

Peter de Rivo and the Problem of Future Contingents

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I. Introduction¹

The fifteenth-century Louvain philosopher, Peter de Rivo (b. ca. 1420), is a highly controversial figure in the medieval literature on future contingents. Unlike several of his precursors and contemporaries, Rivo thought that human freedom was incompatible with the truth of future propositions, and thus parted ways with the standard solution to the problem found in Boethius. Only by denying that future contingent propositions had truth-values, or so he thought, could Rivo eliminate what was damaging to free-will. But the difficulty of maintaining such a view was that it seemed to conflict with firmly held convictions in Christian theology about biblical infallibility and the status of prophecy. This put Rivo in an awkward political situation, one which seemed to have some influence in how he developed his response. In what follows I will explicate Rivo's stance on this aspect of the problem of future contingents and provide a critical assessment of his views.

II. Boethian Background.

Before we can really examine Rivo's position on the problem of future contingents, understanding some of the history of the problem will be helpful. The best place to begin our examination is to begin with Boethius (b. ca. 480) given his importance in shaping much of the literature on future contingents that would follow. Apart from his importance in translating much of the Aristotelian corpus from Greek to Latin², Boethius was influential in medieval philosophy because his solution to the problem of future contingents was thought to preserve certain orthodox tenets of Christianity without abandoning rational explanation in the process.³ It is easy to imagine, then, the response philosophers like Peter de Rivo received when opposing Boethian orthodoxy (or positions like Boethius's). Several of Rivo's contemporaries thought⁴ that there was something

suspicious going on in the doctrine Rivo was espousing, perhaps even something heretical, so it was pressing on Rivo to articulate his views clearly. Of course, what might have been clear to Rivo's contemporaries isn't always very clear to us his modern audience. So to understand why Rivo's position was so controversial, as well as to comprehend what his views were, we should first examine Boethius's view.

Boethius sees two main problems posed by the problem of future contingents: one logical and the other theological.⁵ Since our concern is Rivo's challenge to the logical problem of future contingents we shall restrict the focus of our discussion to that problem. The logical problem, which is first discussed in Aristotle's *De Interpretatione* 9, concerns the implications true propositions about the future have for human free-will. The problem centers on the fatalist's claim that if we suppose that some future proposition is true now, then the proposition, and hence the event it describes, is necessary. The reasoning underlying the fatalist's claim works as follows: if a future contingent proposition p is true now then p is already true prior to the occurrence of the event e that p describes. But if p is true prior to e 's occurrence then it seems that e could not but come about. So e turns out to be necessary or inevitable because the future event is already settled or fixed. This leads the fatalist to conclude that humans fail to possess free-will, so long as free-will is dependent on future events being contingent.

Boethius's answer to the logical problem is to disambiguate the scope of the necessity operator used in a crucial inference the fatalist makes in her argument, i.e. if p is true now then p is true of necessity.⁶ This allows Boethius to thrust the fatalist into a dilemma. For given either of the two plausible interpretations of the necessity operator in the inference, Boethius can show that the argument is unsound. The two interpretations available to the fatalist are as follows:

- [A] (P1) If some future proposition p is true now then necessarily p is true.
- (P2) p is true now.
- (C) Necessarily p is true

or

[B] (P1') Necessarily (If some future proposition p is true now then p).
(P2') Some future proposition p is true now.
(C') Necessarily p is true.

[A] is problematic given its first premise (P1) because the necessity involved in (P1) is necessity **simpliciter**. On this interpretation, the scope of the modal operator 'necessarily' ranges over the consequent of the conditional only. But the fact that some future proposition is actually true entails nothing about its truth in other possible worlds or hypothetical cases unless, of course, the proposition itself is modal.⁷

For example, suppose the proposition 'Mexico will be incorporated into the United States in 2210' is true. It is easy to coherently conceive of cases where Mexico retains its independence or decides to incorporate into some other country. Because we can coherently conceive of cases where Mexico retains its independence in 2210, it follows that the proposition about Mexico's national status is a contingent one, not a necessary one. So we have a counter-example to (P1), which makes [A] an unsound argument.

Option [B] may be initially preferable to [A] since each of its premises is unproblematic. Assuming that p is true, for the sake of argument, and considering that (P1') is a tautology, it is clear that both (P1') and (P2') are true. Of course, an obvious problem with this argument still remains, i.e. it is invalid.

To illustrate why [B] is invalid, but also to show later how we can reconcile divine foreknowledge with freedom, Boethius offers the example of observing a charioteer:

Plura etenim dum fiunt subiecta oculis intuemur, ut ea quae in quadrigis moderandis atque flectendis facere spectantur aurigae, atque ad hunc modum cetera. Num igitur quidquam illorum ita fieri necessitas ulla compellit? Minime. Frustra enim esset artis effectus, si omnia coacta moverentur. Quae igitur cum fiunt carent existendi necessitate, eadem prius quam fiant sine necessitate futura sunt. Quare sunt quaedam eventura quorum exitus ab omni necessitate sit absolutus (V. pr.4.47-56).

It is necessary that if I observe (veridically) that a charioteer is racing past me then the charioteer is racing past me; the sentence is necessary because it is a tautologous truth. But from this premise

and the assumption that I veridically observe that a charioteer is racing past me it in no way follows that the charioteer's racing past me is a *necessary* event. The charioteer could very well have taken an entirely different route, and we can imagine circumstances in which this event happens. So, it's pretty clear that [B] is invalid. But if [B] is invalid and [A] is unsound then regardless of which option the fatalist chooses, her argument is doomed to failure.

As we will see, a primary advantage of adopting the Boethian solution to the logical problem, unlike the position traditionally attributed to Aristotle, is the ability to retain the principle of bivalence, i.e. the principle that p is true or $\sim p$ is true. Adopting this logical principle seems to be important to Christian orthodoxy since the principle is generally thought to be presupposed in doctrines regarding the infallibility of biblical texts, generally, and the veracity of prophetic statements in particular. That is, forecasts detailed in the Old and New Testaments about future events like the Apocalypse are taken as determinately true statements, ones which cannot be denied nor taken as merely probable on pain of heresy. The historical challenge, then, that rejecting the Boethian solution to logical problem affords is how to allow for contingency in the world without compromising the sanctity of prophetic statements. For if it turns out that future events are not contingent then the possibility of free-will is denied.

III. Peter de Rivo's Position on Future Contingents.

Logical vs. Physical Necessity: Solving the Causal Problem

So how does Rivo respond to this challenge? Rivo, like the fatalist, believed that [A] was devastating to the prospects of free-will, so long as one held that future propositions had a determinate truth-value. He defended the first premise of that argument by interpreting the modal operator 'necessarily' in a narrower way than Boethius – a way which Rivo felt captured the kind of necessity which is intimately tied with human agency. This, Rivo called 'physical necessity' or 'real necessity' as opposed to Boethius's 'logical necessity'.

We can see why Rivo saw [A] as such a troubling argument for human freedom once we explicate what Rivo meant by the two kinds of necessity mentioned.

(P1) If some future proposition *p* is true then necessarily *p* is true.

Boethius thought of necessity in the way most contemporary philosophers treat it, as a logical concept. In particular the Boethian notion of necessity, at least as Rivo addresses it, has to do with the connection between the meanings of words. A straightforward case of a logically necessary proposition is the following: if Emily is seated then Emily is seated. It is also logically necessary, on this account, that all bachelors are unmarried persons. Put simply, logical necessity includes all of the logical and analytic truths.⁸

In the case of (P1), interpreting the modal operator as logical necessity makes the sentence false since (P1) is neither a logical nor an analytic truth. As we know, Rivo felt that the Boethian solution to the logical problem didn't address the kind of necessity relevant for human freedom, so he rejected it.⁹

The reason Rivo provides for dismissing Boethius's solution is that logical necessity doesn't capture the notion of necessity relevant to the fatalist's argument. Instead, he thinks arguments about freedom must address the inevitability of the future, whether one has power over the past, and the like. Certainly such issues can't be resolved merely by examining the meanings of terms and their relations. What we need, then, is a notion of necessity that can properly capture these metaphysical issues. For this purpose Rivo offers *real (or physical) necessity*: "a thing is said to be necessary really, or from real necessity, that cannot be impeded by any power" (Baudry, 55).¹⁰ Here, we see the connection between unpreventability, inevitability and necessity. If human freedom is incompatible with the inevitability of the future, as Rivo claims, then real necessity is more relevant to the problem of future contingents than logical necessity.

At this juncture, it becomes fairly clear that Rivo is shifting the discussion from the logical problem Boethius addressed to something more metaphysically oriented, what I will call the "causal

problem,” even though Rivo does adopt a solution traditionally applied to the logical problem. The shift becomes evident once we recall what the logical problem of future contingents involves. According to that problem, if a statement about a future event is true then that statement, and hence the event it describes, is necessary. As stated the logical problem fails to treat relations between statements which aren’t either logical or temporal because the problem is a *logical* one concerned merely with formal results, i.e the problem of how truth is related to necessity. But Rivo doesn’t seem to think that the logical problem captures what is problematic for the possibility of free-will, because it leaves out reference to our causal powers and a specific account of the direction of time.

While [A] and [B] would limit our powers as agents, if successful, they make few metaphysical commitments to what the universe might be like. For example, it is completely consistent with [A] or [B] to suppose that backwards causation is possible. That is, [A] and [B] leave room for the possibility that a future event could cause some past event. Regardless of whether time (and causation) is symmetrical or not, the fatalist claims that all events are necessary and that’s what’s really important about the argument. But the metaphysical commitment about events is only a result of logic, not a result dependent on prior metaphysical assumptions. So, Rivo would clearly disagree with the fatalist’s approach to the problem, since he thinks we must make substantive metaphysical assumptions (and argue for them) before we can determine what is and what is not in our power.¹¹ This very admission shows that Rivo is no longer concerned with a purely logical problem, but with a metaphysical one. So, for Rivo, the threat to free-will is no longer posed by certain formal results but rather the limitations imposed on one’s causal powers by a specific metaphysics of time. Nevertheless, while Rivo does reject Boethius’s solution he doesn’t reject it because it fails to solve the logical problem but rather because it can’t be successfully applied to, what we’ll henceforth call, the *causal* problem.

Now that we understand Rivo’s point of departure from the tradition, and the modal concepts he was working with, we can begin to understand why he thinks an argument like [A] could doom the prospects of free action.

- [A] (P1) If some future proposition p is true now then necessarily p is true.
(P2) p is true now.
(C) Necessarily p is true.

Rivo thinks that human beings lack power over the past or the present.¹² So any propositions about the past or present are necessary, where the necessity in question is real necessity. In what follows I will express real necessity and real possibility by attaching the symbol 'R-' to the relevant modal operator in order to dispel confusion posed by adverbial usage of the term 'real'. Now, notice what happens when we modify argument [A] a little bit to reflect the modalities Rivo thinks are relevant. Instead of (P1) make the following substitution:

- (P1*) If some future proposition p is true now or p was true then p is R-necessary.

In other words, no one has the power to prevent p from being true if p was true in the past or p is true now. If both (P1*) and (P2) are true it follows that:

- (C*) R-necessarily p is true.

That is, humans fail to have power over the truth or falsity of a proposition about the future. If sound, this argument appears to be devastating to free-will. To block the conclusion, (C*), Rivo denies (P2), claiming that future contingent propositions have indeterminate truth-value, thereby dispensing with the principle of bivalence, i.e. claiming that 'p is true or ~p is true' is false. Here, Rivo claims to be following the Aristotelian solution found in *De Interpretatione* I.9¹³, a solution that he thinks is sufficient for showing that one strand of the fatalist's argument fails to undermine human freedom. But we are still left with alternative [B] and the issue of whether it needs separate treatment.

- [B] (P1') Necessarily (If some future proposition p is true now then p).
(P2') Some future proposition p is true now.
(C') Necessarily p is true.

Interestingly enough, Rivo doesn't address argument [B], at least in its present form. I'm inclined to think that Rivo doesn't address [B] since it would be redundant to do so, having already addressed [A].

My claim might seem implausible because the logical forms of [A] and [B] seem strikingly different. However, once we articulate Rivo's assumptions, the logical form of argument [B] doesn't turn out to be any different from [A]. The assumption which transforms [B]'s logical form is the operative notion of necessity in (P1') and (C'): R-necessity. Since determinate truth implies R-necessity it follows that [B] doesn't commit a logical fallacy. That is, (P2') entails:

(C*) R-necessarily p is true.

As in his response to [A], Rivo could deny (P2') of [B] and claim that all future contingent propositions¹⁴ lack a determinate truth-value. So, I think it is reasonable to speculate that Rivo is silent about argument [B] because he thought his response to [A] was sufficient to cover both arguments.

Nevertheless Rivo does address an argument similar to [B], an argument that is valid, regardless of the interpretation of the necessity operator. It takes the following form:

[C] (P1) Necessarily (If an event A occurs at t then an event B occurs at t+n).
(P2) Necessarily A occurs at t.
(C) Necessarily B occurs at t+n.

Assume, for the time being, that A stands for a past or present event and B stands for a future event and that the modal operator 'necessarily' is R-necessity. Knowing what we do about R-necessity, it should be unsurprising to find that Rivo affirms (P2). The reason (P2) is true is that any past or present event is R-necessary or "fixed" (as contemporary philosophers would say); we have no power to prevent those events from happening (or so he argues). What's left, then, is for Rivo to deny (P1).

Rivo's strategy of rejecting (P1) to salvage (P2) has important ramifications for issues in logic and causation. By rejecting (P1) Rivo commits himself to a view of causation where future events

are not made R-necessary by past or present events (plus whatever additional auxiliary premises we would need like laws of nature) until the future event happens. It is, then, important to note from a logical standpoint that once we make causal relations contingent, by denying (P1), we buy into the idea that future events are indeterminate until they obtain. So until the future event in question has happened there is always the possibility that something could intervene in a causal chain to alter events, however improbable. The upshot, then, of denying (P1) is denying bi-valence for future contingent sentences and vice-versa.

We are now in a position to see why Rivo's response to [C] is a departure from the Boethian solution. Boethius isn't concerned with addressing metaphysical arguments against the possibility of free-will but rather the relationships between truth, modality and freedom. This is reflected in our earlier discussion of arguments [A] and [B]. There the fatalist tries to make her case by showing that the truth of a future contingent proposition is sufficient for making that proposition necessary, and hence out of anyone's power. No further appeal to special metaphysical principles like those we see in Rivo's [C], e.g. the necessity of the past, are required by either of the Boethian fatalist's arguments.

Were we to apply Boethius's solution to [C] we would adopt a strategy contrary to what Rivo offers since the Boethian solution would have us choose to deny (P2) rather than (P1). This isn't too difficult to see once we recall that Boethius operates with a wider notion of necessity than Rivo's R-necessity, and so wouldn't need to resort to a solution that appealed to the indeterminacy of future events.¹⁵ Furthermore, in adopting the Boethian strategy we would be dealing with a very different argument than what Rivo addresses in [C], since Boethius means something quite different by 'necessity' than Rivo. The primary point of conflict, then, between Boethius and Rivo is over the interpretation of the necessity operator in the arguments against free-will.

Uncreated Truth and the Status of Prophetic Statements

From the position of Rivo's contemporaries, the strategy of denying bivalence for future contingent propositions seemed highly dubious even though others had tried it in the past.¹⁶ The central problem Rivo's opponents cite against his solution is the inability to preserve the infallibility of holy scripture, and prophecy in particular, once bi-valence is denied. It was thought that if future contingent propositions had indeterminate truth-value then those propositions were not only dubitable but fallible, which didn't play well with Christian orthodoxy.

To combat the charge of heresy, Rivo maintained that while future contingent propositions had indeterminate truth-value, the intentions of the prophets who expressed them were infallible since they represented God's timeless cognition of events. Backed by infallible intention, instances of prophecy in the Christian canon could be said to be true not formally speaking but rather by truth "faithfully expected," one which is "uncreatedly true." Rivo thought this was a plausible answer once we recognized how human language and representation worked.

According to Rivo, human thought and language are time-bound and can only represent situations as such. Thus, no matter how hard we try, humans always fall short of trying to represent timeless states-of-affairs because the very use of the copula, and its underlying reference to temporal states-of-affairs, infects human thought and language. This means that our expressions always make reference to the relation between our present temporal situation and the temporal situation of the event or object we're thinking or talking about. Not so with divine cognition. Like many medieval theologians including Boethius, Rivo thinks of God as a timeless being who grasps all events in one eternal instant. Once it comes time to defend biblical prophecy Rivo claims that because no sentence can represent God's cognition properly, calling any sentence about future contingent events indeterminately true, even those contained in holy scripture, is unproblematic. Instead, Rivo claims that prophetic intention is the basis for biblical infallibility because it is those intentions are grounded in God's cognition. So while future contingent propositions aren't

determinately true, the believer should have no worries since prophecy is still inspired by an infallible God via prophetic intention – it is a truth to be faithfully expected because uncreatedly true.¹⁷

The notion of uncreated Truth, however, seems to be at odds with Rivo's solution to the logical problem. Seeing this point requires that we first have a better understanding of what uncreated Truth is before we can see the alleged incompatibility between Rivo's solution. So to uncreated Truth we shall now turn.

Following Peter Aureoli¹⁸, Rivo identifies uncreated Truth with the divine cognition, which given the doctrine of simplicity, is identical to the divine essence. According to the theory of uncreated Truth, God is an exemplar and similitude of all that exists, such that all temporal states of affairs are copies of the divine essence. Since the divine essence already contains, in some sense, every state of affairs that will obtain in the created order, God's knowledge of all things, including the future, can be explained by the fact that He intuits His own essence. The advantage of the account of uncreated Truth is that it seems to allow for human free-will in spite of the fact that God has knowledge of future contingent events. The reason Rivo can claim compatibility between God's foreknowledge and human free-will is familiar to us from Boethius's *Consolation*:

Quoniam igitur omne iudicium secundum sui naturam quae sibi subiecta sunt comprehendit, est autem deo semper aeternus ac praesentarius status; scientia quoque eius omnem temporis supergressa motionem in suae manet simplicitate praesentiae infinitaque praeteriti ac futuri spatia complectens omnia quasi iam gerantur in sua simplici cognitione considerat. Itaque si praescientiam pensare velis qua cuncta dinoscit, non esse praescientiam quasi futuri sed scientiam numquam deficientis instantiae rectius aestimabis; unde non praeventia sed providentia potius dicitur, quod porro ab rebus infimis constituta quasi ab excelso rerum cacumine cuncta prospiciat, (V. pr. 6.59-72).

Because God exists outside of time, His knowledge isn't really *foreknowledge*, meaning that God's knowledge is not anticipatory in character. But without *foreknowledge* of events, God's cognition doesn't seem to affect the modal status of the propositions He knows. So there seems to be nothing

in the account of uncreated Truth itself that conflicts with the desire to make God's omniscience compatible with human free-will.

The problem with the account of uncreated Truth is that it does not seem compatible with Rivo's solution to the logical problem. The primary worry is whether Rivo can maintain that propositions about future contingents have indeterminate truth values while holding that some future contingent propositions (notably those in the Bible) are indubitable because of the doctrine of uncreated Truth. The problems I see with the account are as follows: if future contingent propositions found in the Bible are true by uncreated Truth then [a] those propositions aren't contingent after all, or, [b] the doctrine of divine simplicity is false, or [c], God does not know the future. The success of my criticism rests on two *prima facie* arguments against Rivo's solutions, arguments that Rivo does not address but may have had answers to. So at present my criticism is still tentative.

To see that Rivo's position commits him to the claim that all uncreated truths are necessary truths, I offer two arguments. Both arguments turn on the assumption that all states of affairs in the created order are necessitated by divine essence. Such an assumption can be plausibly ascribed to Rivo since his doctrine of uncreated Truth requires dependence of created states of affairs on the divine essence, a kind of dependence captured in the following sentence:

[UT] Necessarily (if a state of affairs S is contained in the divine essence then its corresponding state of affairs S' occurs in the created order).

Given that Rivo holds [UT] we can generate the conclusion that all states of affairs in the created order, and hence the propositions about them, are necessary *if* states of affairs in the divine essence are necessary. As it turns out, states of affairs in the divine essence are necessary because Rivo holds that God's essence does not contain contingency.

This latter claim may need some defense, though. We can begin our defense with the claim that God's essence cannot be other than what it actually is. Such a claim is plausible if we

consider what an essence is. Generally, when we think of something having an essence we believe that the essence of a thing makes that thing a unique individual and is such that if the individual lacked it, it would not exist. Applying this definition to God's essence we see that God's essence is whatever set of properties are unique to Him and make Him what He is. If this is correct, then it follows that God's nature is necessary; it could not be otherwise. But if we claim that God's nature is necessary we can establish that God's essence does not contain contingency, since nothing non-essential exists in God's essence and, by the doctrine of divine simplicity, God is identical with His essence. But given that all states of affairs S contained in the divine essence are identical with the divine essence, on the doctrine of divine simplicity, it follows that each S is necessary. So if each S is necessary then by [UT] each corresponding states of affairs S' in the created order is necessary also.

One way Rivo might try to avoid this problem is by having God freely choose which states of affairs will obtain in the created order, and hence allow that there is contingency in the divine essence after all. However, even if we allow that there is contingency in the divine essence and that God is timeless, which this solution suggests, this alternative still has problems. The problem is that once God decides which states of affairs will obtain, humans will lack the power to prevent those states of affairs from coming about that God has chosen; or according to Rivo's terminology all states of affairs will be R-necessary. But as we've already shown R-necessity is incompatible with human freedom, so this alternative would seem to be incompatible with what Rivo holds in his solution to the logical problem.

The other two alternatives available to work our way out of the problem also seem to be closed to Rivo. On the first alternative, we could make the "no contingency in God" argument irrelevant by stating that God's knowledge isn't part of His essence and get out of the conclusion that all states of affairs are necessary. But to do so would seem to involve denying divine simplicity. For if (some of) God's knowledge is dependent on things outside of the divine essence, then God possesses the non-intrinsic property of bearing a relation to the objects of His

cognition. However, since the doctrine of divine simplicity denies non-intrinsic properties to God, this solution would require a significant change in one of Rivo's central theological assumptions. Furthermore, there are serious questions about how Rivo could treat states of affairs existing outside of the divine essence. If states of affairs exist outside of God then either God has created them, they are uncaused or something else has created them. Certainly Rivo cannot hold that the universe is uncaused or that something other than God is responsible for the existence of these states of affairs since either position would involve significant deviation from Christian orthodoxy. So then Rivo must claim that all states of affairs are created by God. But if the states of affairs are created by God this creation must be necessitated by God's free-choice. So we are back to the former unsuccessful solution of allowing God to choose all of the state of affairs that come about.

On the second alternative, we could consistently hold Rivo's solution to the logical problem by denying that God knows the future, perhaps because it is impossible for anyone to know the future. This would involve the least modification in Rivo's present position on the logical problem, but would probably be the most controversial theologically speaking, particularly given his historical setting. If the arguments I have offered are sound, Rivo would either have to abandon his solution to the logical problem or make significant changes in his theology. And if Rivo chose the former option the natural solution would be to revert back to Boethius and adopt his response to the logical problem.

Notes

¹ I wish to thank Charles Bolyard, Harry Ide, Dan Kaufman, Christopher Schabel and the editors of this journal for comments which have improved this paper.

² For an introduction to Boethius's influence on medieval philosophy and theology, as a translator and commentator, see chapter four of John Marenbon's *Early Medieval Philosophy (480-1150)*, rev ed., (New York: Routledge, 1991). Those interested in Boethius's influence as a translator alone may consult Bernard G. Dod, "Aristoteles latinus," in *The Cambridge History of Later Medieval Philosophy*, ed. Norman Kretzmann, Anthony Kenny and Jan Pinborg (Cambridge: Cambridge University Press, 1982), 46-79; also see C. H. Lohr, "The Medieval Interpretation of Aristotle" in Kretzmann, et al., 80-98.

³ Boethius was influential on the development of several other issues in medieval philosophy, including but not limited to the literature on the nature of the good and the problem of universals and particulars.

⁴ The author of "An Anonymous Treatise on the Subject of Future Contingents," Master Fernand of Cordova, Wilhelm Boudini (who turns out to be the author of "An Anonymous Treatise on the Truths of Future Contingents Against Peter de Rivo), and Henry de Zomeren. I follow Christopher Schabel in believing that the anonymous treatise was probably written by Johannes Gattus de Messana, a Thomist who was a contemporary of the other three authors. Each of these texts can be found in Léon Baudry (ed.) *The Quarrel over Future Contingents (1465-1475): Unpublished Texts Collected by Leon Baudry*, trans. Rita Guerlac (Dordrecht: Kluwer Academic Publishers, 1989). All of these texts from the Baudry volume are given in English only. Those who are interested in finding out more about the authorship and backgrounds of Rivo's opponents should see Schabel's "The Quarrel with Aureol: Peter Aureol's Role in the Late-Medieval Debate over Divine Foreknowledge and Future Contingents, 1315-1475" (Ph.D. diss., University of Iowa, 1994).

⁵ There also seems to be a third problem regarding future contingents: the problem posed by human foreknowledge. While there is a literature on this problem in medieval philosophy, I'm not aware of any discussion by Boethius regarding human foreknowledge. For a history of the problem of future contingents see Calvin Normore, "Divine Omniscience, Omnipotence and Future Contingents: An Overview" in *Divine Omniscience and Omnipotence in Medieval Philosophy*, ed. Tamar Rudavsky, (Dordrecht: D. Reidel, 1985), 3-22, as well as Normore's "Future Contingents" in Kretzmann, et al., 358-381.

⁶ "Duae sunt etenim necessitates, simplex una, veluti quod necesse est omnes homines esse mortales, altera condicionis, ut si aliquem ambulare scias, eum ambulare necesse est; quod enim quisque novit, id esse aliter ac notum est nequit, sed haec condicio minime secum illam simplicem trahit. Hanc enim necessitatem non propria facit natura sed condicionis adiectio; nulla enim necessitas cogit incedere voluntate gradientem quamvis eum tum cum graditur incedere necessarium sit," *The Consolation of Philosophy*, trans. S. J. Tester, Loeb Classical Library, (Cambridge, MA: Harvard University Press, 1997), V. pr. 6.103-113.

⁷ The explanation for why Boethius rejects (P1) of [A] is a bit anachronistic given its appeal to the notion of possible worlds, a notion which doesn't seem to be in use until the time of Leibniz. Nevertheless it is a helpful way of thinking about possibilities and gets at Boethius's reasoning for denying (P1). Those who are uncomfortable about the anachronism should use the less technical 'hypothetical cases' as explaining Boethius reasoning. I owe this point to Dan Kaufman.

⁸ "For a thing is called logically necessary from the necessary relation of the terms; thus we say it is absolutely necessary that man is animal or man is risible" (Baudry, 55). Also, "[o]ne thing is necessary by logical necessity on the basis of the mere usage of the terms because a subject necessarily determines the predicate or vice versa – in the way in which it is necessary for man to be animal or risible" (Baudry., 303).

⁹ "Some people solve this argument in another way, separating the major into the compounded and divided sense, and saying that in the divided sense it is false and in the compounded sense true. Others distinguish a double necessity: absolute and conditional. Now they say the major is true, speaking of conditional, not absolute necessity. Neither of these solutions seems to work..." (Baudry, 41).

¹⁰ "Indeed I have distinguished a double necessity. One thing is necessary by logical necessity...The other is necessary by real and physical necessity which can by no power be impeded – in the way in which, regarding that which was it is necessary that it was, and regarding that which is, it is necessary that it is, when it is, although it can not be thereafter..." (Baudry, 303).

¹¹ We see evidence for this claim in Rivo's defense of metaphysical doctrines like the fixity of the past. Rivo recognizes (from his opponent's objections) that if we were to deny the fixity of the past then the truth of future contingents would not necessarily eliminate free-will. See the first chapter of the "Treatise of Peter de Rivo in Reply to a Certain Little Work of Henry of Zomerem" in Baudry, 293-296.

¹² "Nothing that is or has been is impedible, so that it not be or have been...for if that which is or has been were impedible so that it not be or have been, there would be power over the present and the past, contrary to the ordinary view approved by both theologians and philosophers" (Baudry, 46).

¹³ At this point I won't discuss whether Rivo's interpretation of Aristotle is correct or not.

¹⁴ Not all future propositions have indeterminate truth. Any necessary truth including those having the form ' $\sim p \vee p$ ' or other logical truths will be true, as in the case just mentioned or false like ' $q \ \& \ \sim q$ ': "In reply to the other I said that affirmation or negation about any subject is true in the compound sense, so that plainly it is truly said about any subject that the predicate is affirmative, or its negation. Thus an affirmation or negation is truly said about future contingents conjointly, not separately, as it is truly said about the sea battle that it will or will not be, but is said neither truly that it will take place no[r] truly that it will not" (Baudry, 38-9).

¹⁵ Whether or not Rivo actually captures the appropriate sense of Boethian necessity with 'logical necessity' isn't crucially important so long as we extend the notion of necessity beyond the bounds of R-necessity.

¹⁶ Peter Aureoli, whom Rivo follows closely, is the most prominent advocate of this position. Calvin Normore also cites Walter Burley, Richard of Campsall and the author of *Octo Quaestiones in Duos Libros Perihermenias, Opus Secundum* as holding the position. For additional information see Normore's "Petrus Aureoli and His Contemporaries on Future Contingents and Excluded Middle," *Synthese* 96 (1993): 83-92.

¹⁷ Chapters 5, 10 and 11 of Rivo's "Treatise of Peter de Rivo in Reply to a Certain Little Work of Henry of Zomerem" spell out this doctrine in greater detail and provided the most extensive treatment of this issue in Rivo's writings. See Baudry, 309-312; 329-338.

¹⁸ For more information on the relationship between Peter Aureoli's account of uncreated Truth and Rivo's see Schabel's "The Quarrel with Aureol: Peter Aureol's Role in the Late-Medieval Debate over Divine Foreknowledge and Future Contingents, 1315-1475".