common construal of rule-following, reasoning by a rule such as *modus ponens* is a matter of manifesting a disposition to accept the conclusion *q* upon having understood its premises *p* and *if p then q*. However, this version of the rule-following view risks forfeiting one of the most attractive features of **Reasoning** over the simple causal view—i.e., delivering extensional adequacy. Many associative transitions can be rule-governed in the relevant sense.[9] Consider *Depressive Association*: it happens in accordance with the rule HAPPY THOUGHT → UNHAPPY THOUGHT.[10] Or consider reliably associating thoughts about female individuals to thoughts about the household, thereby manifesting the disposition to follow the rule THOUGHT ABOUT FEMALE → THOUGHT ABOUT HOUSEHOLD, along the lines of the sort of associations tested by *Project Implicit*.[11] These associations are mental transitions that manifest a disposition to follow rules of sort but are not reasoning processes.[12]

The alternative construal of the rule-following view is 'intentional'.[13] According to this construal, following a rule requires that we represent the rule. However, this representational state is not propositional nor doxastic.[14] The major problem with this approach is that it faces its own version of the regress: for how are we to apply the rule in a particular case if not by making an inference about whether the particular case falls under the required rule? If so, how is such an inference to be thought of, if not in terms of its own rule-following? A new regress threatens.[15]

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[9] Another way of putting this concern is in Kripkean terms: dispositions to follow rules of this sort are not the sort of things that could justify you in acting in the way you are disposed to act (Wittgenstein 1968: remark 258; Kripke 1982). Broome (2014: 21) tries to address this objection by proposing that one reasons from P to C provided that (i) one's belief P causes one's belief C; (ii) one reaches C by following a rule and (ii) that doing so 'seems right to one.' Unfortunately, as pointed out by Valaris (2017), this proposal also runs into its own counterexamples.

[10] Boghossian (forthcoming) also sympathizes with this general concern.

[11] https://implicit.harvard.edu/implicit/.

[12] Could one respond that the rules relevant to reasoning ought to be logical rules or rules of inference? This response presupposes that we know how to tell apart rules that are not rules of inference from ones that are. This in turns seems to presuppose that we know what reasoning and inferences are, which is what we are trying to explain. Nor can one respond that the relevant rules ought to be logically valid or simply valid, for of course we want to allow for invalid reasoning. Finally, it is not promising to require the rules relevant for reasoning (explicit or implicit) to be merely syntactic, for I agree with Broome (2013) and Boghossian (2014) that reasoning is a causal transition between mental states that is sensitive to reasons and therefore to the content of the mental states. In this, I part ways from Quilty-Dunn & Mandelbaum's (2018) theory of implicit reasoning.

[13] Gupta (2006) seems to endorse this sort of intentional view of rule-following.

[14] This point is made clearly by Boghossian 2014.

[15] To overcome issues facing the rule-following view of reasoning on both the intentional and dispositional construal, Boghossian (2014) ends up proposing that we take rule-following as a *primitive* but, as he acknowledges, this move is ultimately at odds with the project of finding a causal and naturalistic theory of reasoning.

4. Denying Premise 2: Non-Causal Reasoners

We have thus reached an *impasse*: the most common responses to the regress challenge overcome it only at the cost of forfeiting some of **Reasoning**'s theoretical virtues. Could this *impasse* signal that there is something wrong with the initial assumption that reasoning has a causal nature (Boyle 2011; Valaris 2014), and so with *Premise 2*? Perhaps, when we reason, we do not engage in a *causal process* of deducing a conclusion from certain premises. Rather, reasoning from P1, …, Pn to C might be a matter of *believing* C *because of* P1, …, Pn; and that amounts to the taking condition being satisfied—i.e., to one's *believing that* P1, …, Pn *support C*. On the 'non-causal view of reasoning', as I will call it, the taking condition plays a *constitutive* rather than a causal role in reasoning. So, it does not really make sense to ask whether it applies again to the taking as a premise. The regress problem simply dissolves on the non-causal view.

One worry, however, is that the non-causal view conflates two senses of 'reasoning.' There is indeed a sense of reasoning—or *inferring*—that is not causal. As Winter (1971: 291) observes: "To infer is neither to journey towards, nor to arrive at or be in a certain position; ... Inference is not the passage from *A* to *B*, but the taking of *B* as a result of reflection on *A*." On the other hand, as Rumfitt (2011:339) points out, we do sometimes engage in the task of tracing out the implications of some premises. When we do so, we do it step by step, "taking special care to move only to conclusions that the premisses really imply." We might call this process *deduction*, rather than inference. Unlike inferences, deductions take time. Unlike inferences, the grammar of deductions (like the superficial grammar of reasoning) is that of a process. Although Lewis Carroll's (1895) problem might not arise for reasoning understood as inference, it still arises for reasoning understood as deduction.

In conclusion, the main extant approaches to the regress face some outstanding difficulties. These difficulties motivate the search for a different approach that fares better.

5. Towards a Presuppositional View of Reasoning

Besides *Premise 1*, *Premise 2*, and *Premise 3*, there is a fourth premise that has to be granted in order for the regress to start—i.e., *Premise 4*. According to it, reasoning from premises P1, …, Pn to C by taking that P1, …, Pn support C requires reasoning from premises P1, …, Pn *and* from premise Pn+1—i.e., the premise that P1, ..., Pn support C.

Premise 4 assumes that *if* the taking condition is to play a role in reasoning, it ought to be the same role as that of a premise. But could the taking be part of reasoning *without* being an extra premise?[16]

This turns on what it means for an attitude *to be part of reasoning*. A plausible way of understanding it is that for it to be part of reasoning, the taking ought to figure among the "bases" for reaching the conclusion—the general idea being that something gets to be part of reasoning only if it can figure *among the considerations on the basis of which the conclusion is reached*. If so, then the question of whether the taking can be part of reasoning without being an extra premise boils down to the question of whether the taking can be among the bases for reaching the conclusion without being an extra premise. *Can bases* not *be premises*?

The answer ought to be "Yes." Perception is a case in point. I may base my belief that there is a red table in front of me on the perception *that there appears to be a table in front of me*, even if I have failed to form the belief that there appears to be a table in front of me. In this case, a state with the propositional content *that there appears to be a table in front of me* is a basis for my belief that there is a red table in front of me.[17] Assuming that reasoning is a transition only between attitudinal states and so that perceptual states cannot be premise-attitudes, perceptual states must be able to be bases without being premises.

We might distinguish between two notions of *bases for beliefs*. Say that a subject S's belief C is *explicitly based* on a state with content P provided that C is inferred from S's belief P. This is a first way in which a state with content *P* can be a basis for C—the sense in which premises are bases. But there is a second sense in which a state with propositional content can be

[16]Several authors have raised this question in the literature. Besson (2012) contemplates the possibility that the taking might be an 'implicit' premise. Broome (2006: 8) objects that if the taking is backgrounded then it is not part of reasoning. See also Broome (2013). For several further objections to which I will return, cf. Boghossian (2014: 7-8).

[17]Cf. Williamson (2000: 729) draws a similar distinction between *explicit evidence-bases* and *implicit evidence-bases* in order to stop the regress of justification and also takes perceptual states to be evidence-bases in the implicit sense.

a basis. For a belief C to be *implicitly based* on a state *P*, C does not need to be inferred from one's belief with the same content as P. In fact, S does not even need to hold the belief P. It is sufficient that S's belief C be appropriately causally sensitive to the state *P*, even if it is not *inferred* from state P. For example, a belief C that there is a table in front of me may be implicitly based on the perceptual state whose content is that there appears to be a table, provided that the belief is appropriately causally sensitive to that perceptual state, even if C is not inferred from a belief that there appears to be a table and even if S has never formed that belief.

It is not just perceptual states that can be implicit bases. *Implicit biases* are another plausible candidates for being non-explicit bases. But even full-blooded doxastic attitudes such as standing beliefs can be implicit bases, if they causally affect our doxastic attitudes without being premises. A belief of mine, say that a particular actor is not trustworthy, may be based on another belief of mine—i.e., that actors are not generally trustworthy—even though I have never actually reasoned from one to the other (cf. Audi 1996; Turri 2011). In these cases, the basing (doxastic, perceptual, etc.) state is an implicit basis rather than explicit basis.

Hence, not all reasons need to be explicit bases for a conclusion. So, not all bases need to be premises. Thus, there is no contradiction in the taking being among the bases for the conclusion without it being a premise.[18] So far so good. But why think that the taking does in fact play such a different role in reasoning from that of premises?

I think there are independent reasons for thinking that the taking can be an implicit basis in reasoning. In order to show this, I suggest we look at the original version of Lewis Carroll's (1895) regress of the premises, that arises in the context of an argument between Achilles and the Tortoise. I propose a novel solution of this version of Carroll's original regress, one that is independently motivated by the structure and semantics of arguments, and that relies on

[18] Boghossian (forthcoming) also seems to endorse denying Premise 3, on the ground that the taking is a 'tacit' belief which does not need to work as premise. So here Boghossian seems to embrace a different solution of the regress from Boghossian (2014). However, here, Boghossian does not offer an explanation for why a tacit belief themselves do not give rise to the regress. As we will see, my explanation is that the taking is akin to linguistic presuppositions and so backgrounded in the same sense as linguistic presuppositions. However, as I discuss in §8, tacit beliefs and backgrounded beliefs can come apart, for the former are unconscious, whereas the latter do not need to be.

distinguishing between *premises* and *presuppositions* in an argument. I then suggest we extend this solution from the case of arguments to the case of reasoning.

6. Lewis Carroll's regress and the presuppositional structure of arguments.

Lewis Carroll's (1895) original version of the regress arises in the course of an argument between Achilles and the Tortoise that has the following structure. Suppose **φ** and if **φ** then **ψ**. From that, Achilles would really want to infer **ψ**. The Tortoise would not allow it: **ψ** is inferrable—she objects—only if if **φ** and if **φ** then **ψ** then **ψ**. Then, Achilles is led to suppose, in addition, that if **φ** and if **φ** then **ψ** then **ψ**. From that together with the earlier premises, Achilles would want to infer **ψ**. The Tortoise would not allow it: **ψ** is inferrable—she objects—only if if **φ** and if **φ** then **ψ** then **ψ**. No provision of further premises will convince the Tortoise to accept the conclusion. An infinite regress ensues.

When discussing this version of the regress, philosophers tend to agree that the Tortoise is behaving irrationally in not accepting the conclusion. And yet *somehow* she is in position to trigger the regress. An analysis of Lewis Carroll's paradox should explain both things:

(i) in what sense the Tortoise is being irrational;
(ii) what it is about Achilles' argument that enables the Tortoise to trigger the regress.

In the following, I am going to put forward an analysis of Lewis Carroll's regress that can explain both (i) and (ii), one that develops and unpacks a widely agreed upon diagnosis of the regress and that, as I argue, is independently motivated by the semantics of arguments.

In response to Lewis Carroll's (1894) puzzle, many philosophers have suggested that what triggers the regress is a confusion between *arguments* and *conditional statements*. For example, Russell (1903, § 38) tells us:

> We need, in fact, the notion of *therefore*, which is quite different from the notion of *implies*…

Smiley (1995: 725) echoes:

> Carroll's problem arose from his failure to distinguish between a deduction and the statement of a hypothetical proposition.

And Dummett (1973: 303) concurs:

> Lewis Carroll's 'discovery' (in What the Tortoise said to Achilles) was that an argument of the form (X) cannot be identified with the conditional (XX):
>
> (X) ϕ. if ϕ then ψ. Therefore, ψ.
>
> (XX) If ϕ and if ϕ then ψ, then ψ."

Although popular, as it stands this diagnosis is somewhat cryptic: in what way does an argument differ from a conditional statement? In absence of an answer to this question, just pointing out the distinction between arguments and conditionals amounts to only describing, rather than explaining, the arise of the regress.

The distinction between arguments and conditionals is a *linguistic* distinction. If so, linguistic theory here might be of help in unpacking this widely held diagnosis. As argued by Pavese (2017), in an argument such as (Argument), "therefore" works as a *presupposition trigger*:[19]

> (Arguments) Mary is English and, therefore, brave.[20]
>
> (Target Content) Mary's being brave follows from Mary's being English.

In particular, "therefore" triggers the presupposition that Mary's being brave follows from her being English, expressed by (*Target Content*). Evidence for this claim is that "therefore" satisfies the usual linguistic tests for presupposition triggers. First, presuppositions *project* out of

[19] Other words signaling arguments, such as "hence", "so", "then" also can work as presupposition triggers. Because the differences do not matter, for simplicity I will focus on "therefore" in what follows.

[20] This example is due to Grice (1969). Pavese (2017) objects to Grice's particular analysis of "therefore" as involving a conventional implicature.

embeddings. For example, it is a sign that (2) is presupposed by (1), rather than entailed or explicitly stated, that (2) is conveyed also by the negation (3), by the question (4), and the conditional (5):

(1) It is the knave that stole the tarts.

(2) Somebody stole the tarts.

(3) It is not the knave that stole the tarts.

(4) Is it the knave that stole the tarts?

(5) If it is the the knave that stole the tarts, he will be punished.

Now, just like a presupposition, (*Target Content*) also projects out of embeddings, out of antecedents of conditionals (6), out of questions (7) (see also Neta 2013: 394-5), as well as out of negation (8):

(6) If Mary is English and therefore brave, she will act as such.

(7) Is Mary English and therefore brave?

(8) It is not the case that Mary is English and therefore brave.[21]

Secondly, constructions involving "therefore" satisfy standard "not-at-issuedness tests" for presuppositions. Presuppositions cannot be directly challenged—i.e., for example, one cannot directly challenge the content conveyed by (1) that somebody stole the tarts with (9):

[21] Some speakers report that (8) can also have a non-projective reading. On this reading, (*Target Content*) does not scope out of negation. The presence of this reading is, however, compatible with "therefore" being a presupposition trigger, for it is generally true that negated sentence embedding presupposition triggers can license non-projective readings. For example, consider the negated sentence:

(i) The tarts were not stolen by the knave.

As often observed in the literature on presuppositions, a sentence such as (9) can have a non-projective reading, as when it is used in (ii):

(ii) The tarts were not stolen by the knave: there is no knave.

That would be in line with the observation (Horn 1985, 1989) that negation is ambiguous between a presupposition-preserving negation and a presupposition-denying negation. Hence, the availability of a non-projective reading of (8) is still compatible with "therefore" being a presupposition trigger, provided that the projective reading is also available.

(9) *That is not true/That is false!

(10) Wait a minute! Nobody stole the tarts!

On the other hand, presuppositions can be *indirectly* challenged, as when we reply to (1) by (10) in accordance with von Fintel's (2004) "Wait a minute!" test. As Grice 1975 and Pavese (2017, forthcoming) observe and, (*Target Content*) also cannot be directly challenged:

(11a) Jill is English and, therefore, she is brave.

(11b) *That is false/That is not true.

(12a) Jill is English. Therefore, she is brave.

(12b) *That is false/That is not true.

Using "That is false" in response to (11a) would not challenge (*Target Content*). Rather, it would challenge the conjunction "Jill is English and she is brave." By contrast, (*Target Content*) can be challenged directly when it is made explicit, as in (13a-b)-(14a-b):[22]

(13a) Jill is English and from that it follows that she is brave.

(13b) That is false/that is not true.[23]

(14a) Jill is English. It follows from that that she is brave.

(14b) That is false/that is not true.

That is not to say that arguments cannot be challenged *tout court*. They can be *indirectly* challenged as in (15b), just like von Fintel's (2004) 'wait a minute' test would predict: :

(15a) Jill is English and, therefore, she is brave.

(15b) Wait a moment! Jill's braveness does not follow from her being English![24]

[22] Cfr. Langendoen and Savin 1971; Karttunen 1973, 1974; Beaver 2001.
[23] This observation is originally due to Grice 1975: 44-45.
[24] More linguistic evidence for this claim can be found in Pavese (forthcoming).

Hence, "therefore" satisfies the two main tests for spotting presupposition triggers: the non-at-issuedness test and the projection test. These and other considerations strongly suggest that "therefore" works as a presupposition trigger (Pavese 2017; forthcoming). If that is correct, then arguments of the form "***ϕ***. Therefore, ***ψ***" typically presuppose that the premise ***ϕ*** supports the conclusion ***ψ***. On the resulting analysis, when one makes an argument of that form, one *asserts* ***ϕ*** and *draws the conclusion* ***ψ*** *from it by presupposing that* ***ψ*** *follows from* ***ϕ***.

Following Stalnaker (1973: 136), presuppositions are *background beliefs* of the speaker—i.e., attitudes that one holds towards a proposition in virtue of taking its truth for granted. Hence, on this picture, making an argument from ***ϕ*** to ***ψ*** requires taking for granted that ***ψ*** follows from ***ϕ***. The analysis straightforwardly predicts that in an argument by *modus ponens* (i.e., of the form " ***ϕ***, *if* ***ϕ*** *then* ***ψ***. Therefore ***ψ***") what is presupposed is *that* ***ψ*** *follows from* ***ϕ*** *and from if* ***ϕ*** *then* ***ψ***.

We have reached a way to spell out Dummett's observation that arguments of the form (X) differs from conditional statements such as (XX): they differ precisely in that *the former presuppose but do not explicitly state the corresponding conditional statement*. Hence, the structure of an argument includes, among the premises and the conclusion, the presupposition that the premises support the conclusion.

This observation suggests the following analysis of the dynamics between Achilles and the Tortoise. The regress arises because at each turn the Tortoise challenges Achilles' presupposition that the conclusion is supported by the premises. By doing so, the presupposition becomes at issue and as such it is turned into a new premise. But as a new premise is added, arguing to the conclusion from the new set of premises requires a new presupposition. The Tortoise challenges it again and so turns it into a premise. Adding that premise alters again the structure of the argument and triggers a new presupposition. And so on.

This diagnosis of the regress explains both *desiderata* laid out at the outset: the Tortoise is in position to trigger the regress ((i)) because something is presupposed by Achilles's argument and thus can be challenged by the Tortoise. It also explains why the Tortoise's behavior is irrational ((ii)). It is generally irrational to challenge what is presupposed by a

speaker if it is known by the participants of the conversation. For example, if it is commonly known that Mario has a sister, it would be irrational to challenge "My sister is arriving today," with "Wait a moment, do you have a sister?" But that an instance of *modus ponens* is true is platitudinous and commonly known by competent speakers of English.[25] That is why at each turn it is irrational for the Tortoise to challenge it.[26]

7. Presuppositions in Reasoning

The distinction between premises and presuppositions provides a diagnosis of the original version of Lewis Carroll's regress, which arises in the context of an argument between Achilles and the Tortoise. Now, the topic of this essay is *reasoning*, not arguments. However, it is natural to take the structure of arguments to reflect the structure of reasoning: arguments at the very least can *express* our reasonings. And at least in some cases, reasoning is done *through arguments*, as when mathematicians prove theorems in the public language of mathematics. So, if linguistic presuppositions play a role in the regress for arguments, we should expect their mental analogue to play a role in a diagnosis of the regress that arises for reasoning. Moreover, since Carroll's regress arises both in the context of arguments and in the context of reasoning, it would be desirable to reach a *unified* solution for both versions of the regress.

If the structure of arguments includes the presupposition that the premises support the conclusion, then it is plausible that reasoning too shares this presuppositional structure. This motivates the thought that the taking may play a role in reasoning akin to that played by presuppositions in arguments.

This observation provides us with a way of resisting the regress challenge. Recall *Premise 4*, according to which REASONING1 from P1, ..., Pn to C given T (=*that P1, ..., Pn*

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[25]Of course, one might further ask *how* it is that competent speakers can know that an instance of *Modus Ponens* is valid. People have defended different answers to this issue (Wright 2001, 2004; Boghossian 2000, 2001, 2003; Dummett 1973, Goldman 1986; Dogramaci 2010). By and large, however, they grant that competent speakers of English can, as a matter of fact, know these sorts of truths.

[26]*En passant*, let me note that this diagnosis of Lewis Carroll's regress provides a natural explanation of Hlobil's (2014: 421) observation that (IMA) sounds Moorean paradoxical in terms of the general observation that presuppositions cannot be canceled if unembedded (cf. Beaver 2001), as evidenced by the weirdness of (X):

(IMA) P; therefore, C. But the inference from P to C is not a good inference (in my context).

(X) It is the doctor who stole the tarts. But nobody did.

support C) requires REASONING2 from P1, ..., Pn and T to C. If reasoning has a presuppositional structure, the structure of these two pieces of reasoning is different. Notice that REASONING1 manifestly does not require going through REASONING2 (**Figure 1**).

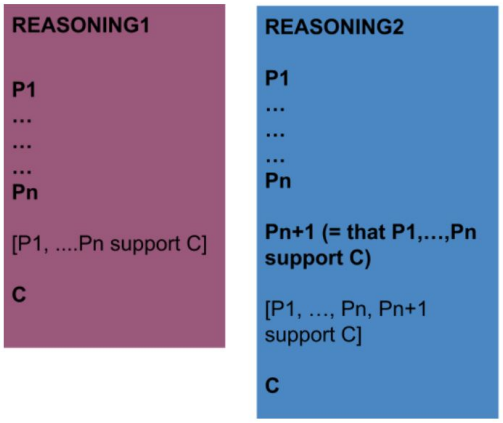

Figure 1

Having shown *Premise 3* to be false, we therefore stop the argument leading to the regress.

Too quick! Granted, if the taking plays a role in reasoning similar to that played by presuppositions in arguments, then the regress of the *premises* cannot start for it. But this still leaves open the possibility that a different sort of regress—a *regress of presuppositions*—could arise (cf. **Figure 2**).

The regress of presuppositions is, however, not possible. In order to see this, let us reflect on the nature of presuppositions as backgrounded content. Recall that linguistic presuppositions differ from premises in that they are *backgrounded* in the sense that they cannot be directly challenged nor can they be directly picked up by demonstratives and that their projective behavior shows that they resist embedding under logical operators.

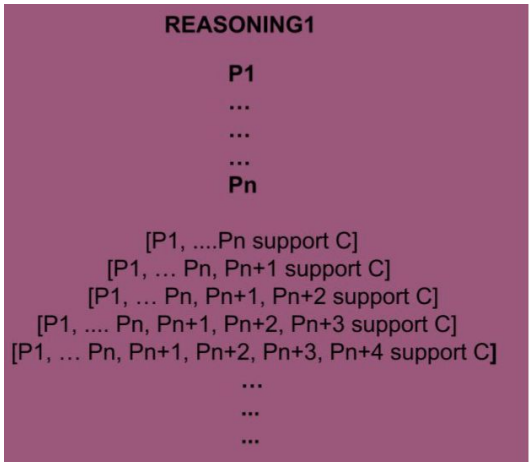

Figure 2

The current proposal is that the taking can be backgrounded in reasoning just as presuppositions are backgrounded in arguments. As such, it is insulated from embedding under logical operators and so also from being picked up by the taking operator. This renders them "impermeable" to a further application of the taking condition. Hence, the structural regress cannot start if the taking *stays* backgrounded. It will start if one keeps challenging it but only because challenging it "un-backgrounds" it—i.e., it turns it into a new premise.

Even though backgrounded, the taking can still play a causal role in reasoning. The analogy with linguistic presuppositions is helpful, for linguistic presuppositions *can* causally affect communication. Analogously, the taking *can* play a causal role in reasoning even though backgrounded. We routinely explain one's reaching a certain conclusion by appealing to the fact that they were taking certain truths for granted. For example, we might explain why somebody would reason from there being no epidemic crises to there being no need for vaccines in terms of their taking for granted that the only use for vaccines is to cure, rather than to prevent, epidemic crises. This pattern of explanation provides some evidence that presuppositions can play a causal role in reasoning.

Relatedly, recall that the taking can be a basis without being a premise (§3). According to this picture, the conclusion of a reasoning is based on *both* the premises and the taking. But it is *explicitly* based on the premises, whereas it is only *implicitly* based on the taking condition. The relation of being explicitly based holds between the conclusion and the premises if the

conclusion is reached by the reasoner's taking the premises to evidentially support the conclusion. By contrast, for the relation of being implicitly based on the taking to hold, the reasoner does not need to in turn take *it* to support the conclusion (this is what makes the basing "implicit"), provided that the conclusion is appropriately causally sensitive to the taking. Hence, the conclusion can be implicitly based on the taking without that giving rise to a regress of presuppositions.

In conclusion, the structural regress would arise again for presuppositions if presuppositions could only be reasons in the same way premises are reasons. In this section, I have argued that their backgrounded status only prevents them from being premises. It does not prevent them from being *reasons*. Just like the epistemic regress is to be stopped by allowing for non-inferential takings, so the structural regress can be stopped by allowing for implicit bases.

8. The Presuppositional View of Reasoning

The upshot is the *Presuppositional View of Reasoning*. According to it, reasoning from P1, …, Pn to C *requires* that one take that P1, …, Pn support C but the taking does not need to be a premise and can be backgrounded. By identifying a different role for the taking to play in reasoning from that of premises, this view can overcome the regress of the premises. It also overcomes the regress of presuppositions, for it assigns the taking with the role of an implicit basis and implicit bases do not trigger the regress. The view is motivated by a unified solution to Lewis Carroll's regress for arguments and reasoning—a solution that is in turn independently supported by the semantics of arguments.

The *Presuppositional View of Reasoning* fares better than its competitors—i.e., the rule-following view of reasoning, the blind view of reasoning, and the non-causal theory of reasoning—in that it overcomes the structural regress without forfeiting any of **Reasoning**'s attractive features. In particular, it retains the causal nature of **Reasoning** and its extensional adequacy (§8.1); and it is compatible with the epistemic assessability of reasoning (§8.2).

8.1 Causal Transitions, Levels of Explanation, and Extensional Adequacy

The *Presuppositional View of Reasoning* operates at what Marr (1982) called the 'computational' level, or 'task-level,' of analysis—i.e., at the level where we ask *what a certain cognitive task is,* rather than at the algorithmic level where we ask *how the cognitive task is executed.* Hence, on one hand, the view is compatible with cognitive scientists' causal models of reasoning, for the presuppositional view takes reasoning to be a causal transition of sort.

On the other hand, the view does not take a stance on how reasoning and its presuppositions are implemented at the algorithmic level, which is the level at which psychologists' causal models operate. Not taking a stance on this issue seems wise, for how the presuppositions are implemented at the algorithmic level might depend on whether the reasoning at issue is active and conscious, rather than subagential and unconscious. Importantly, presuppositions themselves *do not need* to be tacit or unconscious (although they can be), for I *may* be fully aware that I am presupposing that somebody stole the tarts when saying that it was the doctor who did it. So their being backgrounded does not entail their being tacit or unconscious.[27] Hence, the presuppositional view is compatible with the relevant presuppositions being *conscious but backgrounded* in the case of active and conscious reasoning; and with the relevant presupposition *being implicit, unconscious, or even 'wired' rather than explicitly represented,* in the case of unconscious and subagential reasoning.[28]

By assigning the backgrounded taking a role to play in reasoning, the *Presuppositional View* can demarcate reasoning from causal transitions that are not reasoning, such as *Depressive Association* and *Pascal's Wager*: These causal transitions do not count as reasoning because there the subjects do not satisfy the taking condition—i.e., do not take the input state to support the output state.

8.2 Epistemic Assessability

[27] In this sense, my proposal strikingly differs from Broome's (2013) and Boghossian's (forthcoming) discussions of 'implicit' beliefs, for they both take them to be tacit and unconscious. In my view, while in some cases, they might be tacit and unconscious, they do not need to be. In other words, they can *both* backgrounded and conscious, as the example of linguistic presuppositions shows.

[28] In this sense, my proposal is compatible with Quilty-Dunn and Mandelbaum's (2018) view of inferential transitions and in fact it might complement their proposal which was not designed to avoid Lewis Carroll's regress.

The *Presuppositional View* affords an explanation of the epistemic assessability of reasoning: presupposing that something is the case is a propositional attitude that can be justified (or warranted) or unjustified (or unwarranted). Hence, the view correctly predicts that in *Deadly Spots* and *Fermat's Theorem*, the reasoners might not be justified in reaching their conclusion, because they are not justified in taking the premises to support it.

One might worry that explaining *how* the taking can be justified might also also trigger a regress.[29] But recall the distinction between structural regress and epistemic regress (§3). The epistemic regress can be stopped by taking seriously the possibility of *non-inferentially* justified takings.[30] However, the objection continues, even if the taking can be non-inferentially justified in some way, the question remains of how one's belief, say, that *if p and if p then q then q,* can explain why I am in a position to justifiably infer that *q* from *p* and *if p then q*. An answer to this question will hopelessly be circular, because it will require us to use the backgrounded belief that *if p and if p then q then q* to explain that the pattern from *p* and *if p then q* to *q* is valid.

In response, we ought not assume that the only way one might use a backgrounded belief in an explanation of inferential justification is to use it to show the validity of the inferential pattern from *p* and *if p then q* to *q*. On the current picture, inferential justification is explained in full generality in terms of the conclusion's being appropriately based on the premises and on the taking, as well as in terms of the epistemic good standing of the taking—i.e., whether it is true and justified. So, for example, we can explain why one can justifiably reach the conclusion *q* from believing *p* and *if p then q* in terms of the conclusion being appropriately explicitly based on those premise beliefs and implicitly based on the taking and in terms of the taking being true and justified. No circularity needs to ensue, if we do not presume that the backgrounded belief must contribute explaining a piece of reasoning inferential justification by entering in a proof of the validity of the corresponding argument form.

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[29]In this paragraph and the next, I am addressing some of Boghossian's (2014) worries against the possibility of the taking playing a role in reasoning as backgrounded.

[30] According to this proposal, one ought to be able to be justified in taking it that *if p, and if p then q, then q,* without necessarily inferring that belief from other beliefs by *modus ponens*. It might be that we are justified in so taking because we form that belief by exercising our competence as English speakers. But exercising that competence does not require engaging in an inference. For example, it might require that we intuit that its content is true (cf. Dogramaci 2010).

*9. Overcoming the remaining challenges for **Reasoning***

9.1 Deviant Causal Chains

According to the *Presuppositional View of Reasoning*, a causal transition counts as reasoning when the conclusion is explicitly based on the premises, and being explicitly based on the premises requires the conclusion being implicitly based on the taking. As we have seen, for a conclusion to be implicitly based on the taking, it need not be reached by a further application of the taking condition; it is sufficient that the conclusion be appropriately causally sensitive to the taking. But what does "appropriately causally sensitive" mean?

This clause is meant to rule out cases of deviant causal chains such as Neta's (2013:390) example of Roderick (§2). According to the current proposal, Roderick's transition does not count as reasoning because his conclusion is not appropriately causally sensitive to the premise beliefs and to the taking. However, it would be desirable to provide a more substantive account of this clause, instead of leaving it as a black box.

A way to overcome the problem of deviant causal chains is to think of the relevant notion of causation as one whereby a belief B1 causes another belief B2 *in virtue of* the content of B1 and B2, and in particular, in virtue of B1's content rationalizing B2's content (rather than in virtue of some other property of the two beliefs). It is generally true that two events e' and e'' might be causally related in virtue of some properties that e' and e'' have and not in virtue of some other properties that they have. So, for example, we might ask whether the impact of the planes caused the towers to collapse *in virtue of the temperature* of the ensuing fuel explosion, rather than in virtue of something else, such as the force of the impact. Moreover, it is independently plausible that psychological causation between mental beliefs is sensitive to their content (cf. Wedgwood 2006; Burge 1986, 1989; Rescorla 2012, 2014).

On this way of spelling out the appropriately causally sensitive clause, Roderick's is not an example of reasoning, because the conclusion belief is not reached in virtue of the content of his premise beliefs *rationalizing* it; rather it is reached in virtue of those premise beliefs first causing Roderick's desperation.

Wedgwood (2006) proposed a similar approach to rescue the simple causal view of reasoning from the problem of deviant causal chains (§2). But as we have seen when assessing

the blind reasoning view (§3), the problem with Wedgwood's (2006) suggestion in the context of a defense of the simple causal view was that it failed to make room for *fallacious reasoning*, where the content of the premise-attitudes does not rationalize the content of the conclusion-attitude. That is why Wedgwood (2006: 662-3) explicitly aimed his theory to cover only *rational reasoning*.

However, note that Wedgwood's proposal can be imported within the context of a defense of the *Presuppositional View* without incurring the same problematic consequences. That is so because the premises *together* with the taking will rationalize the conclusion *even* in cases where the premises by themselves do not rationalize the conclusion. Compare: although the belief *if p then q* does not rationalize the belief that *if not p then not q*, the belief that *if p then q* together with the belief *that if p then q then if not p then not q* does rationalize the belief that *if not p then not q*, for it entails it.

9.2 Overintellectualization

The last remaining problem for **Reasoning** is the *overintellectualization challenge* (§2). Proponents of **Reasoning** have responded that reasoning might not require possession of sophisticated epistemic concepts, for the relevant beliefs might be *de re* rather than *de dicto* (Audi 1996). I sympathize with this response. But I'd like to emphasize that, by capitalizing on the distinction between premises and presuppositions, the proponent of the *Presuppositional View* has at its disposal novel resources to fend off the overintellectualization challenge. That is so because if one thinks of backgrounded attitudes on the model of linguistic presuppositions, there is some latitude to think of them as *dispositional doxastic states*.[31] In particular, for one to linguistically presuppose that *p*, one might not need to form the belief that *p*; it might be enough that *one behave as if one believed that p*. Hence, it might be enough that the reasoner bear towards the proposition that the premises support the conclusion the relation of *behaving in such a way as if one believed* it. Because this dispositional attitude does not actually require that one grasp that proposition, it does not require a reasoner to possess sophisticated epistemic concepts.

[31] Cf. Audi (1994) on the difference between dispositional beliefs and dispositions to believe.

10. Conclusion: Explicitness *is false*

The structural regress of the premises raises an outstanding challenge for **Reasoning** (§2). I considered the most common responses to the challenge—i.e., the blind reasoning response, the rule-following response, and the non-causal reasoning response—and I reviewed the problems that these views face (§3-§4). I have introduced and motivated a different sort of response, on which the taking condition can play the role of a presupposition in reasoning (§5-§7). I argued that the resulting *Presuppositional View of Reasoning* overcomes the regress while retaining all the advantages of **Reasoning**. It also affords a response to the two other outstanding challenges—i.e., the deviant causal chains challenge and the overintellectualization challenge (§8-§9). And it is independently motivated by a unified solution to the argument-version and to the reasoning-version of Lewis Carroll's regress.

If the *Presuppositional View of Reasoning* is correct, however, it follows that *Explicitness* is false—i.e., that presuppositionless reasoning is impossible. For suppose one makes explicit the presupposition in REASONING 1 (**Figure 3**), so that it becomes a new premise. That will have the effect of altering the structure of REASONING 1. A new piece of reasoning—REASONING 2—comes about, one with a new presuppositional structure. Now suppose I make explicit the presupposition in REASONING 2, so that it becomes a new premise. A new piece of reasoning—REASONING 3—comes about. And so on.

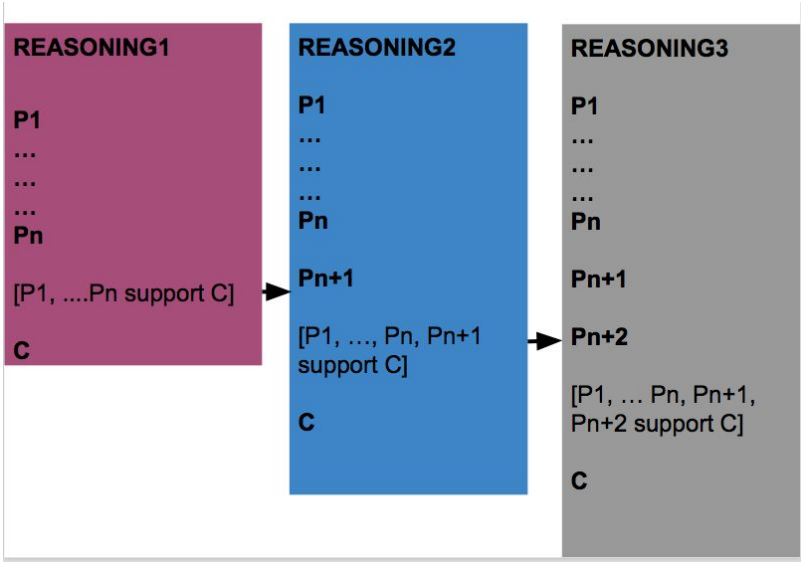

Figure 3

As we have seen in §5, this dynamic is well illustrated by the exchange between the Tortoise and Achilles. What it shows is that the task of making everything explicit in reasoning is doomed to be endless. *Reasoning is constitutively presuppositional*.

Recall Frege's (1967) and Hilbert's (1899) claims that the axiomatization of a theory requires making explicit every proposition that has some bearing on reaching the relevant theorems; or recall Grice's (2001) claim that the validity of arguments reduces to the formal validity of their ideal reconstructions where everything implicit in them is made explicit. Does the falsity of *Explicitness* entail that axiomatization is impossible or that arguments cannot be ideally reconstructed in the way Grice envisaged?

Of course not. But it does entail that we should question whether axiomatization or an ideal reconstruction of an argument actually do require making everything explicit in the form of premises. The current picture suggests something rather different: what those tasks might require us to do is to choose between what to make explicit and what to leave presupposed.

If so, then, Lewis Carroll's regress does teach us something foundational about the nature of reasoning. But what it teaches us might be neither that we are blind reasoners, nor that we are constitutively rule-followers, nor that we are non-causal reasoners. Rather, what it teaches us might be that as reasoners, we constitutively take things for granted: reasoning—theoretical, practical, deductive, or inductive—is possible only against a set of presuppositions.

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