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SOME REMARKS ON THE ELIMINATION OF PROPOSITIONS*

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Abstract: The paper raises a metaphysical dilemma for propositionalists and discusses two strategies for eliminating propositions, one based on Priorian quantification, the other on multigrade relations. The first strategy is criticised for being of dubious intelligibility and for giving an implausible picture of propositional-attitude states. It is argued that the second strategy works for the case of Russellian propositions.

Keywords: Propositions. Reduction. A. N. Prior. B. Russell. Multiple relation.

ALGUMAS OBSERVAÇÕES SOBRE A ELIMINAÇÃO DAS PROPOSIÇÕES

Resumo: O artigo levanta um dilema para os proposicionalistas e discute duas estratégias para a eliminação de proposições, a primeira baseada em quantificação prioriana, a segunda em relações de grau múltiplo. A primeira estratégia é criticada por não ser claramente inteligível e por resultar numa concepção implausível das atitudes proposicionais. Argumenta-se que a segunda estratégia funciona no caso de proposições russellianas.

Palavras chave: Proposições. Redução. A. N. Prior. B. Russell. Relação múltipla.

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I

For every belief there is something that is believed, the *content* or *object* of the belief. If someone believes that Socrates is wise, for example, what he believes is *that Socrates is wise*. That Socrates is wise is also what 'Socrates is wise' *means* in English. More generally, what a sentence expresses in a context of use is what someone who uttered that sentence in that context would literally assert. A belief is true or correct because what is believed is true or is the case. A sentence is true because what it means is true or is the case.

It seems that the statements above must be true *in some sense*; but in what sense? Taken at face value they strongly suggest that the same kind of thing plays all three roles described, that is to say, that objects of belief and other attitudes, sentential contents and primary truth bearers are actually the same kind of thing. It is also plausible to hold - under the same face-value interpretation - that these things, whatever they are, are not linguistic or mental things. The things we believe (assert, etc.) cannot be sentences, someone might say, for monolingual speakers of different languages can believe (assert, etc.) the same thing; and they cannot be something mental either, since different people can believe the same thing. Even more intuitively, what a sentence means (or what it expresses relative to a context) cannot be that very sentence itself or some other sentence, since apparently that would either fail to connect the sentence with the world or throw us into an infinite regress. What a sentence means cannot be another *vehicle* of content: it must be itself a content. Since it seems absurd to suggest the things in question are physical, one concludes that they must be some kind of mind and language-independent abstract entity.

For some time now propositions have been taken to be, by definition, mind and language abstract entities that play the three roles described above. To ask whether propositions exist is to ask whether some entity of this kind plays these roles; to give a theory

of propositions is to say more precisely what sort of entity they are, how they function, etc. I shall follow this usage here. The two central theories of propositions in the contemporary tradition are, of course, those of Frege (who called them *thoughts*) and the early Russell.

Ever since the Stoics first put it forward, propositionalism has been widely influential.[1] Nevertheless, there have always been philosophers displeased with propositions for one reason or another, and eager to show how they can be dispensed with. In contemporary analytic tradition the most prominent dissidents are (a slightly later) Russell, Quine and Prior. Quine will be left aside here, fascinating though his views are. I shall focus instead on the lesser know approaches of Russell and Prior.

Now, in general, if you wish to excise a certain class of entities from your ontology you have two ways forward. One option is, very roughly, to try and show how less problematic entities can go proxy for the more problematic ones in our overall conceptual scheme. This is known as proxy reduction. The other option is to give a reconstruction of our scheme where no appeal is made to the problematic entities, but in such a way that nothing can be

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[1] "*The Stoics say that these three are connected: the significate (σημαινομενον), the sign (σημαινον) and the thing (τυγχανον). The sign is the sound itself, e.g., the (sound) 'Dion', the significate is the entity manifested by (this sign) and which we apprehend as co-existing with our thought, (but) which foreigners do not comprehend, although they hear the sound; the thing is the external existent, e.g., Dion himself. Of these, two are bodies, viz. the sound and the thing, and one is immaterial, viz. the entity signified, the lecton, which (further) is true or false.*" (Sextus Empiricus, Adversus Mathematicos: VII, 11). Notice that the passage by Sextus mentions only a name ('Dion'), although the remark about truth shows it is intended to apply to sentences as well. My intent was to draw attention to the notion as it applies to sentences. I am not claiming that all propositionalist theories must hold that the same distinction applies to names.

reasonably said to take over their roles. This is known as reduction without proxies or, as I shall call it, elimination.[2] Thus pairs are reducible to sets via the well-known definition $<x, y> =_{df} \{\{x\}, \{x, y\}\}$. In these cases it is crucial that every statement about entities in the reduced class can be understood as a statement about entities in the reducing class. Russell's theory of descriptions, on the other hand, purports to show how nonexistent objects can be *eliminated* from our ontology. Once we paraphrase something like 'Pegasus does not exist' in the way suggested by Russell, we don't find ourselves talking about an existent object instead of the purportedly nonexistent one. Rather, we find ourselves talking about *no individuals at all*, hence, *a fortiori*, not about anything that could reasonably be said to go proxy for Pegasus. More to the present point, Quine (1953) famously claimed that meanings as entities are not really needed in linguistics since instead of saying that a sentence *means something* we can simply say it's *meaningful*, and instead of saying two sentences *mean the same* we can simply say they are *synonymous*.[3]

Both Russell and Prior were eliminativists about propositions. Russell (1910, 1912, 1918) defends the relational nature of the

[2] See Fine, 2005. The problem with reserving 'elimination' for reductions wihtout proxies (something Fine himself does not do) is that proxy reductions are often, though perhaps not always, seen as eliminations. On the other hand 'elimination' has the advantage of brevity. So with this caveat noted, I shall continue to use it. Reductions in general, either with or without proxies, I shall call *reconstructions*.

[3] Of course, even if Quine's claim is correct as far as descritipve linguistics is concerned (which is debatable), his idea doesn't solve the problem of propositions all by itself. For example, surely we want some explanation of what meaningfulness and synonymy (or "contenfulness" and "co-contentfulness" of mental states) *are*. These just can't plausibly be taken as primitive; and here we will have to face the issue of propositions all over again.

attitudes, but argues that the idea that they are *two-place* relations should be given up. Instead they should be seen as *multigrade* relations, i.e., relations with a variable number of argument places. Truth and falsity are then seen as being primarily properties of acts of judgment. Prior (1977) went further and argued that meaning, truth and the attitudes should not be seen as attributes at all. Exactly what they are supposed to be according to him is a question to which we shall return. In fact for Prior there are no properties and relations in a non-linguistic sense. Although he sometimes speaks of predicates "expressing relations" this should not be taken literally.

But what is wrong with propositions in the first place, one might ask? One might object to propositions on grounds of nominalism or extensionalism. However, such sweeping metaphysical aversions are themselves highly problematic. It would be more interesting if we had an argument that attempted to engage the propositionalist more on his own grounds. In the next section I will present a metaphysical argument against propositions purporting to be of this latter kind at least in the sense of being specifically about propositions. Although I have some sympathy for the line of reasoning to be developed, it must be acknowledged that the issues involved are highly speculative and that metaphysical arguments of this kind are hardly ever conclusive. In any case, I believe that the investigation of the eliminativist strategies is interesting independently of any objection to propositions. And the same applies to reconstructive strategies in general. For we may simply wish to see if we can reasonably reconstruct proposition talk in one way or another, thereby enriching our "menu of options".[4]

[4] See the introduction to Lewis (1983). Moreover, if we are able to find a successful reconstruction, its very existence can be taken as an objection to our assuming the entities in question, since it shows that they are dispensable.

Sections III and IV attempt to evaluate the eliminativist strategies of Russell and Prior. We start by criticizing Prior's idea of carrying out the elimination through the employment of a form of non-objectual quantification. I then discuss Russell's so-called Multiple Relation Theory and argue that it can be made to work at least for so-called Russellian propositions.

II

The most common argument against propositions involves Quinian considerations of indeterminacy; but what I will present in this section is rather a purely metaphysical argument that purports to be independent of any very controversial views on mind and meaning. The argument is inspired by Russell (1910, 1912, 1918) and by Jubien (2001). The upshot will be that the most plausible theory of propositions we can come up with would have to endorse a distinction between being and existence that many, perhaps most philosophers regard with suspicion.

One might conceive of propositions in two similar but fundamentally distinct ways. According to the first conception (roughly that of Frege) propositions are objective, mind-independent *representations*. Under this conception they are thought to be composed not of the real-world objects and attributes they are "about" but of mind independent *modes of presentation* or *concepts* (this latter term not to be taken in Frege's technical sense) of these. They are thus properly said to be *true* or *false*. According to the second conception (roughly that of the early Russell) propositions are *situations* or *states-of-affairs*. Under this conception they are thought to be composed of the very objects and attributes they are "about". They are thus properly said to be the case or not the case (factual or counterfactual), but are not properly said to be true or false.

The natural complaint against the first conception is that it is hard to see what sense there could be in speaking of mind-independent representation. For the Fregean idea is not just that propositions *exist* independently of us, but that they also have their truth-conditions independently of us, that is to say, that they are endowed with an *intrinsic representational force*.[5] Otherwise, to say that someone believes a certain proposition would be just like saying he believes a certain string of letters without saying how the string is to be interpreted. Now it appears that an object represents another only insofar as *we* take it as such. Without us (or our minds) representations would be, to use a famous metaphor of Wittgenstein's, *dead*. Words (types or tokens) obviously don't mean anything all by themselves, and it is hard to see why anything else would. Russell (1910) already raises this problem:

> *If we allow that judgments have* [propositions as objects], *we shall have to allow that there are* [propositions] *which are false. Thus there will be in the world entities, not dependent upon the existence of judgments, which can be described as objective falsehoods. This is in itself almost incredible: we feel that there could be no falsehoods if there were no minds to make mistakes.* (p.176)

Elsewhere Russell makes clear that he intends the point to apply equally to truths: "*If we imagine a world of mere matter, there would be no room for falsehood in such a world, and although it would contain what may be called 'facts', it would not contain any truth, in the sense in which truths are things of the same kind as falsehoods*" (1912, ch.12). Moreover, if without us representations are dead, with us they are *too much* alive, i.e., they can represent in countless ways, which is something propositions cannot do.[6]

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[5] Jubien, 2001.

[6] This point has a wider application. It is common to *identify* propositions with some set-theoretic object, say with a set of worlds, and to

What about the second conception? One well-known problem is that it appears to be too coarse-grained. If a = b, the situation corresponding to φa is the same as the situation corresponding to φb. Then, if situations are objects of thought, it is impossible to think that φa without *ipso facto* thinking that φb. Also, it would be impossible for a sentence to mean that φa without ipso facto meaning that φb. Now we have a strong intuition that this is not so, and if this intuition is going to be denied some convincing explanation of why we got it so wrong must be given.[7]

A second problem might be put as follows: representations are true or false depending of whether they *correspond* to how things are;[8] but situations are factual or counterfactual depending on whether they *constitute* or are *part of* how things are. (Remember: the world *is* everything that is the case). Therefore, whereas true and false representations can be placed of the same ontic level, there is a clear sense in which counterfactual situations and states-of-affairs that are not the case are not *real* in the same way that factual situations and actual states-of-affairs are real. If the real world is made up of what is the case, what is not the case lies "outside" the real world, and hence is in some sense not real. At this point it is natural to say that factual situations *exist* whereas counterfactual ones merely have *being*. Some other terminology might also be

take this not as a reduction but as a theory of propositions. The idea is that the proposition that p *just is* the set of worlds where p. But we might as well have identified the proposition that p with the set of worlds where not-p. Then, instead of saying that the proposition is true iff the actual worlds belongs to the set, we would say it is true iff the actual world does not belong to the set. A set of worlds, just like a sentence, has no truth conditions all by itself.

[7] The Russellian position is not as hopeless as it may seem at first. See, for example, Salmon 1986 and Soames 1987 for interesting defenses.

[8] Here it doesn't matter whether we take truth to be "absolute" or "relative to parameters".

adopted; but we do seem drawn by this conception into the recognition of something like two modes of being, two levels of reality, or an "inner" and an "outer" world.

Thus there seems to be a problem with authors such as Plantinga (1974. p. 132) who balk at merely possible individuals but not at merely possible states-of-affairs. According to Plantinga, to say that a state does not obtain is not to say that it does not exist; it is rather to say that it exists but is not *actual*. He adds that states "resemble propositions" on this count: just as there is nothing "nonexistent" about "false" propositions (they exist just as much as true propositions), so there is nothing nonexistent about a state that does not obtain. In conceiving of propositions along Fregean representationalist lines and comparing states-of-affairs with them in this way, Plantinga seems to overlook the distinction between the representational character of truth, on the one hand, and the constitutional character of factuality, on the other. Truth is a relation between a truth bearer and the world. Of course, if we think of the bearer as existing in the world, then its existence and truth will be constitutive of the world. But still, the fact that it is true will consist of a relation holding between it and an *independently constituted* aspect of the world. Thus it is natural to think of what is true as existing just as much as what is not. Factuality, on the other hand, is *never* a relation between a situation and an independently constituted aspect of the world, simply because a factual situation *is* an aspect of the world. To repeat, the real or actual world is *made up* of what is actually the case. If we keep in mind that actuality has nothing to do with representation, there seems to be no way to draw a distinction between the actuality of a situation and its (actual) existence.

Propositions seem thus to raise a dilemma: either we accept the existence of intrinsic mind-independent representation (objective truths and falsehoods as Russell put it), or we accept anti-actualism,

i.e., the thesis that there *are* things that do not *exist* or are not *actual*. In fact, the anti-actualism in question would have to be of the strongest, Meinongian, kind, since impossible propositions would be necessarily not actual. Whoever feels uncomfortable with both horns of this dilemma (as I suspect many do) should feel uncomfortable with propositions themselves and feel attracted to the idea of reconstructing proposition talk.

Now one reaction to this argument is to go reductivist. One of the most common ideas in this area is that propositions can be reduced to sentences. This is known as sententialism.[9] Should we reject sententialism? This is a large question I cannot deal with adequately here; but I would like to close this section with a brief discussion because I think it is important to realize that sententialism is *not* easily refuted.

In his posthumously published (1971) Prior says it is "easy to see" that *what we think* is different from the sentences by means of which we think it "*for we may say the same thing by different sentences, e.g., in different languages*" (p.6). This can be elaborated as follows. Clearly, if someone says that p on a certain occasion by means of uttering a sentence S, and says again that p on another occasion by means of a different sentence S', what he says cannot be identical with the sentence he utters *on both occasion*, simply because what he says on both occasion is, by hypothesis, one and the same, whereas what he utters differs. Moreover, surely - one might say - it is absurd to suppose that what he says, though always a sentence, is identical to what he utters on one occasion but not on the other? For then on one of the occasions he would be asserting a sentence he

[9] Sententialism goes back at least to Carnap (1946). Quine (1960) flirts with the idea but ends up rejecting it. More recently, Field (2001) defended a position along these lines. In this tradition a sentence is understood as a syntactic object, as something that can mean different things in different languages.

does not utter. So either what we say is always what we utter, or it is never so. Since it cannot always be so, it is never so.

This elaboration of Prio's argument is based on Cartwright (1987, p. 33). Cartwright believes that even if it be granted that there is nothing intrinsically "absurd" in supposing that what is asserted is a sentence, still "it surely *is* absurd to suppose that one might assert a sentence without even uttering it" (p.41, his emphasis). By 'absurd' here he does not mean 'self-contradictory', but rather something like 'unacceptably counter-intuitive'. Now is the supposition really absurd in this sense? Opinions have certainly differed on this. For what is it to assert something? Might not there be some analysis of this notion that made it possible for someone to assert a sentence he does not utter? Quine (1960), for one, speaks of believing-true and saying-true (eternal) sentences, and remarks: "*Taking the objects of propositional attitudes as sentences does not require the subject to speak the language of the object sentence, or any. A mouse's fear of a cat is counted as his fearing-true a certain English sentence*" (p.213). Quine ends up rejecting the proposal, not because of any "absurdity", but rather due to the implicit relativity to certain entities called *languages*, which lack a clear identity criterion.

Now if we give up Quine's scruples about synonymy, the situation can be improved somewhat. The reference to languages can be replaced by reference to the speaker's understanding, and his artificial terms 'belives-true', 'says-true', etc. can be replaced by more natural locutions. So suppose we say that for someone to assert that p at a time t is for him to utter *some sentence* s such that s as he actually understood it at t is synonymous with 'p' as I actually understand it now.[10] If asserting is understood in this way, there is nothing even remotely absurd in someone asserting a sentence 'p' he

[10] The 'actually' is required in order to deal with counterfactual situations and the 'now' in order to deal with possible ambiguities in the attributors idiolect. For further details and refinements, see Field (2001).

does not utter. We could then try to get the other attitudes by replacing uttering with an appropriate mode of internal tokening. Meaning attributions could be dealt with analogously: for S to mean that p would be for it to be synonymous with 'p' as I actually understand it now.

The sententialist approach to propositions is surely controversial, but it is not obviously wrong or untenable. When we attribute a propositional attitude to someone we don't appear to be talking about sentences or about us. But the sententialist will typically deny any intention to preserve meaning. He might for instance appeal to Carnap's idea of "explication". It would take us too far afield to try to settle this issue here. Let me just mention one interesting problem. If someone believes that he himself is rich, he certainly does not believe some sentence synonymous with 'he himself is rich' as I understand it now. For one thing, 'he himself is rich' doesn't even mean anything without something for 'himself' to refer back to. What he tokens is a sentence synonymous with 'I am rich' as I understand it. Here understanding must be taken in a strictly linguistic sense. Similarly, if he believes that I am rich what he believes is a sentence synonymous not with 'I am rich' but with 'He is rich' as I understand it *and said of me*. So at the very least the theory should be further elaborated in order to deal with these cases.[11]

Prior rejects the sententialist approach, in any case, and goes on to consider propositions. This is the position he calls 'realism'. What are his reasons for rejecting realism? Prior is not very clear about this. At times it seems that his rejection stems from nominalism, i.e., from a general rejection of abstract entities. But I suspect that in the end his strongest reason for wanting to eliminate

[11] Moreover, as already mentioned, some account of synonymy must be given. For additional objections, see Schiffer (2003), ch. 8.

propositions is that *he thought he could*. More precisely, he thought he had a clearly correct philosophical account of higher-order quantification that enabled him to show propositions (as well as attributes) to be logical fictions. Postulating propositions would then be simply unmotivated. We turn now to this.

III

It would seem to many that to quantify is essentially to quantify *over* some things. Most higher-order logicians would agree with this view. They may not see themselves as committed to properties or other "intensional" entities, but neither do they see higher-order quantification as *ontologically innocent*. Even in Boolos' (1984) plural interpretation of the monadic second-order quantifiers, where no commitment to higher-order entities is introduced, we are quantifying, plurally, over the entities in the first-order domain.

In (1971), however, Prior questioned this orthodoxy and claimed that all higher-order, i.e., non-nominal quantification is not quantification *over* any entities, carrying therefore no ontological commitments at all. That is what *Priorian quantification* is: a non-nominal and *non-committal* form of quantification.

Now before we can show how this conception of quantification applies to the case of propositions, two further aspects of Prior's view must be mentioned. First, Prior was ready to allow a primitive two-place sentential connective **I** meaning 'the proposition that ... is the very same proposition as the proposition that ...'. This connective, not to be confused with a synonymy predicate, was also seen as carrying no ontological commitment to propositions. Second, Prior introduced a new lexical category, the *attitudinatives* (the name is Quine's (1970)). Attitudinatives are "two-place" expressions that can be concatenated with a term on the one side and with a sentence on the other. They can be seen either as taking a

term to form a one-place sentential operator or as taking a sentence to form a one-place predicate.

Now with these three devices in place we can indeed account for the logical facts of propositional discourse. It has been often observed that common usage strongly suggests treating that-clauses as noun phrases, and the expressions taking that-clauses as complements as transitive verbs. But usage, says Prior, "*can enshire the folly or timidity as well as the wisdom of our ancestors; in the end we pay our money and take our choice*" (Prior, 1971, p. 33). So in the interest of eliminating "*the apparent name 'that there will be a nuclear war', and the suggestion it carries that the complete sentence expresses a relation between X and the 'proposition' designated by this name*" (Prior, 1971, p. 19), Prior suggests parsing sentences like 'X fears that there will be a nuclear war' not as 'X / fears / that there will be a nuclear war' but as 'X / fears that / there will be a nuclear war', thus treating 'fears that' as an attitudinative.

With this first plank in place, Priorian quantification then allows us to eliminate quantification into that-clause position. Sentences like 'Mary believes everything John says' come out as $\forall p$ (John says that p $\rightarrow$ Mary believes that p). To account for a sentence like 'John believes Goldbach's conjecture', Prior could see 'Goldbach's conjecture' as a disguised definite description, thus arriving at: $\exists p$ (Goldbach conjectured that p & $\forall q$ (Goldbach conjectured that q $\rightarrow$ q **I** p) & John believes that p). Other quantificational NP's would be accounted for similarly. Prior is *not* suggesting that that-clauses are singular terms that do not refer and that quantification into that-clause position is therefore ontologically innocent. Rather, that-clauses, as significant units, are avoided altogether in the "logical grammar" and quantification into that-clause position is *replaced* by quantification into *sentence position*.

The obvious initial objection to this view concerns the meaningfulness of Priorian quantification. The force of this

objection can best be appreciated if we set out in outline the standard conception of the relation between formal and natural or ordinary languages. According to this view, the familiar language of the first-order predicate calculus can be seen as the formal counterpart of a certain *fragment* of ordinary or semi-ordinary language. We arrive at this fragment by a process of "straightening out quirks of usage" (Quine, 1960, p. 159) as much as we can, with an eye to the simplification of logical theory. The process of paraphrasing English sentences into this fragment is known as *regimentation*. The formal language itself is just the canonical fragment under a "condensed symbolization". As Quine puts it, "*to paraphrase a sentence of ordinary language into logical symbols is virtually to paraphrase it into a special part still of ordinary or semi-ordinary language; for the shapes of the individual symbols are unimportant*" (ibid.).

Here's how Quine describes the way in which the first order quantifiers arise from the regimentation of indefinite singular terms. We first force them into subject position with the help of 'such that'. Next, we dispense with them all in favour of 'every F' and 'some F'. These two classes can be further reduced to just the two indefinite singular terms 'everything' and 'something'. For 'every F' and 'some F' need only occur in the contexts 'Every F is an object x such that ...x...' and 'Some F is an object x such that ...x...', which in turn can be paraphrased as 'Everything is an object x such that (if x is an F, then ...x...)' and 'Something is an object x such that (x is an F and ...x...)'. Finally, since 'everything' and 'something' need only occur followed by 'is an object such that' we can subject these constructions to condensed symbolization. It is at this point that Quine introduces the symbols '(x)' and '∃x', conveniently read 'everything x is such that' and 'something x is such that'. Quine claims no originality, of course. He described in stages, he says, what Frege achieved "at once" in the *Begriffsschrift*.

If this is how we see the relation between ordinary and formal languages (first-order or not), the requirement that artificial notation should be explained in ordinary language and that this explanation should amount to the "*implicit specification of simple mechanical operations whereby any sentence in logical notation can be directly expanded (...) at least into semi-ordinary language*" (Quine, ibid. p. 159) should come as no surprise. (Notice incidentally how firmly rooted in this picture Boolos' plural interpretation of second-order monadic quantification appears to be.)

The standard approach to the case of intentional reports can be seen along the lines just described. 'John believes that grass is green' logically implies 'John believes something'; yet it is hard to see how this logical connection could be captured within a standard first-order language. One possible solution is to enrich our logical grammar by the introduction of formal counterparts of that-clauses. This can be accomplished, syntactically at least, by adding to the formation rules of standard first-order languages the clause 'If A is a formula, [A] is a singular term'. Thus 'John believes that grass is green' becomes B(j, [G(g)]). In this way we can capture the logical relation mentioned above, as well as many others. This approach follows closely the way we speak and enriches our logical grammar while keeping it first-order. We must pay, however, an ontological price, for now we need entities to be the denotata of that-clauses.

Prior's approach is very different. He defends the idea that 1) we can quantify into any grammatical position, not only name position and that 2) quantification into other than name position is ontologically innocent. The second part of his thesis rules out the possibility of explaining higher-order quantification in first-order terms, which is what someone like Quine would like to do. For Quine, something like '∃X (Xx)' is perfectly alright as long as we understand it as saying that x belongs to some set (or sub-set of the domain) or that x has some property. I take it as evident that these

explanations would destroy the ontological innocence sought by Prior. Prior also explicitly rejects a substitutional interpretation of his propositional quantifiers. So the question arises, can Prior offer an explanation of '∃p' and '∀p' that makes them ontologically innocent?

It may seem that Prior is attempting to reverse the order of explanation imposed by Quine. For Quine, in the beginning it was ordinary language, and everything must eventually come down to it. Prior may seem to be saying that we are capable of devising formalisms that genuinely *expand* what can be said in ordinary language. But in fact Chapter 3, Section 4, of Prior's (1971), entitled 'Idiomatic higher-order quantification', suggests that he also felt that some explanation was in order, which of course doesn't mean that he was ready to give up if none was possible.

Before we go on to consider Prior's defense I want to stress that the complaint is *not* that we cannot construct a compositional truth-theory for a language containing attitudinatives and Priorian quantifiers. We can, in fact, if we allow ourselves the use of attitudinatives and Priorian quantifiers in the metalanguage. Let's add to the language of the propositional calculus an attitudinative 'A' and a quantifier '∃' to bind sentential letters. Now an interpretation for this language, instead of associating a truth-value with each sentential letter will interpret each such letter as *saying that P*, for a single P. Thus, a formula α of this language is true in a model m iff for some P, α m-says that P and it is true that P. Notice the metalinguistic use of Priorian quantification and attitudinatives. In particular, a formula of the form ∃sA will be true in m iff A is true in a model m* which differs from m at most in the interpretation of s. If it is objected that we are using Priorian quantification in the metalanguage to give a semantic account of Priorian quantification, we need only to point out that we need *objectual* quantification in the metalanguage to give the semantics of

objectual quantifiers. I can't see why the same procedure should not be available to Prior.[12] But, of course, if we don't *understand* Priorian quantification in the object language, no appeal to it in the metalanguage will clarify matters.

The point, then, is this: in light of what it is not, it is not clear what Priorian quantification is. So Prior or someone else who understands it would have to explain it to us. One natural way of explaining the meaning of an expression is to translate it into another one the hearer already understands. What the advocate of Priorian quantification must do, according to this method, is find a scheme for translating every sentence containing a Priorian quantifier into a sentence of a language we already understand. And, of course, since the Priorian quantifiers are supposed to be non-committal (neutral), this characteristic must be preserved in any satisfactory translation.

But can we do that? Can we translate for instance a formula like '∃p (John believes that p)' into English in a way that is clearly non-nominal and ontologically innocent? 'John believes that something' doesn't make sense. 'John believes something' on the other hand is perfectly alright as an English sentence, but here we are quantifying into the whole that-clause position, which is precisely what Prior is trying to avoid in view of the "suggestion" it carries that the whole sentence expresses a relation between the subject and something named by the that-clause. Given the way in which that-clauses can occupy subject and other noun positions, it would indeed be very strange to claim that by '∃p (John believes that p)' we mean the same as by 'John believes something' and *then* go on to deny that we are committed to objects of belief when we employ the former sentence.

[12] Cf. Hugly and Sayward's *Intensionality and Truth*, Ch. 14.

Simpler cases like '∃p (p)', '∃p (~p)', etc. seem even harder. We feel tempted to read such sentences in a way that appears to turn the propositional variable from a sentential variable into a name variable. The introduction of a truth predicate also seems required. Thus '∃p (p)' could be read as 'Some proposition is the case (is true)', '∃p (~p)' as 'Some proposition is false (not the case)' or as 'The negation of some proposition is true'. In (1962) Prior himself asserted: "*It is doubtful whether the precise sense of this proposition* [∀p. p] *can be expressed without using variables, but it is near enough to 'Everything is true'* (...)" (Prior, 1962, p.91). Now in (1971) Prior notes that sentences like 'For some p, p' are not "*idiomatic English*", but goes on to say "*it is not difficult to see the extension of our ordinary verbal procedures which would yield equivalents of such forms*" (Prior, 1971, p.37). Again, this attempt, absent from the more technical (1962), clearly signals the desire to provide an intuitive interpretation for the quantifiers.

In (1971) Prior had basically two different proposals in mind. The first proposal, the only one which can genuinely be considered an extension of ordinary verbal procedures, goes as follows: just as the "non-nominal quantifiers" 'however', 'somehow', 'wherever' and 'somewhere' are formed from the words which introduce questions, so we can use the word 'whether', normally employed to describe the asking of a question to which the answer is a complete sentence, to form the quantifiers 'anywhether' and 'somewhether'. He then proposes to translate 'For any p, if p then p' by 'If anywhether then thether'. According to the second proposal, the initial "non-nominal quantifiers" are employed instead. Thus, 'Things are somehow' is the translation of 'For some p, p', and 'However he says things are, thus they are' renders 'For all p, if he says that p, then p'.

Both proposals clearly rest on the thesis that 'however', 'wherever', etc. are idiomatic non-nominal, ontologically innocent

quantifiers. In view of the second proposal, 'somehow' is of special importance. The first proposal rests on the further assumption that the extension to 'somewhether' preserves innocence. Now are Prior's examples of non-nominal quantifiers really non-nominal and really innocent? It must be acknowledged that we do seem to quantify into adverb position. As Prior points out, we can pass from 'They met at the park' to 'They met at some place', but we can *also* move instead to 'They met *somewhere*'. Here the quantifier really occupies adverb position. Prior's suggestion is then that the latter form does not commit us to the existence of places, for we are quantifying into the position of an expression ('at the park') which does not itself refer to anything. And in general, according to Prior, quantification is innocent when it is into the position of an expression that does not refer.

Is that correct? If we say 'They met somewhere' aren't we committed to the existence of places after all? It seems to me that we are. The adverb 'at the park', as Davidson (1967) says, "introduces an entity", i.e., a place. Moreover, even if 'at the park' does not *itself* refer to anything, it contains a *part*, 'the park', which does, or at least purports to do so. Someone who says 'They met at the park' is clearly committed to the existence of parks. Assuming that parks are places, or at least that they (necessarily) occupy places, it follows that the person is committed to the existence of places. This might explain why we feel that 'They met somewhere' is equally committed to the existence of places. To see 'They met somewhere' as ontologically innocent we would have to hold, implausibly it seems to me, that the move from 'They met at the park' to 'They met somewhere' *erases* the commitment to places present in the former sentence. In view of this, it may seem that, in some cases at least, quantification into other than name position *does* carry ontological commitments, even if it is not explained in first-order terms.

But other cases may be different. As Davidson (1967) also points out, adverbs like 'slowly' do not seem to introduce a new entity. And in the case of a sentence like 'I hurt him by treading on his toe', the adverb does introduce an entity (his toe), but, contrary to 'at the park', this entity is not what the adverb aims to specify. This may be why Prior's thesis of ontological innocence sounds more plausible for 'somehow' than it does for 'somewhere'. Still, talk of "ways of doing things" is not completely idle. It is easy to imagine a situation in which it is crucial to convey the information that there are, say, *only three ways* of carrying out a specific task. Now the very innocence Prior claims for 'somehow' seems to render impossible the expression of the desired information. We can say, for instance, 'You can do it somehow and you can also do it otherwise' and even perhaps say 'You can do it somehow and you can do it otherwise and you can do it still otherwise*'. But for us to *count* these "ways" they would have to flank the identity predicate, and how can we do that without turning them into entities of some sort?

What about the extension to sentences? *Pace* Frege, sentences (taken as a whole) do not seem to introduce new entities. So 'For somewhether he believes that thether' or 'He believes that somewhether' seem to be closer to 'I hurt him somehow', than to 'They met somewhere'. But again, suppose we want to say that John and Mary agree in only three things. How can we count things said if they are just "logical fictions"? Prior at this point would certainly appeal to his two-place sentential operator **I**, which means 'the proposition that ... is the very same proposition as the proposition that ...'.[13] Even with this in place the result would be awkward. 'John and Mary agree about two things' would become 'For

[13] Cf. Prior, 1971, p. 53. The same strategy can in fact be applied to 'somehow'. Let 'Lρφψ' mean that *if someone ρ's by φ-ing he ρ's in exactly the same way he would if he ρ-ed by ψ-ing*.

somewhether and somewhether*, John and Mary agree that thether and that thether* and ~ **I** (thether, thether*)'. Here whatever feeling of ontological innocence we might have had concerning the extension to sentences may begin to dissipate.

But even apart from that, it seems too much to ask that we accept 'The proposition that p is the very same proposition as the proposition that q' as ontologically innocent. Prior says that 'the proposition that p' and 'the proposition that q' "*can be considered to have no meaning or function outside the entire complex*" (Prior, 1971, p. 54). Here the suggestion is not that these descriptions can be eliminated in the Russellian way, for after the elimination we would still be committed to propositions. The suggestion is the rather more obscure one that "*[t]he apparent names 'The proposition that p' and 'The proposition that q' just do not occur in the complex Ipq*" (Prior, 1971, p. 53). But how can this be so if the complex Ipq was *defined* by Prior as 'the proposition that p is the same proposition as the proposition that q'? We can *only* understand the complex operator being introduced *because* we understand the terms in which it is defined. In particular, we must rely on our understanding of 'is the same as', which clearly *cannot* be seen as having no meaning outside the entire complex. But how are we to understand 'is the same as', as it occurs in the complex, if we cannot understand 'the proposition that p' as a normal description of an entity?

Now perhaps, when Prior says "*Suppose we write Ipq for 'The proposition that p is the very same proposition as the proposition that q'*" (ibid. p. 53), he is not defining the operator **I**, but merely *gesturing* in the direction of a primitive, non-committal, notion of identity. One could then simply add this primitive, innocent "identity" to the Priorian ideological package. But it seems to me that this move would constitute a rather significant price increase.[14]

[14] Perhaps this increase can be avoided. If normal identity (x = y) can be defined as $\forall P\ (Px \leftrightarrow Py)$, for some suitable notion of property, then surely,

A final objection, of a different sort, is the following: Ramsey (1927) calls our attention to the distinction between the mental and the objective factor (or factors) of judgments.[15] He asserts, correctly in my view, that this fundamental distinction is hardly open to question. The questions that arise, he says, concern the nature of these two sets of factors and the way they relate to each other. Both propositionalists and multiple relation theorists can make sense of the distinction. Prior, on the other hand, faces an apparently very serious difficulty, as we shall now see.

For every sentence p, the attitudinative 'believes that' generates a predicate, '... believes that p'. But, following Ramsey, we cannot see each such predicate as corresponding to a purely intrinsic mental state. Such predicates must be seen as expressing *relational properties* the subject has in virtue of some relation holding of him and an objective factor or factors. Now, according to Prior, there are no propositions, *and no universals either*. So the only relational property a predicate like '... believes that Socrates is a philosopher' can express is that which something x has in virtue of standing to Socrates in the relation λxy (x believes that y is a philosopher).[16] In other words, Socrates himself would be the only objective factor of John's belief. This is already a bit strange, for suppose that John believes that Socrates is a philosopher and Mark believes that Plato is greek. John will stand to Socrates in the relation λxy(x believes that

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assuming the legitimacy of Priorian quantification, Priorian propositional identity can be defined as $\forall\delta\ (\delta p \leftrightarrow \delta p)$, where we quantify, Priorianly, into operator position. But how is quantification into operator position to be explained?

[15] In fact this distinction applies to all propositional attitudes.

[16] Of course, Prior would not take this talk of predicates expressing properties literally, but he does employ it quite often. Cf., for instance, Prior, 1971, Chap. 8. The use of λ-abstracts is not essential to the argument above. Every sentence of the form '...$\lambda\varphi$...' can be replaced by '...the property expressed by 'φ'...' and, again, this is an idiom that Prior often employs.

y is pretty) and Mark to Jane in the relation λxy(x believes that y is clever). These relations differ, *and so do the relata*. So John and Mark have nothing mental in common? That can't be right, of course. True, Prior might say, employing Priorian quantification into attitudinative position, that for some A, John A's Socrates is a Philosopher and Mark A's Plato is Greek. But given the ontologically neutral nature of Priorian quantification, can this be taken as a legitimate mental aspect in which they resemble each other? Now once we consider purely general beliefs, it gets worse. In the case of a belief that, say, everything is self-identical, there will be just *no objective factors whatsoever*. Prior's theory seems incapable of upholding the distinction in all cases. But it seems to me that without this distinction the nature of belief states becomes very obscure indeed.

IV

Let's now turn to the idea of eliminating propositions by quantifying instead over the particulars and attributes that, on a Russellian view of propositions, compose them. This strategy goes back to Russell's multiple relation theory of judgment, which he advocated roughly from 1910 to 1918. Russell's idea was basically that if, say, Othello judges that Desdemona loves Cassio, this is not a relation between the judging subject and a *single entity* at all, but rather a "multiple relation" between him and Desdemona and love and Cassio (Russell, 1912, Ch. XII).[17] More generally, a judgment is

[17] By 'multiple relation' Russell seems to have meant what we now mean by 'multigrade relation', i.e., a relation of variable degree. Oliver and Smiley (2004) quote as evidence of this interpretation a passage where Russell says "myself and judging are constituents shared by all my judgments" (Russel, 1911, p. 118). If Russell's view is indeed that there is only one judgement relation, as he seems to assert in this passage, then,

a relation between the subject and the things his judgment *concerns*, those very things that would compose a "Russellian proposition", if there were any.

The difficulties that led Russell to reject the multiple relation theory were basically three: the problem of extending the theory to molecular contents and the two direction problems raised by Wittgenstein. The *narrow* direction problem consists in accounting, within the theory, for the difference between a judgment that R(a, b) and a judgment that R(b, a), where R is non-symmetric. The *wide* direction problem consists in accounting, within the theory, for the difference between meaningful statements like 'x judges that R(a, b)' and nonsensical ones like 'x judges that a(R, b)'. These problems arise because the theory breaks the "propositional unity" of the content clause.[18]

Now if we postulate entities corresponding to the logical constants[19], as advocates of Russellian propositions seem forced to do in any case, it is not hard to find at least a formally acceptable solution to all three problems. Assume for simplicity the subordinate clauses to be translatable into the language of the first-order predicate calculus. (We shall consider an important complication shortly). Relative to these assumptions we can give the following recursive analysis of 'A believes that P':

1) If P is of the form ⌜F (b1, ..., bn)⌝ then A believes that P iff B(A, λx1, ..., xn.F(x1, ..., xn), b1, ..., bn)

2) If P is of the form ⌜ ~ Q⌝, then A believes that P iff B(A, Neg, α1, ..., αn), where A believes that Q iff B(A, α1, ..., αn)

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given that the number of relata vary from one judgment to another, the judging relation must be multigrade.

[18] See Griffin (1984), for discussion.

[19] As suggested by Ayer, 1971, Ch. 4.

3) If P is of the form ⌈R & Q⌉, then A believes that P iff B(A, Conj, α1, ...,αn, β1, ..., βn), where A believes that R [Q] iff B(A, α1[β1], ..., αn[βn])

4) If P is of the form ⌈∃x (ϕx)⌉, then A believes that P iff B(A, Inst, λx.φx),

where 'B' is the multigrade relation corresponding to 'believes', Neg and Conj are the logical entities corresponding to '∼' and '&', and Inst is the property of being instantiated.[20]

It might be objected that in the context of a theory of propositions, Neg and Conj can be understood as attaching to propositions in order to form more complex propositions, but that in the absence of propositions it is not clear how these entities are supposed to "function". This is a reasonable objection, and my answer is that both Neg and Conj can be seen as *forming properties out of properties*. This answer suggests a reformulation of the definition above, so that, for instance, 'x believes that ∼ (Fa & Gb)' is defined *not* as B(x, Neg, Conj, λx.Fx, a, λx.Gx, b), but rather as B(x, Neg(Conj(λx.Fx, λx.Gx)), a, b). This has the advantage that every belief turns out to be the attribution of a property to something(s). We would then usually have either a property being attributed to some individual(s), as in the previous example, or a property being attributed to some property or properties as in B(x, Neg(Inst), Neg(λx.Fx)), i.e., x believes that everything is F, or as in B(x, Conj(Inst, Inst), λx.Fx, λxGx), i.e., x believes that something is F and something is G. For simplicity, I will stick to the original

[20] This can also be turned into the skeleton of method for translating from the standard language of beief ascriptions into a language without that-clauses but with multiple relation predicates and terms for attributes. Of course, until some explanation of the meaning of 'B' is given we don't have a genuine translation.

formulation when possible. Any observations can be modified accordingly.

It is easy to see that, following this definition, no intuitively meaningful distinctions between (first-order) judgment contents remain unaccounted for. For instance, the difference between 'x believes that Fa → (Gb & Hc)' and 'x believes that (Fa → Gb) & Hc' corresponds to the difference between B(x, Neg, Conj, λx.F(x), a, Neg, Conj, λx.G(x), b, λx.H(x), c) and B(x, Conj, Neg, Conj, λx.F(x), a, Neg, λx.G(x), b, λx.H(x), c). As to the wide direction problem, if the subordinate clause of an attitude report is ill-formed, it will simply lack an analysis.

Now, apart from more general philosophical objections that can be raised against it, this theory still faces three major concrete challenges. The first is to account for *prima facie* quantification over things believed; the second is to give an adequate theory of truth and meaning, and the third is to account for iterated reports. I shall discuss each of them in turn.

Any acceptable solution to the problem of *prima facie* quantification over things believed must be such that we may say that someone believes something without knowing what or even how complex the believed thing is. At this point one naturally turns to the idea of plural quantification, which is a natural accompaniment to multigrade predicates. But we find at once the following problem. Consider the sentence

5) John believes everything Mary believes.

It won't do to analyse this sentence simply as

6) ∀X (B(Mary, X) → B(John, X)),

read 'For any things, if Mary is belief related to them, then John is belief related to them'. For suppose the only thing that Mary believes is that R(a, b) and the only thing that John believes is that R(b, a). Both beliefs, according to the multiple relation theory, consist of the belief relation holding (although in different ways) of a subject, R, a and b. So there are some things (R, a, and b) such that both John and Mary are belief related to them. Since these are, by hypothesis, the only things they are belief-related to, 6) follows, even tough it is not the case that John believes everything Mary does. In other words, the problem is that one can be related to some things in more than one way. Accordingly, the analysis should read 'For any things, if Mary is belief related to them *in a particular way*, then John is also belief related to them *in that same way*'. But how do we incorporate these "ways" into the analysis? Call this *the order problem*.

Jubien (2001) suggests that we think in terms of "belief properties". For instance, if x believes that Fa, that is to say, if B(x, F, a), then x has the belief-property λx(B(x, F, a)). Then, to be related to specific belief relata in a specific way is just to have a specific belief property. The analysis of 5) then becomes

7) For every belief property P, if Mary has P, then so does John.

Intuitively, belief-properties can be seen as those properties denoted by λ-abstracts resulting from applying λ-abstraction to the subject position of a multigrade belief statement. This metalinguistic definition does seem to give us a reasonably firm grip on the class of belief properties. However, a definition in the material mode would still seem to be desirable, since otherwise we would have to take 'belief property' as a primitive of the theory. In view of the

modification of the recursive definition proposed above, the following definition suggests itself:

8) X is a belief property iff $\exists Y\ \exists v1, ..., vn\ (X = \lambda x.\ B(x, Y, v1, ..., vn))$, where v1, ..., vn are type t1, ..., tn, and Y is type $<t1, ..., tn>$.

For example, $\lambda x.\ B(x, \lambda x.Fx, a)$ will be a belief property by this definition (assuming both x and a belong to the type individuals), whereas $\lambda x.B(x, \lambda x.Fx, \lambda xGx)$ will not (under the same type assumptions).[21]

As for Truth, it can be easily defined for beliefs or, more precisely, for what Russell used to call belief or judgment *complexes*. Let $[B(x, \lambda x.Fx, a)]$ denote the fact that $B(x, \lambda x.Fx, a)$. Then we may say that $[B(x, \lambda x.Fx, a)]$ is true iff $\lambda x.Fx(a)$, that is to say iff F(a). This can be easily extended to more complex beliefs. However, Russell's idea was to have a defined notion of propositional truth; and since, intuitively speaking, many propositions are never believed or even grasped, there won't be enough belief or grasp-facts to stand proxy for propositions when it comes to truth.

One strategy to solve this problem is to define truth directly for belief properties instead.[22] But this seems to me to violate Russell's basic insight that truth and falsity are ultimately a matter of subjects getting things right or wrong. So I propose the following alternative. Our problem is essentially that of accounting, within the theory, for the existence of truths and falsehoods that no one ever has nor ever will believe. I will say in this case that the proposition *is* never believed. Now it seems we can do that by speaking just of

[21] A slight complication here is that Neg and Conj and Inst would have to be "typically ambiguous". For example, Neg can apply both to properties of individuals and to properties of properties of individuals, etc.

[22] See Böer, 2002.

facts. A fact f *corresponds* to a belief-fact b if it is the fact composed of the elements (other than the subject) involved in the belief in the way suggested by its form. In the case of Othello's belief that Desdemona loves Casio, for example, the corresponding fact would be [Love(Desdemona, Casio)], i.e., the fact that Desdemona loves Casio. Of course, there may be no fact corresponding to a given belief-fact, as the example above illustrates, in which case the belief-fact is false.

Then a *truth* that is never believed is just a *fact* to which no belief-fact ever corresponds. Now, intuitively, if you believe a false proposition, then there is a belief-fact such that the fact that *would* correspond to it is incompatible with some fact. Hence, a *falsehood* that is never believed may be taken to be a *fact* f such that, there is never a belief-fact b such that, necessarily, if the fact corresponding to b exists, then f does not exist. Then a *proposition* that is never believed is either a truth that is never believed or a falsehood that is never believed. Then the claim that every proposition is either true or false, for instance, can be understood as the claim that *every belief-fact is either true or false and every proposition that is never believed is either a truth that is never believed or a falsehood that is never believed*. We can also define the notion of a truth that, necessarily, is never believed, etc.

Meaning would be treated as a further multigrade relation. Here it is perhaps easier to see how the analysis of this relation would go. M(S, λx.Fx, a), for example, could be understood as saying that *S is a predication composed of a one-place predicate that denotes λx.Fx and a singular term that denotes a*. This can be seen as the attribution of a logically complex three-place relation to S, λx.Fx and a.

Now let's consider the case of an iterated report such as 10).

10) John believes that Mary believes that Fa

This might seem at first to pose no great difficulty. One might suggest representing 10) as

11) B (John, [B], Mary, λx F(x), a),

where '[B]' is an abstract term denoting the multigrade belief relation. But 11) involves self-predication, which violates usual type restrictions. This of course is a problem that simply does not arise for propositionalist or linguisticist accounts of objects of thought.[23] In the case of Russellian propositions, for instance, the belief relation occurs, in a multiply embedded report, only as a constituent of a proposition. It is the proposition and not the belief relation itself that occurs as a relatum of the main relation. Now it is not clear what, apart from 11), can we propose as the multiple analysis of 10). It seems then that the only option is to adopt a theory of predication that allows predicates to take themselves (or their own "nominalizations") as arguments. Such systems (for predicates of fixed degree) are possible and have been constructed.[24] There doesn't seem to be any reason to suppose they could not be extended to cover multigrade relations.

There are some remaining difficulties for this theory. In particular, as Ramsey (1927) pointed out, an analysis of the multiple intentional relations themselves would be highly desirable. I shall address this issue on another occasion. For an interesting proposal incorporating the language of thought hypothesis see Boër (2002). In any case, as far as logical form is concerned, it seems that, if we assume a Russellian conception of intentional mental content and accept multigrade intentional relations, propositions can indeed be eliminated.

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[23] Although a similar problem occurs if one identifies propositions with sequences in the set-theoretic sense. See Cresswell, 1985, Ch. 10.

[24] See for instance Cocchiarella, 1987, p. 94.

Finally, it might be asked whether a similar elimination can be given for propositions composed, not of individuals and attributes, but of something like Fregean Senses. Is the capacity to dispense with propositions an advantage the Russellian has over the Fregean? It seems so. On the one hand, it does seem that the apparatus described above can be applied to Fregean propositions as well. However, it is doubtful whether there is any philosophical point in eliminating relations to Fregean propositions in favour of relations to their constituents. For, unlike the case of Russellian propositions and their constituents, Fregean propositions are of the same metaphysical *kind* as their constituents. In particular, both Fregean propositions and their atomic constituents would have that *intrinsic representational force* some people (myself included) find objectionable.[25]

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[25] See also Burge, 1998, Moltmann, 2003.

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