

EPISTEMOLOGIA CONTEMPORÂNEA EM DEBATE

Explaining Rationality with Attributions of Knowledge-How*

Explicando a racionalidade com atribuições de conhecimento-como

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Abstract: In the first part of this paper, we argue that the claim that a subject S believes that φ on the basis of good reasons cannot be the only type of explanation why S rationally believes that φ . Explaining attributions of rationality only by means of the notion of a belief *being based on good reasons* generates one version of the problem of regress of reasons. In the second part we flesh out a hypothesis according to which some beliefs are rationally held by a subject S in virtue of the fact that S knows how to produce good reasons for holding them. In the third part we offer reasons for accepting the relevant hypothesis, and we argue that it is more successful than foundationalist, coherentist and infinitist theories in explaining the truth of some attributions of epistemic rationality. In the last part we address the problem of the regress of reasons and sketch a solution for it based on our hypothesis.

Keywords: Regress of Reasons. Rationality. Knowledge-How.

Resumo: Na primeira parte deste estudo, defendemos que a afirmação de que um sujeito S crê que φ com base em boas razões não pode ser o único tipo de explicação para o fato de que S racionalmente crê que φ . Explicar atribuições de racionalidade somente por meio da noção de uma *crença baseada em boas razões* gera uma versão do problema do regresso das razões. Na segunda parte, apresentamos uma hipótese de acordo com a qual algumas crenças são racionalmente mantidas por um sujeito S em virtude do fato de que S sabe como produzir boas razões para sustentá-las. Na terceira parte, oferecemos razões para aceitar a hipótese relevante e argumentamos que ela é superior a

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teorias fundacionistas e coerentistas ao explicar a verdade de algumas atribuições de racionalidade. Na última parte do artigo, tratamos do problema do regresso das razões e esboçamos uma solução para tal problema, a partir de nossa hipótese.

Palavras-chave: Regresso das razões. Racionalidade. Saber-cómo.

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Here is one way of making sense of the claim that *S* *rationally believes that φ* : there are good reasons to believe that φ such that *S* believes that φ for those reasons¹. That is, the latter type of claim (or something very similar)² may be successfully used to explain the fact that a certain subject rationally believes something. Consider:

L – Amanda rationally believes that *She will get the job*.

R – And why is that?

L – Well, she knows that *The boss wants her to work in his company*, and that *He said that her competitors are not as competent as she is*.

R – But you did not yet explain why is it the case that Amanda is rational in believing that *She will get the job*...

L – Because those are the reasons for which Amanda believes that *She will get the job*.

Of course, *R* could ask now: “But how do you know that those are the reasons for which Amanda believes that *She will get the job*? Maybe something else motivates her to do so”. Presumably, *L* will answer that the relevant hypothesis (that those are the reasons for which Amanda believes that *She will get the job*) is the *best explanation* for some particular behavior or performance exhibited by Amanda, or that Amanda would not believe that *She will get the job* if she did not have those reasons (say, because she is not the kind of person who is used to judging things on the basis of wishful thinking), etc. At this point, it does not

¹ Whenever we talk about the *good* reasons that *S* has to believe that φ we are implying that the relevant reasons are not overridden, as *reasons to believe that φ* , by other reasons available to *S*. We use the concepts of (epistemic) *rationality* and (epistemic) *justification* interchangeably here. We are assuming that justification is a function of the availability of reasons or evidence – *S*'s belief that φ is not rationally held unless some reason or evidence for thinking that φ is true is available to *S*. This is sometimes called ‘personal justification’: the justification that a *subject has* to believe that something is true. Also, our primary focus is on *doxastic justification* (not *propositional justification*).

² One could say something similar in at least one of the following ways: ‘*S* believes that φ because *S* has good reasons to believe that φ ’, ‘There are good reasons to believe that φ such that those are *the reasons why S* believes that φ ’.

matter how one comes to know all these things. The present observation is just that it seems correct to say, in some particular situations, that one's belief is rationally held in virtue of the fact that it is *based on* good reasons (or *grounded on* good reasons).

The relevant basing relation is usually taken to be a *causal relation*: *S*'s belief that φ is based on *S*'s belief that ψ when the latter *causes* or *causally sustains* the former in some appropriate way³. Alternatively, or additionally, the basing relation could be defined by means of certain counterfactuals (e.g., a belief will be maintained depending on whether or not its bases are maintained throughout a certain range of counterfactual situations)⁴. Also, the presence of meta-beliefs (or at least the disposition to have meta-beliefs) to the effect that one's reasons are good reasons to believe that φ could be required in order for one's belief in φ to be based on the relevant reasons⁵. We will not commit ourselves with any of these views in particular for now – we will get back to this below.

Given that much, one could advance the following hypothesis:

(B) For any *S*, φ and *t*, if *S* rationally believes that φ at time *t*, then *S* rationally believes that φ *in virtue of the fact that S's belief that φ is based on good reasons at *t**⁶.

(The scope of the concept of *reasons* – as occurring in (B) – includes doxastic states only, not pre-doxastic states such as perceptual experiences).

By tokening (B) in explanations of attributions of epistemic rationality we can be successful throughout a wide range of cases (i.e., some clear cases of inferentially justified beliefs). But we will be in trouble if (B) is the *only* type of explanation we can give for our attributions: its reach is not as wide as an epistemologist would like it to be. The challenge we

³ Examples of causal accounts of the basing relation may be found in: GOLDMAN, A., What is Justified Belief?, in: PAPPAS, G. (ed.), *Justification and Knowledge*, Dordrecht: D. Reidel, 1979, p. 1-25; AUDI, R., *The Structure of Justification*, New York: Cambridge University Press, 1993; and POLLOCK, J. and CRUZ, J., *Contemporary Theories of Knowledge*, Lanham MA: Rowman & Littlefield, 1999, among many others.

⁴ That would be an *alternative* to the causal account only on the assumption that the relevant counterfactuals do not constitute an analysis of causation.

⁵ For different accounts of the basing relation, see NETA, R., The Basing Relation, in: BERNECKER, S. and PRITCHARD, D. (eds.), *The Routledge Companion to Epistemology*, New York: Routledge, 2011, p. 109-118.

⁶ The basing relation mentioned in (B) is supposed to be a *proper* basing relation: *S*'s rationally held belief that φ will be based on good reasons *in the right way*. If *S* believes that φ on the basis of good reasons but does so in a non-competent way, *S*'s belief that φ will not be rationally held. For examples of beliefs based on good reasons *in the wrong way*, see TURRI, J., On the Relationship between Propositional and Doxastic Justification, in: *Philosophy and Phenomenological Research*, 80:2 (2010), p. 312-326.

face here can be clarified by means of the role played by a certain type of inquirer. Like the skeptical inquirer in the context of reasons-giving, our inquirer ‘goes meta’ (as we ‘go meta’ as well): we start claiming that a certain belief is rationally held by someone, and then the inquirer requires us to *explain why* it is the case that the relevant belief is rationally held. If we use further attributions of beliefs to explain why the target belief is rationally held, our inquirer reiterates that type of request – this time directed toward the beliefs mentioned in the explanation.

So suppose that *R* is our special inquirer and *L* is someone who can only explain attributions of epistemic rationality by tokening (B). Their dialogue will run as follows:

L – *S*’s belief that φ is rationally held.

R – In virtue of what sort of fact is *S*’s belief rationally held?

L – Her belief is based on good reasons.

R – Are not those reasons other beliefs that are also held by *S*’?

L – Yes, they are.

R – Are these beliefs also rationally held by *S*?

L – Yes, of course.

R – And what sort of fact makes it the case that each of these beliefs is rationally held by *S*?

L – Each of them is based on good reasons...

Can the above dialogue be successfully concluded? If the only type of explanation available to *L* is (B), then it cannot be successfully concluded: *L* will either cease to answer to *R*’s questions at some point (maybe out of fatigue) or, assuming that *L* can reiterate his dialogical pattern indefinitely, he will attribute more beliefs (and more basing relations) to *S* than *S* is even capable of harboring (we are assuming that *S* is a finite, psychologically realistic, being)⁸. So how can we break *L*’s dialogical pattern into more than one type of explanation? This is one version of the problem of regress of reasons⁹.

Maybe there could be some point where our inquirer asks: ‘In virtue of what sort of fact does *S* rationally believes that φ ?’ and the attributor

⁷ If you think that reasons are *propositions* instead of doxastic attitudes, you may picture *R* and *L* agreeing that *S* must believe these propositions to be true in order for them to be used as reasons.

⁸ One might think that what we have here is an objection to *infinetism* about the structure of epistemic justification (see below). But, as can be shown by the way KLEIN, P., *Infinetism is the Solution to the Regress Problem*, in: STEUP, M. and SOSA, E. (eds.), *Contemporary Debates in Epistemology*, Malden MA: Blackwell Publishing, 2005, p. 138, answers to the so-called ‘finite mind objection’, that is not a good objection to infinitism. For discussion, see also TURRI, J., *Infinetism, Finitude and Normativity*, in: *Philosophical Studies*, 163:3 (2013), p. 791-795.

⁹ Actually, the problem we are dealing with here would be more properly called the ‘problem of regress of explanations for attributions of rationality’.

answers: '*S*'s belief in φ is *foundationally justified*'. For example, φ could be a proposition about what *S* feels (as when *S* believes that *She (S) is in pain*). In this case, so the explanation goes, *S*'s belief that *She is in pain* has some feature *F* such that *F* is not the property of *being based on other beliefs* and *F* accounts for the justification of *S*'s belief. *S*'s belief that *She is in pain* is said to be a foundational one (or a 'basic' one) because it has feature *F*: it may justify other beliefs but it need not be justified on the basis of other beliefs. So there would be a point of the dialogue between *R* (our inquirer) and *L* (the attributor) where the latter adduces that one or more of *S*'s beliefs are justifiably held despite not being based on any further knowledge or justified belief of *S*. Call the view used by *L* in this case 'foundationalism'¹⁰. So, according to the foundationalist view, there would be no rational belief of *S* whose justificational ancestry does not ultimately end up with a foundational belief at its base.

That means that our dialogue *would not* be successfully concluded if it were to end as follows:

L – *S*'s belief that φ is rationally held.

R – In virtue of what sort of fact is *S*'s belief rationally held?

L – Her belief in φ is based on good reasons B_1, B_2, \dots, B_n .

R – And are these further beliefs rationally held by *S*?

L – Yes, they are.

R – And what sort of fact makes it the case that these beliefs are rationally held by *S*?

L – Well, B_1 and B_n are foundationally justified, while B_2, \dots, B_{n-1} are based on good reasons...

Here, *L* still has to explain why B_2, \dots, B_{n-1} are rationally held by *S*. If *L* is to follow the same path as the one we mentioned before, by either arbitrarily ceasing to answer to *R*'s questions or by going into the infinite loop of attributions of reasons and basing relations, then he will again be unsuccessful.

So, if *L* assumes that he can ultimately explain all his rationality attributions in the same way he (purportedly) explained why B_1 and B_n

¹⁰ It is not part of our goal to assess all forms of foundationalism about justification in the literature. We are just assuming, with AUDI, R., *The Structure of Justification*, p. 3, that the basic idea "is that if one has knowledge or justified belief, then, first, one has at least some knowledge or justified belief which is foundational, in the sense that it is not (inferentially) based on any further knowledge or belief and, second, any other knowledge or justified belief one has in some way rests on one or more of these foundational elements". Our example of *S*'s belief about *S*'s pain is merely illustrative, and there is no implication here that only introspective beliefs could count as foundational in this sense. What purportedly makes a belief foundational (the feature *F*) varies from one author to another: the fact that its content is 'self-evident', that it is infallible, that it was formed by means of a belief-independent reliable process, are among the candidates.

are rationally held, he is committed to the following thesis: For any S and φ , if S rationally believes that φ , then S rationally believes that φ either because S 's belief that φ is a *foundational belief* or because it is *ultimately based on foundational beliefs*. Can the foundationalist ultimately explain every attribution of epistemic rationality in this way? There are two main problems for foundationalism about epistemic justification. First, the foundationalist has to explain how purportedly basic or foundational beliefs get justified¹¹. Second, the foundationalist has to explain how inferentially justified beliefs are ultimately based on foundational ones (it may be the case that the set of foundational beliefs is too restrictive to allow one to infer from them most of the things we take ourselves to justifiably believe)¹².

But there are other alternatives to the foundationalist explanation. One of them is based on a coherentist view about epistemic justification: roughly, S 's beliefs are justified in virtue of the fact that they are part of a coherent set of beliefs (where each of them initially had a certain degree of plausibility). Coherence is supposed to emerge from inferential relations among the contents of S 's beliefs¹³. So the truth of a proposition believed by S may be a good explanation for the truth of another proposition believed by S , and these propositions together entail the truth of a third proposition believed by S , and so on, until we have a web of beliefs maintaining relations of support, in a non-linear fashion¹⁴. We mention two objections to coherentism about epistemic justification. First, we have the 'isolation objection': coherent systems containing empirical beliefs may be completely disconnected from perceptual input, in which case it is not clear that perceptual experience plays a crucial role in the justification of empirical beliefs. Second, it is doubtful whether there is a strong positive connection between *epistemic justification* and *truth* when the former is strictly defined by means of coherence – is there any reason to think that forming beliefs that cohere with one's belief system will lead one to have more true beliefs than false ones¹⁵?

¹¹ That may involve, among other things, dealing with the Sellarsian dilemma – see SELLARS, W., *Empiricism and the Philosophy of Mind*, in: SELLARS, W., *Science, Perception, and Reality*, Atascadero, CA: Ridgeview Publishing Co., 1963, p. 253-329.

¹² For more development on these issues, see BONJOUR, L., *A Version of Internalist Foundationalism*, in: BONJOUR, L. and SOSA, E., *Epistemic Justification: Internalism vs. Externalism, Foundations vs. Virtues*, Oxford: Blackwell Publishing, 2003, p. 14-16.

¹³ See SHOGENJI, T., *Justification by Coherence from Scratch*, in: *Philosophical Studies*, 125:3 (2005), p. 305-325, for a probabilistic account of justification-generating coherence.

¹⁴ We are ignoring versions of coherentism, if there are any, in which vicious 'circular chains of reasons' are allowed as coherent sets of beliefs. See OLSSON, E. J., *Against Coherence*, New York: Oxford University Press, 2005, p. 12, for details about the concept of *coherence*.

¹⁵ For an elaboration on these issues, see BONJOUR, L., *A Version of Internalist Foundationalism*, in: BONJOUR, L. and SOSA, E., op. cit., p. 53.

Finally, there is the infinitist alternative¹⁶. When asked by our inquirer: ‘In virtue of what sort of fact is *S*’s belief rationally held?’, the infinitist attributor would answer: ‘In virtue of the fact that it is grounded on good reasons which are backed up by an *infinite set* of reasons available to *S*’. Like the coherentist, the infinitist gives an *inferential* explanation for attributions of epistemic rationality. But instead of making reference to a set of beliefs that are coherently held by *S*, the infinitist makes reference to the fact that there are infinite reasons available to *S* – reasons such that, if deployed by *S*, they would increase or create justification for *S*’s belief. It is important to note that the relevant reasons, the ones that are said to be *available to S*, need not be *actually held by S*. A reason for believing that φ which is available to *S* but is not actually held by *S* is one whose content is properly connected with φ and such that *S* has a certain disposition to use it in favor of believing φ . So, at some point of the dialogue with our inquirer, the infinitist interlocutor would declare that one or more of *S*’s beliefs are not actually justified, although they are *justifiable* in virtue of the availability of reasons to *S*.

Here is a question for the infinitist: if there may be a reason for *S* to believe that φ that is not an actually justified belief, although it is *justifiable* for *S*, why think it is an epistemically appropriate reason to believe that φ at *t*? The intuition that the unjustified cannot justify is a pretty strong one. Maybe, then, the infinitist interlocutor would also fail to satisfy our inquirer¹⁷.

Each of these types of explanation for attributions of epistemic rationality – the foundationalist, the coherentist and the infinitist explanations – has its problems. Maybe their problems are insurmountable. Independently of the usual objections to these accounts, however, we have reasons to think that they fail to explain the truth of some attributions of epistemic rationality – reasons that will be presented in Section 3. First, however, we will sketch a hypothesis that will be able to explain the truth of the relevant attributions.

¹⁶ For a defense of infinitism about epistemic justification, see KLEIN, P., *Infinitism is the Solution to the Regress Problem*, in: STEUP, M. and SOSA, E. (eds.), op. cit., p. 131-139, and KLEIN, P., *Human Knowledge and the Infinite Progress of Reasoning*, in: *Philosophical Studies*, 134:1 (2007), p. 1-17. We are not committed to the claim that our description of the infinitist explanation for attributions of rationality matches exactly with Klein’s account. Klein conceives his infinitist view as a solution to a particular version of the problem of regress of reasons: one according to which this problem “concerns the ability of reasoning to increase the rational credibility of a questioned proposition”; see KLEIN, P., *Infinitism is the Solution to the Regress Problem*, in: STEUP, M. and SOSA, E. (eds.), op. cit., p. 132. This is not the same problem as the one we are dealing with here (our problem is to successfully explain our attributions of epistemic rationality to our special inquirer).

¹⁷ For other objections to Klein’s infinitism, see GINET, C., *Infinitism is not the Solution to the Regress Problem*, in: STEUP, M. and SOSA, E. (eds.), *Contemporary Debates in Epistemology*, Malden MA: Blackwell Publishing, 2005, p. 140-148.

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We saw that (B) may be tokened in explanations for attributions of epistemic rationality, but also that it must not be the *only type* of explanation. Luckily, while (B) is one of the ways of making sense of attributions of rationality, there may be other ways – some beliefs are rationally held despite not being *actually* based on good reasons. Roughly put, our hypothesis is that such beliefs are rationally held by a subject *S* because *S* has the ability or knowledge of how to form certain doxastic attitudes that constitute good reasons for holding them¹⁸. The hypothesis says that what rationalizes or justifies some of one's beliefs is a doxastic disposition – one that takes place in virtue of the fact that one knows how to reason¹⁹. But this is not yet to say that there are beliefs that are rationally held independently of available reasons for holding them. Let us explore that idea in more detail.

Consider the following typology of beliefs: some beliefs are *explicitly held* by *S* at *t*, some are *not explicitly held* by *S* at *t*. The former ones are beliefs whose contents *S* is considering at *t*, while the latter ones are beliefs whose contents *S* is not considering at *t*. Both, *S*'s explicit and *S*'s non-explicit beliefs *have already been formed* by *S*, but while *S* is thinking of the contents of the former ones, *S* is not thinking of the contents of the latter ones²⁰. Examples of non-explicit beliefs include beliefs retrievable via memory and subconscious beliefs that play a role in one's reasoning processes²¹.

¹⁸ We are taking knowledge of how to reason to be an ability to reason. There are critiques to the thesis that knowledge-how in general is ability – see ALTER, T., Know-How, Ability, and the Ability Hypothesis, in: *Theoria*, 67:3 (2001), p. 229-239, and STANLEY, J. and WILLIAMSON, T., Knowing How, in: *The Journal of Philosophy*, 98:8 (2001), p. 411-444. It is not the purpose of the present work to address these objections, however. The assumption that knowledge of how to reason in particular is a kind of cognitive ability is harmless enough for present purposes.

¹⁹ RYLE, G., Knowing How and Knowing That, in: *Proceedings of the Aristotelian Society*, 46 (1945-1946), p. 1-16, advances the idea that there is a *genetic* dependence of knowledge-that on knowledge-how. What other types of dependence could there be? We are hypothesizing that one's personal justification for holding certain beliefs might supervene on one's possession of abilities to reason in certain ways.

²⁰ Arguing against the view that beliefs are always 'vivid' in one's consciousness, so says ARMSTRONG, D. M., *Belief, Truth and Knowledge*, London: Cambridge University Press, 1973, p. 7: "We can, for instance, intelligibly attribute a current belief that *the earth is round* to a man who is sleeping dreamlessly or is unconscious".

²¹ One might compare our distinction between explicit and non-explicit beliefs with the distinction between beliefs that are 'active' and beliefs that are 'not active' in one's occurrent thought processes (see, for example, LEITGEB, H., *Inference on the Low Level: An Investigation into Deduction, Nonmonotonic Reasoning, and the Philosophy of Cognition*, Dordrecht: Kluwer Academic Publishers, 2004, §3 of Part I). The former ones would be part of what some psychologists call 'short-term memory', while the latter ones would be part of

Now, contrast that distinction with another, more general distinction: some beliefs are *actually held* by *S*, and some are such that *S* only has a disposition to form them. Call the latter ones ‘potential beliefs’²². Both, *S*’s explicitly held and *S*’s non-explicitly held beliefs are *actually held* by *S* – they both have already been formed by *S*, and they both play a certain role in *S*’s cognition. *S*’s potential beliefs *have not yet been formed by S*, although *S* has a disposition to form them. The relevant disposition is not possessed by *S* in a *trivial* sense, however. *S* may be said to have the disposition to believe that *There are bacteria in Mars* by being shown substantive evidence in favor of that proposition – but this is not the type of disposition in virtue of which we can say that a certain belief is a potential belief for *S*. If, however, *S* possesses the relevant evidence in support of the proposition *There are bacteria in Mars* and *S* knows how to infer the latter proposition from that evidence, then *S* has exactly the type of disposition in virtue of which we can say that the belief that *There are bacteria in Mars* is a potential belief for *S*. So the relevant disposition to believe is always possessed by *S* in virtue of the fact that (i) *S* knows how to form the belief, and (ii) *S* satisfies the antecedent conditions on the basis of which she can manifest that knowledge-how. Call a disposition that satisfies these conditions a ‘rational disposition’.

We have drawn these distinctions because we are going to consider cases where one has *potential reasons* for believing something, and these are to be interpreted as potential beliefs, not as non-explicit beliefs. So whenever we say: ‘There are potential good reasons for *S* to believe that φ ’ we mean to say that *S* has a *rational disposition to form beliefs that constitute good reasons for S to believe that φ* , not that *S* has non-explicit good reasons to believe that φ .

So the hypothesis we presented above says, among other things, that some beliefs are rationally held by *S* in virtue of the fact that *S* knows how to perform certain inferences: ones that would give *S* good reasons for holding the relevant beliefs. What does it mean to say, however, that ‘*S* knows how to infer that φ ’, or that ‘*S* knows how to infer that φ from reasons *R*’? We cannot give a thorough explication of the concept of *knowledge of how to perform an inference* (or *knowledge of how to reason*) here, but some points are required to minimally clarify it.

what they call ‘long-term memory’ (see GOLDMAN, A., Epistemology and the Psychology of Belief, in: *The Monist*, 61:4 (1978), p. 525-535). The comparison is not accurate, however, as long as non-explicit beliefs may also count as ‘active’ in one’s thought processes.

²² Like AUDI, R., Dispositional Beliefs and Dispositions to Believe, in: *Noûs*, 28:4 (1994), p. 419-434, we are aware that what is sometimes called a ‘dispositional belief’ in the literature is nothing more than a *disposition to believe* (not a belief that has already been formed). So potential beliefs are acknowledgedly identified here as ‘would-be’ beliefs: one has the disposition to form them, but *did not form them already*.

First, we are assuming that there is a positive correlation between knowing how to reason in a certain way and having a certain systematic disposition to perform particular inferences. For a very simple example, consider a case in which *S* knows how to infer that one of the conjuncts of a certain believed conjunction is true. In this case, *S* has a disposition to form beliefs in propositions of the form φ on the basis of beliefs in propositions of the form $(\varphi \wedge \psi)$. This is a *systematic* disposition, since its manifestation is repeatable across a certain range of situations. Given *S*'s inferential ability to infer a conjunct from a conjunction, she will not only have the disposition to believe that *Ruth is a philosopher* when she believes that *Ruth is a philosopher and a logician*, but she will also have the disposition to believe that *Italy is in Europe* when she believes that *Italy is in Europe and Italy is part of the European Union*²³.

Second, just as knowledge-that (or propositional knowledge) requires an 'anti-luck' property, i.e. a non-fragile relation with truth, the manifestations of knowledge-how (or procedural knowledge) requires a non-fragile relation with success. What is the success condition in the particular case of knowledge of how to reason? It is *believing on the basis of good grounds*. The anti-luck condition here is: when *S* believes that φ on the basis of good reasons, and by doing so she manifests her knowledge of how to reason in a certain way, it must not be a *matter of luck* that she believes what is supported by her reasons. That is, *S*'s knowledge of how to reason is manifested in cases of proper basing only – it is not manifested in cases where *S* believes that φ on the basis of good reasons but *in the wrong way* (e.g., by instantiating a fallacy).

That much about knowledge of how to reason will suffice for our present purposes. Now, the hypothesis that we are exploring here is that *some* attributions of epistemic rationality are properly explained through the attribution of dispositions to believe. It says that some beliefs – maybe even some allegedly foundational ones – are not grounded on actual reasons, being grounded instead on a disposition to form reasons that speak in favor of those beliefs. Whenever *S* has such a disposition, we say that she has *potential reasons* for believing φ . It is important to notice, however, that although a belief may be rationally held in virtue

²³ Of course, the systematicity of *S*'s disposition to perform particular inferences (when *S* knows how to reason in a certain way) may be more or less general. Having a systematic disposition to perform particular inferences requires being able to instantiate types of inference, and different types may have more or less possible instantiations. For example, the type of inference that outputs a belief in a disjunction $(\varphi \vee \psi)$ when given a belief in one of its disjuncts as input (for example, a belief in φ) has more instances than the type of inference that outputs a belief in a proposition of the form Ga when given a belief in a proposition of the form $Fa \wedge P(Gx \mid Fx) = .99$ as input (where ' Fa ' means that *a is F* and the unbounded ' $P(Gx \mid Fx) = .99$ ' means that *Ninety nine percent of the objects that are F are also G*).

of the fact that one has a potential reason for holding it (and not in virtue of the fact that there is an actually held reason on which it is based), it is not the potential reason itself that rationalizes one's belief, but one's *rational disposition* to form that reason. As we saw, a doxastic disposition is *rational* when it takes place in virtue of the fact that one knows how to reason in a certain way and one satisfies the antecedent conditions on the basis of which one can manifest the relevant knowledge-how (we will get back to this later)²⁴. Call the beliefs that are rationally held in virtue of the fact that one has potential reasons for holding them, in the sense we described above, 'beliefs grounded on rational dispositions'²⁵. Let us consider an example of a belief that is *at least partially* grounded on a rational disposition.

Suppose that Amanda, a normal adult woman who is well acquainted with cats and other ordinary animals, rationally believes that *Felix is a cat*. She (defeasibly) infers that *Felix can jump*. As it happens, however, Amanda has never formed a belief, explicitly or not, toward the proposition *Normally cats can jump*. But she has a disposition to believe that proposition, and she has the 'right materials' to do so: she has evidence that is better explained by the truth of that proposition (and she knows how to perform the relevant explanation), she has no reason to think that Felix differs from normal cats in any particular way, etc. It appears, then, that when Amanda believes that *Felix can jump* she does so in a rational way. Her rational belief is not only grounded on her actually held belief that *Felix is a cat*, but also on her disposition to believe that *Normally cats can jump*. Amanda believes that *Felix can jump* also *because* she has a disposition to believe that *Normally cats can jump*. Of course, maybe when we ask Amanda why she believes that *Felix can jump* she will answer: 'Because normally cats can jump', but that does not necessarily mean that she already had a belief to the effect that *Normally cats can jump* before we asked her – it may be that what was once a potential belief for her became an actually held belief of her. When we ask Amanda why she believes that *Felix can jump* we are giving her an appropriate stimulus by means of which she can *actualize* her disposition to believe that *Normally cats can jump*²⁶.

²⁴ We are not implying that this is the whole story about the rationality of doxastic dispositions. In particular, we are not implying that those elements are sufficient for the rationality of a disposition. More conditions may be required – we leave this investigation for future work.

²⁵ AUDI, R., *Dispositional Beliefs and Dispositions to Believe*, op. cit., p. 421, talks about grounds for dispositions to believe. The idea here is not only to acknowledge that we have grounds for dispositions, but also that dispositions themselves may function as grounds.

²⁶ Amanda would even more explicitly be so stimulated by being asked: 'Is it true that normally cats can jump?'. It has also been pointed out by AUDI, R., *Dispositional Beliefs and Dispositions to Believe*, op. cit., p. 422, that we have a more plausible psychology when we.

By saying that Amanda's inferential belief (that *Felix can jump*) is rationally held, we are saying that in order for one to rationally infer that *Felix can jump* from one's belief that *Felix is a cat*, one does not necessarily need to have the (actually held) belief that *Normally cats can jump* (or something similar). One may instead have the rational *disposition* to infer that *Normally cats can jump*²⁷. If that is correct, then there are beliefs that are at least partially grounded on rational dispositions²⁸. Are there beliefs that are *solely* grounded on rational dispositions? Both, empirical and a *priori* beliefs are candidates here. Let us deal with an example of the former type.

Consider *S*'s empirical belief that *There is a book on her (S's) desk* – *S* sees the book lying on her desk and comes to believe that proposition. Assume that *S*'s belief is rationally held. Is *S*'s belief based on other beliefs that are held by *S*? Not necessarily, according to our hypothesis: *S*'s belief may be grounded on her rational *disposition* to believe in the truth of other propositions, e.g., the proposition that *She (S) is seeing a book on her desk* (in which case *S* has a *potential reason* to believe that *There is a book on her desk*). *S* does not need to actually believe that *She is seeing a book on her desk* in order for her to rationally believe that *There is a book on her desk* – her rational disposition to believe that

attribute dispositions to believe instead of dispositional beliefs in circumstances similar to Amanda's. If we assume that a subject already believes in the truth of every proposition φ such that she will answer positively to the question 'Is it true that φ ?' when we ask her, we will end up attributing an infinite set of beliefs to that subject. But that is unrealistic and computationally unfeasible for human cognizers. (This point is perfectly compatible with, and is not defeated by, the claim that we have many more beliefs than the ones whose contents we are consciously entertaining)

²⁷ This is not new, since some authors – e.g. ARMSTRONG, D. M., *Belief, Truth and Knowledge*, 1973; and LEITGEB, H., *Inference on the Low Level: An Investigation into Deduction, Nonmonotonic Reasoning, and the Philosophy of Cognition*, 2004 – have already pointed out that some beliefs are based on 'general dispositional beliefs', where these are actually taken to be dispositions to believe.

²⁸ Of course, if one conceives beliefs themselves as dispositions to go through certain (cognitive or behavioral) performances – e.g., see PUTNAM, H., *The Nature of Mental States*, 1975, p. 429-440; MARCUS, R. B., *Some Revisionary Proposals about Belief and Believing*, in: *Philosophical and Phenomenological Research*, 50 (1990), p. 132-153 –, it will be easily granted that some beliefs are grounded on dispositions (in this case, that some beliefs are grounded on other beliefs). Although this view about the nature of belief does not render our hypothesis false, it would appear to render it trivial or non-informative. But that is not true: our hypothesis will say, under a dispositionalist interpretation, that some beliefs are rationally held because one has a disposition to have certain dispositions. We are not assuming that beliefs are *just* dispositions to perform in certain ways, though, and we are assuming a representationalist view about beliefs: believing that φ requires having a certain type of representation (sentential or otherwise) in one's cognition. But arguing in favor of such an interpretation and dealing with the alternatives is beyond the purposes of the present investigation.

She is seeing a book on her desk already accounts for the rationality of her belief that *There is a book on her desk*²⁹.

This way of dealing with the question of how one is justified in maintaining a perceptual belief differs from the way foundationalists deal with it. When it comes to *personal justification* or rationality (the epistemic status that we are concerned with) the guiding idea is that one does not justifiably believe that φ unless a reason or evidence to think that φ is true is available to one. Foundationalists will either propose that the reason or evidence that *S* has to believe that *There is a book on her desk* is her very experience of a book on her desk, or they will postulate that such a belief is ultimately based on other beliefs (perhaps introspective beliefs) which are then purportedly justified by some special pre-doxastic states (perhaps states of awareness or acquaintance)³⁰. According to our hypothesis, however, in order for a reason to be available to one it does not need to be *actually held* by one: it may be the case that one has a rational disposition to form it.

Now, when we are assuming that *S*'s disposition to believe that *She is seeing a book on her desk* is a *rational* disposition, we are assuming that she knows how to form such a belief and that she satisfies the antecedent conditions on the basis of which she could manifest the relevant ability. At this point our trouble-making inquirer will strike again and point out that, when we say that *S*'s belief that *There is a book on her desk* is rationally held in virtue of being grounded on *S*'s rational disposition to believe that *She is seeing a book on her desk* (as opposed to being grounded on *S*'s belief that *She is seeing a book on her desk*), we will not successfully conclude our inquiry yet, since by using the term 'antecedent conditions' we may be making reference to other beliefs that are held by *S*. Surely a new question will be raised as to whether these other beliefs (if they are held by *S*) are rationally held by *S*.

It is possible however, that the relevant antecedent conditions do not include other beliefs that are held by *S*. We can see how a 'pure' dispositional explanation would run by figuring how would *S* competently form her potential reason for believing that *There is a book on her desk*. So let us suppose that *S* actualizes her disposition to believe that *She is seeing a book on her desk*. Assuming that the relevant belief would be rationally held by *S*, our hypothesis says again that it would not

²⁹ In general, one does not need to have beliefs about what one perceives in order to have rational beliefs about perceived objects. Some foundationalists will agree with the latter claim, but that is because they take the relevant perceptual beliefs to be *foundationally justified*.

³⁰ Something along these lines may be found in: FUMERTON, R., *Metaepistemology and Skepticism*, Lanham MA: Rowman & Littlefield, 1995; and BONJOUR, L., A Version of Internalist Foundationalism, in: BONJOUR, L. and SOSA, E., op. cit., 2003, p. 5-96.

necessarily be based on other beliefs that are held by *S*: it may be based on other dispositions of *S*, e.g., *S*'s disposition to believe that *It appears to her as if she is seeing a book on her desk* and that *If it appears to her as if she is seeing a book on her desk, then it is highly likely that she is seeing a book on her desk*. So the antecedent conditions we mentioned before – the ones on the basis of which *S* can manifest her knowledge of how to infer that *She is seeing a book on her desk* – may themselves be rational dispositions of *S*, not necessarily other beliefs that are held by *S*. Of course, nothing we said so far implies that all these dispositions are possessed by *S* independently of the fact that *S* has an experience of a certain sort. Our hypothesis is just that *what rationalizes or justifies S's empirical belief is either another rational belief of S or a disposition that S has to form a belief that constitutes a good reason for S's empirical belief (or a combination of both) – not that experiences have no causal role in bringing about the relevant dispositions (this is orthogonal to our discussion, which is about personal justification).*

We will consider other examples of beliefs grounded on rational dispositions and compare our hypothesis with foundationalist, coherentist and infinitist accounts later. We will also try to figure out how our hypothesis is supposed to deal with the version of the regress problem we presented before. For now, however, let us briefly try to specify our hypothesis in more detail. It says that: some beliefs are rationally held by a subject *S* in virtue of the fact that *S* has a rational disposition to form good reasons for holding them. The relevant disposition, remember, is supposed to be possessed by *S* in virtue of the fact that (i) *S* knows how to reason in a certain way and (ii) *S* satisfies the antecedent conditions on the basis of which *S* can manifest her ability to reason in that way.

Two particular features of our hypothesis stand out. First, the claim that some beliefs are grounded on rational dispositions does not imply that the relevant beliefs are rationally held *independently of the availability of reasons* for holding them. Suppose *S*'s belief that φ is rationally held in virtue of being grounded on *S*'s rational disposition to form beliefs that constitute good reasons for believing φ . *S* knows how to form the relevant reasons and she satisfies the antecedent conditions on the basis of which she can manifest her ability to form those reasons. In this case we say that *S* has *potential reasons* for believing that φ . But if there were no good reasons to believe that φ to be delivered by *S*, her belief in φ would not be rationally held (assuming, of course, that *S* has no further reasons for believing that φ) – it would be, so to say, arbitrarily held (or maybe based on bad grounds). That would mean that *S* 'has nothing to recommend' believing φ .

Second, the grounding relation that holds between *S*'s belief that φ and *S*'s rational disposition to competently form good reasons to believe that φ is supposed to be similar to (if not a generalization of) the basing relation that holds between a belief and the reasons for which it is held³¹. We will not argue in favor of any particular account of the basing relation here. But it will suffice for our present purposes to note that there is *some* kind of counterfactual dependence between a belief and the propositional attitudes on the basis of which it is held³². If *S*'s belief that φ is based on *S*'s reasons *R* then, throughout a certain range of situations that bear some yet to be specified relation with the original one, if *S* did not have reasons *R*, she would not believe that φ . Similarly, if *S*'s belief that φ is grounded on *S*'s disposition to form certain doxastic attitudes *R* then, throughout a certain range of situations that bear some yet to be specified relation with the original one, if *S* did not have a disposition to form *R*, she would not believe that φ . Of course, we are not assuming that the counterfactual dependence is all there is to say about the basing or grounding relation. The important point advanced by our hypothesis here is: just as a belief may be held *because* one holds other beliefs, a belief may also be held *because* one has a certain disposition to form other beliefs.

3

In the previous section we presented a hypothesis by means of which we could explain some attributions of epistemic rationality: some beliefs are rationally held by *S* in virtue of the fact that *S* has a certain ability to produce reasons that speak in favor of those beliefs³³. Now we want to show that the hypothesis is well-motivated. By doing so, we will also have the opportunity to compare it with foundationalist, coherentist and infinitist accounts.

³¹ It may be suggested that dispositions do not qualify as causes and, therefore, that our account is incompatible with a causal account of the basing/grounding relation. For a defense of the view that dispositions are causes, however, see ARMSTRONG, D., *Dispositions Are Causes*, in: *Analysis*, 30:1 (1969), p. 23-26.

³² We will not try to specify exactly what kind of counterfactual dependence there must be between beliefs and their bases (neither how robust it must be). This is something we are going to deal with in future work.

³³ Our hypothesis is to be distinguished from Sosa's (see SOSA, E., *The Raft and the Pyramid: Coherence versus Foundations in the Theory of Knowledge*, in: *Midwest Studies in Philosophy*, 5 (1980), p. 23). Sosa advances the idea that justification for a belief may come from an intellectual virtue or justified disposition by means of which *that very belief* was formed. What we are saying, however, is that rational dispositions to form *further beliefs* may account for the justification of an actually held belief.

There are some beliefs that are rationally held but: (a) are not based on *actually held* reasons, and (b) are not typically regarded as ‘basic’ or foundational. Here is one example:

L and S are talking, and L asks S whether English was created by men (and not, for example, by dinosaurs or aliens). S immediately forms a belief in that proposition and replies with a ‘Yes’ accordingly. As of yet, S has not formed any specific beliefs concerning the origins of natural languages and, therefore, S’s belief that English was created by men is not based on any such belief. But some potential reasons that speak in favor of that proposition are available to S. She has a rational disposition, for example, to form the belief that English is part of the development and evolution of human languages, or the belief that if English had another origin (e.g., an alien origin), then we would have heard of a chapter of human history in which a group of people started talking English out of a sudden (but we did not heard of such a chapter in human history), etc. S’s belief is properly grounded on such dispositions.

According to our hypothesis, S’s belief in the example above is rationally held: her belief is grounded on rational dispositions (S has potential good reasons to believe that *English was created by men*, and it is *because* S has a rational disposition to form them that S believes that proposition). And this seems to be the correct verdict: S’s belief is as good an example of a justifiably held belief as any³⁴. But if foundationalists are true to their commitments, they *will not* take S’s belief to be justifiably held: the relevant belief is neither foundationally justified nor ultimately based on foundationally justified beliefs (because it is not based on *actually held* reasons to believe that *English was created by men* at all). On the assumption that a belief in φ is not foundationally justified, foundationalism implies that one cannot justifiably believe that φ at time t if one is not opinionated, at t , about other propositions that give support to φ .

(Of course, if one is a *reliabilist* foundationalist, one may argue that S’s belief in our example is foundational, the suggestion being that it was formed by means of a reliable, belief-independent type of cognitive process (if one is a process-reliabilist), or that it resulted from the exercise of a certain belief-independent intellectual virtue (if one is a virtue-reliabilist)³⁵. We need not delve into the details of how reliabilists would

³⁴ We should also assume, of course, that in both examples S has no overrides for the justification of her beliefs.

³⁵ The *locus classicus* of a process-reliabilist account of epistemic justification is GOLDMAN, A., What is Justified Belief?, in: PAPPAS, G. (ed.), op.cit., 1979. A virtue-reliabilist account of epistemic justification was perhaps first sketched by SOSA, E., The Raft and the Pyramid: Coherence versus Foundations in the Theory of Knowledge, op. cit., (1980), p. 3-26.

go about in trying to identify the relevant process-type or intellectual virtue and arguing for its reliability. The important point to notice here is that we are dealing with a concept of *personal* justification for a belief: it is about the reasons or evidence available to *S* to think that a proposition is true. Here, the reliability or virtuosity of *S*'s belief-forming processes alone will be *insufficient* for personal justification – although it is perfectly consistent to require it as a necessary condition for personal justification).

It might appear that coherentists will find no trouble in attributing epistemic rationality to *S*'s belief in this case. But actually they will have to take *S*'s belief to have a very low degree of justification: although it might be the case that *S*'s belief that *English was created by men* coheres with her other beliefs in a *weak* sense (it does not conflict with other beliefs of *S*, it has non-zero probability conditional on *S*'s evidence), the contents of *S*'s actually held beliefs do not actually give support to the proposition that *English was created by men*³⁶. *S* does not *actually* believe, for example, that *English is part of the development and evolution of human languages* or that *if English had another origin (e.g., an alien origin), then we would have heard of a chapter of human history in which a group of people started talking English out of a sudden (but we did not heard of such a chapter in human history)*, etc. *S* only has a disposition to promptly believe these things. *S*'s belief that *English was created by men* is not held alongside further beliefs that constitute good reasons for believing that *English was created by men*. And, according to coherentism, if there are no doxastic attitudes that are actually held by *S* whose contents give support to *S*'s target belief, the latter will fall short of a doxastically justified belief (although it may be regarded as 'plausible' or 'tenable').

The example we presented above is just one among many: there are plenty of cases of rationally held beliefs that are grounded on rational dispositions, but not on actually held reasons. Just think of any proposition that will be promptly and rationally believed by *S* such that *S* is not (as of yet) opinionated about other propositions that give support

³⁶ The concept of *support* denotes here the amount of confirmation that is necessary for a reason to count as *good reason* for believing something else. Using probability functions (*Pr*), we could say that *Bφ* is a good reason for *Bψ* only if *φ* gives support to *ψ*, that is, only if $Pr(\psi \mid \varphi) > r$, where *r* is some threshold that must at least be bigger than 0.5. Here, *r* is the amount of confirmation used to define the support relation that is necessary for a belief to count as a good reason for another. So it may even be the case that, in the case we presented above, *S* is opinionated about some propositions whose contents give support to the content of *S*'s *potential* reasons. But this element will not tell against our hypothesis, since the relation of support is not transitive: it is possible that the propositions about which *S* is opinionated *do not* give support to the proposition *English was created by men*, although they give support to propositions that constitute the contents of *S*'s potential reasons for believing that *English was created by men* (the example is supposed to be exactly a description of such a possibility).

to it (that is, *S* does not *actually* have good reasons for believing it). In cases like this the rationality of *S*'s target belief (if any) is explained by the fact that *S* has a rational disposition to form the relevant reasons. Foundationalists and coherentists will fail to explain the rationality of these beliefs.

Someone might object to the conclusions we have drawn from our example, though. In particular, it might be suggested that *S* already had the relevant belief (that *English was created by men*) even *before* the moment in which we are assuming that *S* formed it (just after *L* asked *S* whether *English was created by men*): *L*'s question just brought to *S*'s mind a content that was already (non-explicitly) believed by *S*. However, as we emphasized before, it is possible that instead of already holding the relevant belief *before* being asked whether it is true, *S* only had a rational disposition to form it – a disposition that she actualized upon being prompted by *L*'s question. (Again, it is unlikely that *S* already believes *all* those propositions to which she will promptly assent upon being asked about their truth). We are assuming that *S* *did not* have the belief that *English was created by men*, either explicitly or implicitly, before considering *L*'s question: this is supposed to be part of the example. Further, notice that we are using the question-response context for illustrative purposes only. We could think of any other moment in which *S* gathers a new belief in a certain proposition φ – *and there must be such moment* if *S* is to believe that φ , otherwise we would be committed to the claim that *S* was born with such a belief (or that she 'always had' such a belief). Similar considerations apply to the objection that what we are taking to be *potential reasons* for *S* to believe the target proposition are actually implicitly held beliefs of *S*.

Infinetists may want to dispute over a particular, crucial point: they may suggest that *S*'s belief that *English was created by men* is not justifiably held at all, although it is justifiable. As we pointed out above, however, our hypothetical case appears to be as good an example of a rationally held belief as any. This is not just a matter of the case 'striking us' as a case of rationally held belief: *S*'s belief exhibits several important properties that are commonly associated with rationally held beliefs. For example, the relevant belief would survive *S*'s rational scrutiny if *S* were to think about the reasons pro and con the truth of the proposition *English was created by men*; there is no reason to think that *S* is instantiating an epistemically reproachable or unreliable type of cognitive process in believing that proposition; etc.

What are exactly the differences between our hypothesis and foundationalist, coherentist and infinitist accounts? Let us begin with foundationalism.

Our hypothesis says that there are beliefs that are rationally held but are not actually based on good reasons: beliefs that are grounded instead on rational dispositions. According to foundationalist theories, *S* may justifiably believe something even though *S*'s belief is not based on any other doxastic state – and in that respect they seem to agree with our hypothesis. But to say that there are rational beliefs that are grounded on rational dispositions (in the sense we described above) is not to say that there are 'basic' or foundational beliefs. Allegedly foundational beliefs are usually taken to be justifiably held either in virtue of a certain feature of the beliefs themselves, e.g. their etiology, or in virtue of the fact that they are somehow connected to some pre-doxastic mental states, e.g. states of awareness or acquaintance. But according to the view we are deploying here, beliefs that are rationally held but are not based on reasons are justified neither in virtue of their own features nor in virtue of some pre-doxastic state of awareness or acquaintance: they are rationally held in virtue of the fact that there are potential reasons for holding them (the availability of which is explained by the fact that one knows how to produce them and one satisfies the antecedent conditions on the basis of which one can manifest the relevant knowledge-how).

But that does not mean that we are committed to a coherentist view about justification. According to our hypothesis, the rationality of *S*'s belief is not necessarily a function of a system of interrelated beliefs that are actually held by *S* – it may be a function of *S*'s rational dispositions to form beliefs. Suppose that *S* believes that φ . Suppose also that *S*'s actual reasons – call them ' R^a ' – do not themselves constitute good reasons for *S* to believe that φ : the propositional content of R^a does not give support to φ (although the propositional content of R^a weakly coheres with φ). Given that much, there are two particularly relevant situations for us to consider: either (1) *S* has a rational disposition to form good reasons to believe that φ on the basis of R^a , or (2) *S* has no such disposition. We will say, then, that in (1) *S* has potential good reasons – call them ' R^p ' – to believe that φ , while in (2) she does not and, therefore, that *S*'s belief may be justifiably held in the former case (if grounded on the relevant dispositions) but not on the latter. According to coherentism, however, there is no difference between alternatives (1) and (2) with respect to the rationality of *S*'s belief in φ . The potential good reasons R^p are, so to say, 'epistemically inert' according to coherentism – but not according to our hypothesis.

Infinitists will agree with us that some reasons that are not actually held by *S* but are *available to S* (in the sense that *S* 'has all it takes' to form them) may still have something to say about the epistemic status

of some of *S*'s actually held beliefs. We have argued that even though some rationally held beliefs are *not actually* based on reasons, they may be rationally held in virtue of the fact that there are potential reasons for holding them. One might think: that is infinitism. We would not protest against classifying our hypothesis as a form of infinitism. For we also use the notion of *disposition to deploy reasons* to explain attributions of epistemic rationality. There will be some particular cases, however, where the infinitist will claim that a certain belief is only justifiable in virtue of the potential reasons for holding it – and we will say that it is actually justified. The version of infinitism that conflicts with our hypothesis is one that employs only reason-based attributions of epistemic statuses: only (actually deployed) reasons will confer justification to a belief. According to our hypothesis, however, the reason-based assessment is not the only one: there is also a disposition-based assessment. As we pointed out before, beliefs that are grounded on rational dispositions are not taken to be justified by the potential reasons themselves, but by one's rational disposition to form them (dispositions are justifiers, not their yet-to-be-actualized deliverances).

Consider, for example, Klein's infinitist view: according to him, available reasons are supposed "to increase the rational credibility of a questioned proposition"³⁷ when properly deployed in a reasons-giving context. Our hypothesis says something else: that a rational disposition may be *actually* conferring justification upon a certain belief. Using our hypothesis, one will be able to explain the rationality of beliefs that are not actually based on reasons (e.g., perceptual beliefs), while the infinitist will have to say that they are only justifiable.

Now let us get back to the problem we began with.

4

Here is a fragment of the dialogue between our special inquirer (*R*) and someone that uses our hypothesis (*L*):

L – *S*'s belief that φ is rationally held.

R – In virtue of what sort of fact is *S*'s belief in φ rationally held?

L – In virtue of the fact that *S* has a rational disposition to produce good reasons to believe that φ , and that *S* believes that φ because she has such a disposition.

R – And what makes it the case that *S*'s disposition is a rational one?

³⁷ See KLEIN, P., *Infinitism is the Solution to the Regress Problem*, in: STEUP, M. and SOSA, E. (eds.), *op. cit.*, p. 132.

L – *S* knows how to produce good reasons to believe that φ , and she satisfies the antecedent conditions on the basis of which she can manifest the relevant ability.

It is clear that *R*'s inquiry will not stop here. In particular, as we saw before, *R* will want to hear more about the relevant *antecedent conditions* (let alone the explication of what it is for *S* to know how to reason in a certain way). If these antecedent conditions include rationally held beliefs, the quest for explanations for rationality attributions will just be back on track. If they do not, they must include other 'resources' that are usable by *S* to produce the relevant reasons. What other resources could there be?

In section 2 we saw that other dispositions may play the role of the relevant antecedent conditions. The example we considered was one in which *S* has a (rationally held) perceptual belief in a proposition of the form Fa , where 'a' denotes an object and 'F' is used to predicate a property of a. In that example, although *S* does not actually believe that *She sees that Fa* (which is a good reason for *S* to believe that Fa), *S* has a rational disposition to believe that *She sees that Fa*. That *S* has such a disposition means that she knows how to infer that *She sees that Fa* from certain grounds possessed by her. These grounds, however, may be further rational dispositions of *S*, e.g. her disposition to believe that *It appears to her as if she is seeing that Fa* and her disposition to believe that *If it appears to her as if she is seeing that Fa then it is highly likely that she is seeing that Fa* (or something similar). But if these are rational dispositions then, again, *S* must know how to form them on the basis of certain grounds possessed by her³⁸. Will these further grounds still be dispositions of *S*? If positive, then where will we stop attributing rational dispositions to believe to *S* (if at all)?

In general, for each rational disposition that *S* has to believe that φ (where a belief in φ is said to be a potential reason for *S* to believe something else) there is an ordered pair of the form $\langle \text{ability, antecedent conditions} \rangle$ such that the relevant ability is an ability possessed by *S* to form a rational belief in φ on the basis of the relevant antecedent conditions. The question is, then, whether there is a point where the antecedent conditions in one of those pairs is neither a belief nor

³⁸ We are not saying that the justification of every perceptual belief 'boils down' in the way we just described – this is just one possible way of describing *S*'s situation. It might be the case, alternatively, that the grounds for *S*'s disposition to believe that *She sees that Fa* are *S*'s dispositions to believe that *It appears to her as if she is seeing that Fa* and *The best explanation why it appears to her as if she is seeing that Fa is that she is seeing that Fa*. And, of course, we are not saying that perceptual beliefs are always solely justified by means of rational dispositions to believe.

a disposition to believe, both of which would send us back to the explanation loop of attributions of rationality.

Consider perceptual beliefs again. Several potential reasons for holding them can be conceived: (i) introspective beliefs plus beliefs about the high likelihood of certain facts (as in the example we already considered); (ii) introspective beliefs plus explanatory beliefs (*S* rationally believes that *There is a chair over there* because *S* has a disposition to believe that *She has an experience as if there is a chair over there* and that *The fact that there is a chair over there explains why she has the experience as if there is a chair over there*), beliefs about the usual characteristics of certain types of objects plus beliefs about entailment relations (*S* rationally believes that *There is a chair over there* because *S* has a disposition to believe that *The object over there is used to sit, that it was designed to stand a certain amount of weight, etc.*, and that *If the object over there is used to sit, and it was designed to stand a certain amount of weight, etc., then it is a chair*). It may be suggested that, one way or the other, we would always ultimately explain the rationality of perceptual beliefs (at least partly) by means of attributions of rational dispositions to form introspective beliefs. But how are introspective beliefs/dispositions to have introspective beliefs justified?

Suppose *S* justifiably believes that *She seems to see a tree*. In order for *S*'s belief to be rationally held she must have a notion of *what trees look like*. For how can *S* justifiably believe that *She seems to see a tree* (or even to know this fact) if she does not know what trees look like? (Consider someone who says: 'I know that *I am having an experience as if there is a bluejay in front of me*, but I actually do not know what bluejays look like'). But what is it for *S* 'to have a notion' of how trees look like, or to know how trees look like? One way for *S* to have this notion is for *S* to believe that *Trees look that way*, where the demonstrative '*that way*' makes reference to certain features assembled together in her experience. The other way is for *S* to know how to identify the typical perceptual features of trees and, as a consequence, to have a disposition to believe that *Trees look that way* (where, again, the demonstrative '*that way*' makes reference to certain features assembled together in her experience—we will assume this from now on)³⁹. In the first case, we are back at the doxastic realm. It is the other path that interests us now: *S* rationally believes that *She seems to see a tree* because she has a rational disposition to believe that *Trees look that way*. The relevant disposition

³⁹ For a defense of the view that knowing what an experience is like *is* a type of knowledge-how, see LEWIS, D., What Experience Teaches, in: LYCAN, W. G. (ed.), *Mind and Cognition: An Anthology*, Malden MA: Blackwell Publishing, 1990, p. 29-57.

results from her knowledge of how to recognize (or to categorize) certain features of her actual experience – that is, to match particular features of her experience with certain concepts or abstract templates that are already part of her cognitive system⁴⁰. The question is, now: assuming that this is a *rational* disposition, what rationalizes it? Here is one possible answer: what makes *S*'s disposition rational is *S*'s very knowledge of how to recognize features of her experience.

If we were to follow this line of thought, we would end up concluding that there are some rational dispositions whose second element in the pair <ability, antecedent conditions> of the type we mentioned above is itself an ability or knowledge-how⁴¹. The idea would be that, in some cases, an attribution of epistemic rationality to *dispositions* may be solely explained by attributions of knowledge-how – in the present case, the rationality of *S*'s disposition to believe that *Trees look that way* is explained by the fact that *S* has the ability to recognize the present features of her experience. Here we are extrapolating our initial hypothesis. We began by hypothesizing that some beliefs are rationally held in virtue of the fact that one has the ability or knowledge of how to form certain doxastic attitudes that constitute good reasons for holding them. The extrapolation consists in advancing the idea that some dispositions to believe are rationally possessed by one in virtue of the fact that one has some sort of non-inferential ability. In this case we would not restricted ourselves to talk about *knowledge of how to reason* anymore, but also about other sorts of knowledge-how (such as the knowledge of how to recognize features of one's experience).

So, let us get back to *S*'s (rationally held) perceptual belief that *She sees a tree*. Now, assume that we explain why this belief of *S* is rational by saying, among other things, that *S* has a rational disposition to believe that *She seems to see a tree*, and that this is the case because *S* also has a rational disposition to believe that *Trees look that way* (where '*that way*' makes reference to features of her experience). Finally, the latter disposition takes place because *S* knows how to recognize the features of her experience – and this is how we end at least one 'branch' of our explanation for the original attribution of epistemic

⁴⁰ Psychologists sometimes call these abstract templates 'schemata' or simply 'frames' – see HUMELHART, David, *Schemata: The Building Blocks of Cognition*, Theoretical Issues in Reading Comprehension. Hillsdale, NJ: Erlbaum, 1980.

⁴¹ In this case we would be advancing a theory that is in the same spirit of Sosa's theory of justification (see SOSA, E., *Beyond Internal Foundations to External Virtues*, in: BONJOUR, L. and SOSA, E., *Epistemic Justification: Internalism vs. Externalism, Foundations vs. Virtues*, Oxford: Blackwell Publishing, 2003, p. 99-170), although our view does not imply (let alone require) that there are *beliefs* which are foundational (in the sense that they are justifiably held independently of available reasons for holding them).

rationality⁴². And although that line of explanation makes it look as if *S*'s belief that *She sees a tree* has a 'foundation' (and that similar perceptual beliefs have similar 'foundations'), we should grant that if *S* were to actualize the disposition we last talked about, i.e., *S*'s disposition to believe that *Trees look that way*, we would still need to make reference to other dispositions (or beliefs) of *S* in order to explain the rationality of *S*'s belief, e.g., *S*'s disposition to believe (or *S*'s belief) that *She has seen trees in the past, and they all looked that way*, or something along these lines. But since *S*'s disposition to believe that *Trees look that way* has not been actualized and since the relevant attribution of knowledge-how suffices to explain its rationality, we need not go that further (we need not explain the rationality of beliefs that *S* did not actualize yet).

So it would appear that although there are foundational *dispositions* to believe, there are no foundational *beliefs*. Once one actualizes a foundational disposition (one that is rational in virtue of the fact that *S* has some non-inferential ability), the subject will need to have again available reasons for holding the resulting belief. In this case, we would be advancing some sort of externalism about the epistemic status of *dispositions*, with no need to give up on the idea that every *belief* of *S*, in any proposition φ , is always justified in virtue of the fact that there is a reason to think that φ is true available to *S*. (That may be a promising way of accommodating both, internalist and externalist intuitions about justification).

Going from the empirical to the *a priori* realm, a similar story would be told. Some rational dispositions – dispositions to form 'general beliefs' – are purely grounded on abilities to reason. Suppose *S* has a rational disposition to believe that *If p, then it is not the case that not-p* (where '*p*' stands for some particular proposition). Why is this a rational disposition? Possibly because *S* knows how to derive a double-negative from an undenied proposition: she is able to assume that *p*, to infer that *it is not the case that not-p* under that assumption and, finally, to infer that *If p, then it is not the case that not-p*. The ground that rationalizes *S*'s disposition is her very knowledge of how to reason in that way⁴³. Here, again, we have an attribution of epistemic rationality that may be solely

⁴² We are not assuming, again, that every correct explanation for an attribution of epistemic rationality to a perceptual belief would be performed in this manner. This is just one example.

⁴³ A similar thesis about beliefs (instead of dispositions) has been advanced in the literature by BALCERAK JACKSON, Magdalena and BALCERACK JACKSON, Brendan, Reasoning as a Source of Justification, in: *Philosophical Studies*, 164:1 (2013), p. 113-126. Their proposal is that some beliefs may be justifiably arrived at through competent reasoning alone, with no reliance on pre-inferential beliefs – as when one performs conditional reasoning of the type we just described. According to them, reasoning is a *source* of justification, not just something that transmits justification from a set of beliefs to another.

explained by an attribution of knowledge-how: *S*'s rational disposition to believe that *If p, then it is not the case that not-p* is grounded on *S*'s ability to perform a certain type of conditional reasoning. And, just as in the previous case, although this line of explanation makes it look as if *S*'s rational disposition has a 'foundation' (and that similar dispositions have similar 'foundations'), we should grant that *if S* were to actualize the disposition to believe that *If p, then it is not the case that not-p*, we would still make reference to other dispositions (or beliefs) of *S* in our attempt to explain the rationality of *S*'s belief, e.g., *S*'s disposition to believe (or *S*'s belief) that *Not-p is inconsistent with p*, for example. Once again, since *S*'s disposition to believe that *If p, then it is not the case that not-p* has not been actualized and since the relevant attribution of knowledge-how suffices to explain its rationality, we need not go that far.

5

Will this strategy solve the regress problem generated by our special inquirer? The answer so far is that we can successfully end some of his inquiries by means of attributions of knowledge-how. Although we think that this type of answer may be successful in general, we have no space to develop a thorough solution to the regress problem here. The first hypothesis that we tested (that some *beliefs* are rationally held in virtue of the fact that one has a rational disposition to form reasons for holding them) appears to be well confirmed, given our considerations about cases like the one presented in Section 3. The extrapolation of that hypothesis (that some *dispositions to believe* are rationally possessed by one in virtue of the fact that one has certain non-inferential abilities) needs to be submitted to further philosophical scrutiny. There are many details that we have to deal with here – details that we are going to deal with in future work.

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