A. N. Prior's journey to 'real' freedom

Abstract

Arthur Norman Prior (1914–1969) discovered a way to formalise the tenses into the system now known as 'tense-logic'. His discovery made it possible for him to defend two strong beliefs of his: tensed realism and real freedom. His analysis and work on the philosophical and theological problems related to these two beliefs constitutes what is perhaps his greatest legacy in analytic philosophy. Recent research in Prior's nachlass has revealed that he already pondered and wrote on the two issues from his years at Wairarapa High School in New Zealand. With these recent discoveries, it is possible to draw a clearer picture than has hitherto been drawn with regard to Prior's journey to what he termed 'real freedom'. The view of freedom he ended up defending as 'real freedom' comes close to William James' view of free will, which Prior termed 'modern Arminianism' in 1931 and, during his crisis of faith from 1941 to 1943, viewed as the actual state of affairs. This conclusion is substantiated using Prior's two models of future contingency as a framework for comparing his own early description of William James' view of 'real freedom' as being grounded in the difference between the past and the future. Prior's early adherence to James' view of 'real freedom' provides us with an explanation for why he, in 1945 rejected, the theory of middle knowledge; this explains why, even though he knew of an Ockhamist model of the true future, he did not include it in *Past, Present and Future* (1967) but instead opted for an Ockhamist model in which the contingent future is branch relative.

Keywords: A. N. Prior, determinism and free will, William James, open future, Arminianism, Calvinism, Jonathan Edwards.

1 Prior's Methodist upbringing

Arthur Norman Prior grew up in a Methodist home and was the son of Henry Norman Prior and Elizabeth Teague, who died shortly after giving birth to their son. The fathers of Henry and Elizabeth were Methodist ministers[1] Samuel Fowler Prior (1851–1919) and Hugh Henwood Teague (1865–1924),[2] who both arrived on the ship *Barossa* to Port Adelaide, Australia, on 24 August 1875.[3] They had both graduated from Richmond College that same year, a school that had functioned as a Methodist missionary training college since 1863.[4] Samuel married Margaret Fordham, the daughter of Methodist missionary Rev. John Smith Fordham; in 1882, Margaret gave birth to their son Henry Norman Prior in Adelaide, Australia. Henry studied medicine at the university of Otago

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[1] The following account appears in the *Kapunda Herald and Northern Intelligencer* (South Australia), published 24 August 1875: 'It will be pleasing news to the Wesleyan Methodist people of South Australia to learn that Revs. Samuel Fowler Prior and Hugh Henwood Teague, arrived in the good ship Barossa on the 18th instant, having been eighty-five days from land to land. These young ministers have been promptly selected by the Rev. W.B. Boyce, Senior Missionary Secretary in London, from among the students at Richmond College, as peculiarly adapted for the trying and laborious work of the itinerant ministry in Australia. Mr. Prior is a native of Bedford, Huntingdonshire; and Mr. Teague come [*sic*] from Bodmin, Cornwall. At Richmond they both had the great advantage of studying Christian Theology under the Rev. Dr. Osborn, and Mathematics and Classics under the Rev. Dr. Moulton and the Rev. T.B. Napier, B.A. The voyage out was on the whole very agreeable, and preaching services were held by Messrs. Prior and Teague on Sabbath days, whilst other and more private religious exercises were held on week days, in which a fellow passenger—a young Christian gentleman (Mr. Scott)— readily united. We are sure that cordial welcomes awaits [*sic*] these promising young preachers from the ministers and friends of the Wesleyan body in this colony. To Mr. Bouce, and the Missionary Committee in London, our sincere and cordial thanks are due for this most welcome addition to the Wesleyan Ministry and churches of South Australia. – *Methodist Journal*'.

[2] For a record of H. H. Teague's ministry, see https://trove.nla.gov.au/newspaper/article/209025522.

[3] A passenger list of the ship can be found at http://passengersinhistory.sa.gov.au/node/943367.

[4] See the academic history of Richmond College at https://dissacad.english.qmul.ac.uk/sample1.php?detail=achist&histid=76&acadid=207.

and the University of Edinburgh in the United Kingdom (UK) for four years and returned to New Zealand in 1909, where he started a practice up in Masterton.[5] Prior thus grew up in a learned home with a strong Methodist tradition. Prior was a bright child with a keen interest for books. According to his brother Ian, 'my brother Arthur was one of the brightest people you could imagine. He had a strong intellect, was gentle and great fun' (Prior 2006, 44, [31]).

In 1931, when Arthur was 16, he wrote up a list of his 'ideal library' (Prior 1931, [11]), containing more than 40 works of science, religion and poetry. At the top of the list is the Holy Bible, but it also includes Einstein's *Relativity: The Special and General Theory*, Eddington's *Stars and Atoms*, Bergson's *Time and Free Will* and Whitehead's *Mathematical Concepts of the Material World*. The only works of religion that made it onto Arthur's list were five books by the Calvinist theologian Jonathan Edwards. The 'ideal library' barely conceals a tension with the strong Methodist tradition of his upbringing—a tension that was recently disclosed through the discovery of three short essays written by Prior around the same time, when he was a high school student at Wairarapa High School (Prior 1931, [11]). As part of the Methodist tradition, with its strong emphasis on free will, Prior struggled with Einstein's determinism. Indeed, it would appear to be the case that his early readings of the determinists Percy Bysshe Shelley and Albert Einstein were turning Prior into an atheist. One of the essays written by Prior in 1931, *Essay on Religion,* centres on a discussion between the Calvinistic tradition and the Armenian tradition of theology on the topic of predestination. In the essay's introduction, Prior warns 'those readers who have previously known me only as a bit of a sceptic, frequently lapsing into atheism', that they will be surprised to now find him 'a bigoted champion of strict orthodoxy' (Prior 1931, 167, [11]). He also makes evident the sources of his scepticism toward orthodoxy:

> I have been a follower of Shelley; & in this book I
> make no recantations, but whereas I was once a

Shelleyan anti-Christian, I am now a Shelley pro-Christian. Formerly, I have been all too eager to appreciate the destructive aspect of the teaching of men like Shelley and Einstein; but now I use the ideas I have derived from them as an instrument, not for the destruction of orthodox tenets, but the establishment of orthodox tenets upon a firmer logical basis. (Prior 1931, 167, [11]).

His reading of Shelley and Einstein had convinced him that science necessitates a deterministic worldview, and that necessity governs all of nature as well as 'the realm of [the] human mind'. To the young Prior, humans are free to 'choose our course of action on any particular occasion', but our choices are the 'logical and necessary result of a Cause' (Prior 1931, 200, [11]). For that reason, Prior writes the following, using a quotation from Einstein:

Everything is determined, the beginning as well as the end, by forces over which we have no control. It is determined for the insect as well as the star. Human beings, vegetables and cosmic dust, we all dance to a mysterious tune intoned in the distance by an Invisible Piper. (Prior 1931, 200, [11])

In his struggles with determinism, Prior was not helped by the unsystematic theology of Methodism and its 'stress on the felt experience of conversion' (Kenny 1971, 322, [10]). As he wrote in a letter to his cousin Hugh Teague on 10 April 1938, he abhorred the kind of religion 'which is always saying that what we need before all else is "a change of Heart"' (Grimshaw 2018, 154, [3]). The young Prior was searching for a systematic approach to the Arminian tradition of his upbringing that was logically coherent and scientifically enlightened. From *Essay on Religion* (Prior 1931, [11]), it is clear that Prior had studied a number of thinkers who, like traditional Methodist theology, confirmed indeterminism. He termed these 'modern Arminians'. The term 'Arminianism' comes from Jacob Arminius (1560–1609), who, while himself a part of the Reformed tradition, differed from John Calvin (1509–1564) in his view of free will. In *Essay on Religion*, we can see that Prior had studied the indeterminism of Henri Louis Bergson, H. G. Wells, William James, W. Heisenberg and

Georg Bernhard Shaw but had not found any of these indeterministic alternatives convincing. His early reflections on determinism and freedom left him convinced that there was no room for real, nor ideal, freedom; as he puts it, 'I go as far as to say that human free will is logically meaningless' (Prior 1931, 209, [11]).

2 Prior's turn to Calvinism

When Prior's criticism of the Methodist Armenian perspective on theology did not lead him to atheism, it was because he discovered the writings of Jonathan Edwards (1703–1758). In Edwards, Prior discovered a theology on a 'perfectly sound, logical and reasonable basis' (Prior 1931, 181, [11]). Prior was so convinced by Edwards that he decided to take upon his shoulders 'the mantle of Jonathan Edwards in an attempt to find' a logical and reasonable basis for Christian orthodoxy (Prior 1931, 183, [11]). Indeed, as he made clear, his view on free will was to a large extend a restatement of Edwards' views. To the young Prior, Edwards was 'the greatest speculative philosopher America has yet produced', and he retained a high view of Edwards throughout his life. When, in *Limited Indeterminism* (1962a), Prior writes that Edwards was one of the first philosophers he ever heard of, it is quite likely a reminiscence of his youthful adoration of Edwards. At that point, he still thought that Edwards 'bears reading' and felt a 'considerable sympathy' towards the revival of Edwards' philosophy, which, in 1962, still influenced American philosophy. Prior continued to find Edwards' 'metaphysical logic' profitable, especially as it touched upon the discussion of free will (Prior 1962a, 55, [23]), and he based his discussion of determinism in *Past, Present and Future* (1967) on Edwards' analysis of free will. In 1931, Prior was so enthralled by Edwards' theology that he did not flinch at its strictness with regard to perdition. When Prior therefore dedicated his book to his father and other Arminians who would not like it, he was quite aware that his turn to Edwards' Calvinism was at odds with the theology of the Methodism he knew from his upbringing. It seemed for Prior, however, to have been a choice between either giving up his faith and becoming an atheist or accepting the more rigid system of Edwards. His discovery of Edwards had convinced Prior that 'orthodox

Christianity is a much more reasonable religion than I had hitherto supposed it to be' (Prior 1931, 168, [11]).

However, Prior's enthusiasm for Edwards had already changed by the following year, when he began his studies at Knox College in Dunedin. Here, Prior met Alexander Miller and was introduced to the theology of Karl Barth (1886–1968), and Prior exchanged the theological determinism of Edwards for that of Barth. Much of the theology present in *Essay on Religion* (1931, [11]) concerning God's nature, such as Prior's denial that God is a person, he quickly discarded. When, in *When I Was a Fresher* (2014), Prior reflects on his first year at Knox College and writes that he had 'figured out a sort of religion of my own', it is quite likely a reference to his Edwards-inspired reflections on God's nature. Miller, a Barthian pacifist and socialist who would later become the head of religious studies at Stanford, made a quick, and keen, convert out of Prior (Prior 1948, [21]).

3 Karl Barth's ideal freedom

Prior's theological change from the mantle of Edwards to the neo-orthodoxy of Barth gave rise to new reflections, within the framework of Barthian theology, on free will. After his turn to Barth, it became evident that 'even those of us who accept a straightforward determinism have to give some account of men's feeling of freedom, and their feeling of guilt' (Prior 1940, [14]). It had become evident that even Calvin and Augustine, in their discussion of predestination, acknowledged the presence of a paradox with regard to free will. The theology of Barth and Constantin Brunner, according to Prior, only sharpened the emphasis of this paradox with regard to free will. In their theology, the paradox does not concern God's election of some for salvation and others for damnation but humans' emergence from helplessness to performing any action not tainted with sin, by an act of faith, which it is not in their power to perform. Like other concepts in Barth's theology, freedom is an idea, inflated with meaning from the story of humans' redemption by God's grace:

> From this helplessness we may emerge only by an act
> of faith which it is not in our own power to perform,
> but which, when 'by the grace of God' we do perform

it, is an act of real freedom; then, indeed, we have 'free will' for the first time. We are guilty of that which we are totally helpless to alter; and to God alone belongs the glory of what we do when we are truly free. (Prior 1940, 2, [14])

At this point, Prior had moved some way, however little, towards 'real freedom' in his turn from Edwards to Barth. He no longer considered human freedom logically meaningless but had found a place for it in the Barthian narrative of why the believer believes—by the sheer grace of God. Yet Barthian fideism made this foundation fragile; it questions how real 'real freedom' is when it only makes sense in a system of belief without a reasoned foundation. When Prior reflected on these matters sometime in the 1940s, his only comfort, from his deterministic perspective, was that 'absurd as these doctrines appear, they are in the end no more so than the ordinary non-Augustinian concept of "moral accountability"' (Prior 2014b, [30]). Prior's view of this was influenced by C. D. Broad (1934, [1]) who, in his lectures *Determinism, Indeterminism and Libertarianism*, argued that the concept of 'moral accountability' involves contradictory presuppositions. He had, however, a genuine issue with Barth's reliance on philosophical idealism, quite likely influenced by his philosophical and logical studies under J. N. Findlay. Findlay's influence on Prior is well documented (see Jakobsen 2020a, [6] and 2021, [8]), and it is evident that Findlay played a crucial role in making Prior sceptical of philosophical idealism. A letter, written in 1947 by Prior to his wife, Mary Prior, sheds light on Findlay's teachings in advanced logic. Prior seems to have been a keen convert to Findlay's criticism of the philosophical idealism against which Bertrand Russell and G. E. Moore also rebelled:

I have been re-reading Bosanquet's 'Essentials of Logic'. We used it for advanced Logic in my day, Findlay pulling it to pieces bit by bit. It is rather poisonous stuff & not Logic at all. I'm going to read a few Hegelian & Pragmatist Logics, though, I think; to keep track of the Enemy. I'll need it if I do land in Auckland next year! ('Prior to Mary [B46]', 3, [39])

The years of study under Findlay instilled in Prior a distaste for the way Barth's theology was intermingled with philosophical idealism. In 1937, the year he graduated as a Master of Arts (MA) in Philosophy with his thesis on 'The Nature of Logic', Prior wrote *Revaluations* (1937, [12]), wherein he criticises Barth for not having freed himself from the 'philosophical disease' of idealism (Prior 1937, 11, [12]). Barth, says Prior, must submit more readily to the discipline of facts and logic, and cease to confuse questions of the form, 'Is this the case?' with questions of the form, 'How do we know this?' (Prior 1937, 11, [12]). Theology must submit to principles of reasoning that are universal. Thus, the questions of theology that have the ultimate importance are not of the form, 'How do I believe this?' but of the form, 'Is this statement about God *true*?' It makes sense when Barthians say, 'Lord, I believe; help Thou mine unbelief', but it is meaningless to pray, 'Lord, I believe, and my belief is false, but please make it true' (Prior 1937, 11, [12]).

4 Prior's crisis of faith

Prior experienced a crisis of faith from the end of 1941 to 4 July 1943. In 1942, his marriage to Clare Hunter—whom he had married in 1937—ended. He gave up his Christian faith and considered himself an atheist. During this period, Prior wrote several articles, the most important of which is *Can Religion Be Discussed?* (1942a, [15]). It would turn out to be one of his most important contributions to discussions of the philosophy of religion. It is evident that the article was written during Prior's crisis of faith (Kenny 1971, [10]), but much of the substance of Prior's discussion of the rational foundation of the Barthian view of Christian beliefs was already anticipated in *Revaluations* (1937, [12]) and *The Philosophy of St. Bonaventura* (1938, [13]). *Can Religion Be Discussed?* (1942a, [15]) is written as a symposium between five voices on the possibility of having a rational conversation about Christian beliefs. One of the voices represents that of the Barthian Protestant. There is also Modern Protestant, who represents what is, from a Barthian perspective, a 'milk and water' religion, involving mere emotion and lacks theological content. On the other end of the spectrum is Catholic, whose primary contribution to the discussion is his reliance upon divine simplicity, which Prior has Logician dismiss as a meaningless doctrine. Last, there is Psychoanalyst, whose role is that of providing a Freudian perspective on the urge to believe.

We know from Prior's criticism of Barth in *The Philosophy of St. Bonaventura* (1938) that Prior considered it an omission of Barth not to take seriously the Augustine–Anselm tradition, to which Bonaventura belongs, in his criticism of Catholicism. The same criticism of Barth is implied by the lack of this perspective on Catholicism in *Can Religion Be Discussed?*. Barth should, according to Prior (1937, [12], 1938, [13]), have taken more seriously the proofs of God's existence that belong to that tradition—namely, the ontological argument. The main theological voice in *Can Religion Be Discussed?* is that of Barthian Protestant, who meets the criticism of Logician and Psychoanalyst with what Prior considered coherent Barthian answers. As the discussion unfolds, it is evident that neither Modern Protestant, Catholic nor Barthian Protestant is capable of escaping the judgement of Psychoanalyst and Logician that their Christian beliefs do not make sense. The Barthian reply to this, however, is to embrace the whole situation as perfectly compatible with how matters should be:

> Of course we can only talk nonsense when we try to talk about God—our language is the language of sinful men, and is utterly unfitted for such use. Of course the laws of thought, and the laws of grammar, forbid us to confess our faith—we try to speak of God, and it is impossible even to begin. … But God, with whom all things are possible, comes to our rescue, and takes up our words and our thoughts and makes them carry His meaning and His message to men. (Prior 1942a, 149, [15])

The turn inwards, to anchor the meaning of terms that, at the outset, appear to be common to believers and unbelievers alike—such as 'reason' and 'logic'—makes it evident that there is no common ground after all on which a Barthian believer and an unbeliever can discuss. This smacks of idealism, as it rests upon an approach to logic reminiscent of that of Georg Wilhelm Friedrich Hegel, according to Prior, which he makes clear in a footnote to the above:

> This is not a wild guess at what Barth might reply to a criticism such as Logician's. The idea that nonsense

may be given sense by an act of sheer omnipotence is repeated again and again in his 'Prolegomena to Church Dogmatics'. On this miracle, for him, the very possibility of a science of theology depends. And on this miracle alone. Barth refuses explicitly and absolutely to try and justify his 'nonsense' by criticising or qualifying or revising the laws of thought (like Hegel; and Modernist; and perhaps even Kant, to whom Barth is obviously close). Nor, however, does he consider it any part of his business to affirm or accept their validity. The Miracle is his one standing-ground. (Prior 1942a, 149, [15])

There is very little new, then, in *Can Religion Be Discussed?*, in terms of the logical criticism of Barthian theology. What is new is the criticism voiced by Psychoanalyst, which undercuts the 'idealist' stand of the Barthian with a scientific analysis of religious beliefs. Prior had a conversation with Karl Popper on *Can Religion Be Discussed?*, which he recalls in a letter to Mary sent 24 February 1943. Popper, who at that time worked in New Zealand, had apparently thought that Psychoanalyst's attacks on belief suggested that an argument could be raised against the rationality of faith from within psychoanalysis, by 'tracing belief back to our father, etc.'. Prior argued against this, however. What he had meant to say with the dialogue was that 'religion is first proven false (or rather nonsensical) by *someone else* (not by Psychoanalyst but by Logician)' ('Arthur Prior to Mary Wilkinson' 24 February 1943, 4–5, [37]). Prior's use of Psychoanalyst underlines the importance of getting rid of the philosophical disease of 'idealism' in Barthian theology. Unless it is grounded upon an acceptable, realist foundation that does not claim nonsense or absurdity, Barthianism has an undercutting rationality defeater in psychoanalytical accounts of belief. Freudianism functioned as a subversive theory towards the idealism inherent in Barthian theology, and it is evident that Prior's crisis of faith was connected to the exposure of his own faith to psychoanalysis. In his letter to Mary dated 24 February 1943, he writes, 'When I first embarked on this psychoanalyzing of religion, it was only my own religion I had to go on,

a religion essentially expressing the emotions of a son' ('Arthur Prior to Mary Wilkinson' 24 February 1943, [37]).

The deterministic worldview of Freudianism had undermined the 'ideal' freedom of Barthianism, together with all other Barthian concepts. During his crisis of faith, Prior wrote several articles from what he termed an 'atheistic perspective' (see Jakobsen 2020b, [7]). One of these was *Reactions to Determinism* (1942c, [17]), in which Prior applies a psychoanalytical approach to beliefs related to determinism and free will. It is evident, in light of his letter to Mary quoted above, that Prior is describing his first encounter with determinism when he writes the following:

> Students of a more or less religious bent, brought up against arguments for determinism for the first time, may find themselves convinced, but at the same time feel very depressed about it, saying such things as, 'Now I can do nothing to improve my character—causation is everything, and I can only sink in it, and swim with the stream, and let my bad "nature" rule me'. (Prior 1942c, 1, [17])

As the article proceeds, it becomes apparent that Prior had oscillated between being a dismal, depressed determinist and determinism's darling child. Despite being very different emotional attitudes towards determinism, both suffer from the same unscientific illusion of being outside the chain of causation. The dismal determinist 'places himself outside the chain of causation as its helpless victim—as a piece of "pure effect"' (Prior 1942c, [17]); the happy determinist—like Shelly or like Calvinists who consider themselves among the elect—considers himself the darling child and, as Shelly praises, necessity as 'Mother of the world' (Prior 1942c, [17]). One of Prior's main points is to dismiss both attitudes as unscientific. He provides the *prima facie* reason that there is something suspicious in the fact that, contrary to the above two attitudes towards determinism, 'working scientists'—whom Prior assumes work from an acceptance of determinism—'seldom feel so unhappy about the presuppositions of their work as the reluctant converted determinist I have described' (Prior 1942c, [17]).

Having thus dismissed the two extreme attitudes to determinism in favour of the indifferent attitude assumed by the 'working scientist', Prior turns to the extreme attitudes among those who believe in free will. He dismisses the idea of total responsibility as portrayed by Father Zosima in Dostoyevsky's *The Brothers Karamazov*, who believes that 'each is responsible for all'. Prior argues that only if you, and no one else, have free will could you have total responsibility. Prior had, however, discovered a way to make sense of free will; free will makes sense in a universe that is 'loosely packed', in which particles or persons are able to move about without effecting *all* the other particles or persons but in which they are, at the same time, not so detached from the other particles or persons that their 'moving about' does not influence the other particles or persons. It turns out that Prior, in his crisis of faith, had turned back to view of free will held by James, whom Prior, in *Essay on Religion* (1931, [11]), had dismissed as one of the 'modern Arminians':

> The common notion assumes a 'moderately' loose packing in which there is elbow-room for a measure of free action, but in which we are sufficiently bound together by 'necessity' for us to have a measure of influence on one another and responsibility for one another. Such is the world-picture drawn, for instance, by William James. (Prior 1942c, 4, [17])

In fact, Prior not only found this concept meaningful but had come to view it as what 'seems to be the actual state of affairs'. Prior's crisis of faith did not last long; on 4 July 1943, the spectre of Freud was driven away, and in 1944, Prior wrote that God '"dwelleth not in temples made with hands," even in the strange shrines erected by psychoanalysts in the mental depth they have discovered' (Prior 1944, [18]). Prior returned to Christianity, his theological studies and his publications. He even served as an elder from 1951 to 1954 in the Presbyterian Church. He did not, however, seem to return to his former attitudes, described in *Reactions to Determinism* (1942c, [17]), of being determinism's darling child or the dismal determinist who thinks himself the helpless victim of determinism.

5 Modern Arminianism

The term 'modern Arminianism' comes from *Essay on Religion* (1931, [11]), as Prior turns his analysis towards alternatives to Calvinism with regard to predestination (Prior 1931, 210, [11]). He divides the modern Arminians into two groups. The first group contains those 'who hold that God's control of the Universe is imperfect, and that Change plays a considerable part in Nature's workings'. Those in the second group 'hold that God does not exist or He is perpetually changing, or even that He is Himself Perpetual Change, and believe in what they call "creative freedom"' (Prior 1931, 210, [11]). In the first group we find James, lumped together with H. G. Wells—for his view of God in *God the Invisible King* (Wells 2006, [34])—and W. Heisenberg—whom Prior included as 'one of the world's foremost atomic physicists' (Prior 1931, 212, [11]) for his principle of uncertainty. Prior's list of modern Arminians who, like James, hold that God's control is imperfect, makes it questionable whether Prior had read in his youth any orthodox systematic theology of the assumed Arminianism of Methodism. Wells' God in *God the Invisible King*[6] is described by Wells even from the preface as not being the God of Christianity at all, let alone that of orthodox Christianity (Wells 2006, [34]). James' God does not have complete foreknowledge of the future but is, contrary to Wells' God, claimed by James to be within orthodoxy. It is particularly interesting that James' view of free will is conceptualised as chance, based upon a real difference between past and future. Prior describes it thus:

> What is behind us, he says, is certain, but in front of us lies a realm of vast possibilities. The determinist holds that all of these possibilities but one are excluded from the beginning of time, but according to James none are excluded until one excludes the other by becoming actual. (Prior 1931, 212, [11])

Prior's idea, from *Reactions to Determinism* (1942c, [17]), that the common notion of free will assumes a loosely packed universe could be based on James' *The Dilemma of Determinism* (2014, [9]), which we know

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[6] See the full text at https://gutenberg.org/cache/epub/1046/pg1046-images.html.

from *Essay on Religion* (1931) that Prior had read. In *The Dilemma of Determinism* (2014, [9]), James describes an indeterministic view of the universe, as follows:

> Indeterminism, on the contrary, says that the parts have a certain amount of loose play on one another, so that the laying down of one of them does not necessarily determine what the others shall be. It admits that possibilities may be in excess of actualities, and that things not yet revealed to our knowledge may really in themselves be ambiguous. Of two alternative futures which we conceive, both may now be really possible; and the one becomes impossible only at the very moment when the other excludes it by becoming real itself. (James 2010, 173, [9])

Determinism is likewise defined in terms that rest upon a dynamic view of time:

> It professes that those parts of the universe already laid down absolutely appoint and decree what the other parts shall be. The future has no ambiguous possibilities bidden in its womb; the part we call the present is compatible with only one totality. Any other future complement than the one fixed from eternity is impossible. (James 2010, 173, [9])

Prior's view of free will seems to have been inspired by his reading of James, but whereas Prior's analysis of determinism and human free will is capable of a precise rendering in tense-logic, James' language is full of metaphor and imprecise renderings of the propositions involved. Prior's presentation and tense-logical analysis of the problem of determinism, makes it possible to set up a framework for assessing James' view. Prior's discussion of determinism proceeds from an analysis of the classical sea-battle argument and sets up a discussion of future contingency on the basis of the now-unpreventability of past truths about the future. James' argument for determinism, in a similar fashion sets up

a discussion of future contingency based on how "those part of the universe already laid down" determine (appoints and decrees) what the other parts should be and hence does away with future possibility. The sea-battle argues, that if we want to maintain the necessity of the past, we cannot affirm the contingency of the future which can be viewed as a problem pertaining to affirming the following three propositions:

AI) If it is necessary that p implies q, then q is necessary if p is necessary.
AII) If it has been the case that p, then it is necessary that it has been the case that p.
AIII) It either will be the case that p, or it will be the case that not-p.

As Prior demonstrated in (1967), AI, AII and AIII are not sufficient to deduce a contradiction. Prior formalised the tenses and modalities involved in the argument with the following operators for time:

$F(n)p$, with the meaning, 'it will be the case, in n units of time, that p'
$P(n)p$, with the meaning, 'it has been the case, in n units of time, that p'

It is important to bear in mind that n, the metric unit, must be positive. Further, he used the following operators for necessity:

Lp, with the meaning, 'it is necessarily the case that p', which is equivalent to $\sim M \sim p$, where Mp has the meaning, 'it is possibly the case that p'.

With these tenses and modalities, we can formalise AI–AIII in the following way:

A1) $L(p \supset q) \supset (Lp \supset Lq)$
A2) $P(n)p \supset LP(n)p$
A3) $F(m)p \lor F(m)\sim p$

We take n and m always to be positive integers only because it must hold, with regard to the relevant temporal units, that $P(n)(Fn)p \supset p$, which it will not do if n is a negative integer. With these principles, we can add the following assumption:

A4) $p \equiv P(n)F(n)p$

With these assumptions, we can now demonstrate a sense that features in James' argument—that is, in which 'those parts of the universe already laid down absolutely appoint and decree what the other parts shall be' (James 2010, 173, [9]). We shall first demonstrate that $F(n)p$ entails $LF(n)p$:

1) $F(m)p$ Assumption
2) $P(n)F(n+m)p$ A4
3) $LP(n)F(n+m)p$ A2 & $p/P(n)F(n+m)p$
4) $LP(n)F(n+m)p \supset F(m)p$ A4
5) $LF(m)p$ A1, 4, 3

Since the same can be shown for $F(n)\sim p$, by it follows that A3 cannot be true ($Fp \lor F\sim p$). Hence, if it will be the case in m amount of time that p, then it will be so necessarily, and the same holds if it will be the case that $\sim p$. Prior developed two models for providing an indeterministic solution to the problem, the Ockhamist and the Peircean solution. We shall argue, that it makes best sense to consider James view on the future to be the same that Prior favoured, namely the Peircean model.

6 Prior's Ockhamist solution

Prior developed two major models, in branching time, capable of answering the problem of determinism. The first of these he called the 'Ockham' model. In these models, we conceive of time as a temporal structure (TIME,<), where TIME is the set of moments and < is a partial ordering of these. This structure has chronicles, which are linear and the maximal subset of TIME. In order to describe what it means to say, in this context, that a proposition is true, we define a truth-function π on TIME x Φ, where Φ is the set of propositional variables over which the logical system can range. With regard to this, it holds that for any temporal moment t and propositional constant q of the logical language, $\pi(t,q)$ is either 0 (false) or 1 (true). The Ockham truth-values can be defined in the following way, where t is a moment in the chronicle c:

t, $c \models q$ if q is a propositional constant with $\pi(t,q) = 1$

$t, c \models \sim\phi$ if it is not the case that $t, c \models \phi$
$t, c \models F\phi$ if there is a $t' \in c$ with $t < t'$, such that $t', c \models \phi$
$t, c \models P\phi$ if there is a $t' \in c$ with $t' < t$, such that $t', c \models \phi$
$t, c \models L\phi$ if $t, c' \models \phi$ for any c' with $t \in c'$

In Prior's Ockham model, it is clearly possible to deny the conclusion of the deterministic argument. $F(m)p$ does not entail $LF(m)p$ because one has to specify on which chronicle of time we should evaluate the proposition. For example, say there are two chronicles of the future, c_1 and c_2; p is true on c_1 but false on c_2 at the moment m units of time into the future. There is an evident inspiration from James in Prior's discussion of determinism and future contingency. James' talk of possible and actual futures (James 2010, 204-205 [9]), and his description of 'ambiguous possibilities' as a 'branch of bifurcation' (James 2010, 205 [9]), foreshadows Prior's discussion of future contingency in branching time. It is not clear, however, whether Prior's presentation of James' view of indeterminism in *Essay on Religion* and James' own presentation of his view in *The Dilemma of Determinism* square well with Prior's Ockham model. Take first Prior's presentation of James' view, according to which no possibilities (from the beginning of time) are excluded *until* one excludes the other by becoming actual (Prior 1931, 212, [11]). Such a view of the future seems initially at odds with the idea that truth is relative to a chronicle and not relative to the *actual* chronicle. At no point in time are any chronicles capable of excluding the rest by becoming the actual one. Indeed, a consequence of this is that not only are propositions about the contingent future open and undecided but so are propositions about the past.

Prior could, however, take 'become actual' to mean 'become present'. If 'become actual' is not a reference to c_1, on which t is a temporal moment at which some proposition p is true, but a reference to t itself, where p is the case, then it could make sense to say that it is c_2, on which t,p is not true, which is excluded, since p, when t becomes present, is obviously not true. Yet this does not square well with James' own words about indeterminism, when he says that 'of two alternative futures which we conceive, both may now be really possible; and the one becomes impossible only at the very moment when the other excludes it by becoming real itself' (James 2010, 173, [9]). The many uses of 'real' are

17

here muddying the waters for us. How can it be that they are both 'real' but only one of them becomes real, thereby making the other impossible? It is clear that this does not fit into Prior's Ockham model, because in this model, both alternative futures are real and remain so even in reference to the past. This is one of the reasons why Prior rejected this model; the openness of the future translates into an openness of the past. James' view is much more in line with Prior's Peircean model.

7 Prior's Peircean model

It is unclear when Prior read Charles Sanders Peirce (1839–1914). Unlike James, there is no reference to Peirce in Prior's work from the 1930s or early 1940s. Prior's favoured view of future contingency was, however, developed based on inspiration gained through reading Peirce's work. In *Past, Present and Future* (1967, [26]), Prior explains why he named his model of the future after Peirce:

> This corresponds less closely to ancient and medieval
> formulations than to C.S. Peirce's description of the
> past (with, of course, the present) as the region of the
> 'actual', the area of 'brute fact', and the future as the
> region of the necessary and the possible. That is why
> I call this system 'Peircean'. (Prior 1967, 152, [26])

In the footnotes, Prior refers to the *Collected Papers of C.S. Peirce*, 5.459 and 6.368. What Prior found attractive in the Peircean account was that a sharp distinction must be made between the tense-logical formulae, where $G \equiv \sim F \sim$ and $H \equiv \sim P \sim$. With these, we can formulate the following axioms:

1) $p \supset GPp$ 'If p, then it will always be true that it was the case that p'.
2) $p \supset HFp$ 'If p, then it has always been true that it will be the case that p'.

The former should, according to Prior, be accepted but the latter rejected. The central point of the Peircean model is the denial that there are any truths about the contingently true future at all. Indeed, if it is true that Fp, then it is impossible that $F \sim p$. It can indeed be demonstrated that

the Peircean model is equivalent to a subset of Prior's Ockham model, such that $F_{Peirce} \equiv LF_{Ockham}$. As the Ockham model, the Peircean model is capable of denying the determinist conclusion but only by denying the assumption that $F(m)p \supset P(n)F(n+m)p$. This squares better with what appears to have been James' intuition behind his idea of an 'alternative future' that is now 'really possible' but that 'becomes impossible only at the very moment when the other excludes it by becoming real itself' (James 2010, 173, [9]). This is also how Prior seems to have understood James in 1931, when he writes about the alternative futures that 'according to James none are excluded until one excludes the other by becoming actual' (Prior 1931, [11]). It is therefore highly plausible that Prior was inspired by James in his view of what he called 'real freedom' in *Some Free Thinking About Time*:

> This belief, or prejudice of mine, is bound up with a belief in real freedom. One of the big differences between the past and the future is that once something has become past, it is, as it were, out of our reach—once a thing has happened, nothing we can do can make it not to have happened. But the future is to some extent, even though it is only to a very small extent, something we can make for ourselves. And this is a distinction which a tenseless logic is unable to express. In my own logic with tenses I would express it this way: We can lay it down as a law that whatever now is the case will always have been the case; but we can't interchange past and future here and lay it down that whatever now is the case has always been going to be the case—I don't think that's a logical law at all; for if something is the work of a free agent, then it wasn't going to be the case until that agent decided that it was. But if happenings are just properties timelessly attached to dates, I don't see how you can make this distinction. (Prior 2014a, 2, [29])

His discovery of tense-logic made it possible to provide a firm grounding for James' idea of freedom, which he in 1931 considered meaningless and during his crisis of faith considered the way the actual state of affairs seems to be. This analysis suggests that the term 'real' should be taken quite literally, in distinction to 'ideal'. Freedom is not an idea, as in Barth's and Brunner's theology, but is undergirded by a real distinction between the past and the future; it is an ontological distinction between what is decided and undecided—what is, in James' terms, 'already laid down' and what is not yet laid down.

8 Divine foreknowledge and real freedom

We have no reason to think that Prior changed his mind about the creedal importance of affirming divine foreknowledge from 1931 onward. In 1931, Prior commented on James' conception of God as a powerful being but limited by his lack of foreknowledge. He considered James' conception of God as 'immeasurably loftier than certain more recent notions' (Prior 1931, 215, [11]), and one reads Prior's description of James' view with the feeling that he was attracted to this finite view of God. The same goes for H. G. Wells' God in *God the Invisible King* (Wells 2006 [34]), which Prior describes as 'a fantastic picture of the deity as a great "Captain of Mankind"' (Prior 1931, 215, [11]). Despite this, Prior writes the following:

> A God who is not in all things Supreme, whose sovereignty and foreknowledge is not absolute, does not seem to me worthy of worship, and to say that the true God is not all-powerful and all-knowing seems to me, to say the least of it, highly irreligious. (Prior 1931, 218).

In 1931, Prior clearly reasons that

1) if God exists, then he has foreknowledge of the future, and
2) if God has foreknowledge of the future, then the future is determined.

From this, it follows that

3) if God exists, then the future is determined.

It is little wonder, then, that when Prior went through his crisis of faith in 1942, during which he wrote *Reactions to Determinism* based on a psychoanalysis of his own relationship with determinism, he would also consider the view of James much kindlier. One could argue that he had always been attracted to James' view of 'real freedom' as a fact grounded in an ontological difference between the past and the future. His early reaction to determinism, before he discovered Edwards and Barth, was therefore a dismal depression; if determinism is true, we might as well give up trying to improve our bad nature. While he discovered a way to make sense of this in Barth's ideal freedom, he could not accept the idealistic premises of Barth's theology. When he finally, in his crisis of faith, gave up on Barthian Protestantism, he had also come to see that dismal determinism as well as Shelley's and Calvinism's celebration of determinism were both childish and should be replaced with the attitude of the 'working scientist' who does not need an overarching picture of the world in order to affirm cause-and-effect determinism. From this perspective, it was possible to accept James' view of 'real freedom' as the actual state of affairs. When Prior, in July 1943, returned to Christianity he worked on providing a critical examination of puritan Calvinistic understanding of predestination from a literary perspective. It turns out, that during 1945 Arthur and Mary Prior worked on writing a book on Melville's "Moby Dick", which, for all we know, only came out as the short article *The Apocalypse of Ismael* (1945) in *The Presbyter*. Prior saw in Moby Dick, the mad whale captain, a story that, in Arthur's eyes, fundamentally raised the question of the problem of evil and the dependability of God, which he writes "is just a fancy way of saying "The problem of evil and the problem of fate" (Arthur to Mary, 29 March 1943). As Prior continued his work on Moby Dick it is evident that he is brought back to the question that Jonathan Edward's Calvinism, i.e., "bad Calvinism" leads to, namely a choice between accepting fatalism or joining in Ahab's defiance of God. "Ahab's curse begins with a 'fight against evil', the evil being seen in God", and it is a crucial part of Prior's criticism of Jonathan Edward's deterministic theology, that it supports such a view on God which ultimately is an ancient existential dread concerning fatalism. According to Prior, "the end-product of Edward's

teaching is captain Ahab" (Arthur to Mary 30 March, 1943, p. 2), but since we are all tempted with the dread of determinism and fate, Prior also says that "if Edward's hadn't existed it would have been necessary to invent him, so to speak. We are <u>all</u> tangled up in this dilemma one way or another." (Arthur to Mary 30, March 1943, p.2). The solution, or "good Calvinism" for Prior lies in accepting God's revelation of himself, as a fundamental fact of reality, which essentially is also a revelation of himself as good. While it is a remote abstract possible, it is however only a "bad dream" that "the world is in the grip of an irresistible & malignant intelligence. … For the only ground for believing in God's existence at all is that he has revealed Himself to us, & in that very revelation He has revealed Himself as good; & whatever is a ground for doubting that He is good is therefore equally a ground for doubting that He exists at all." (Arthur to Mary 30 March 1943, p. 3). At the same time, Prior's studies, during 1945, of Calvinistic arguments against the free will only seemed to strengthen his beliefs in the same:

> One rather curious & certainly unintended effect that this article has had on me is that it has strengthened my belief, never <u>very</u> strong, in the free will. Bayle's arguments against that, both metaphysical & moral, are <u>so</u> bad. (Arthur to Mary Prior 15 June, 1945, p. 4).

At the end, the only ground left for accepting a Calvinistic perspective of foreknowledge were the fideist Barthian theology which seems to have gradually lost its grip on Prior. When he in 1946 took over from Popper as professor at Canterbury College in philosophy, he did so from the same realist perspective he had met in Findlay (see Jakobsen 2020). In 1954, the year he presented tense-logic for the first time, Prior wrote a letter to Mary in which it was clear that the Barthian days belonged to his past:

> I was reminded of years ago, and the feeling I used to have that the Barthian is somehow closest of all Christians to the atheist. The closeness lies in the common recognition that the Church's destiny isn't only to correct the world, but also to be corrected by

it; not only to make claims, but to make confessions.
('Arthur to Mary' 15 June 1954, [38])

These developments affirm Hasle's consideration that Prior struggled 'intellectually as well as morally, with the doctrine of predestination' (Hasle 2012, [5]). In the end, as Mary Prior's recalled, however much Arthur Prior found Calvinism rigorous and logical, unlike the Methodism of his childhood, its God lacked humanity' (Prior 2003, 302, [27]). When Prior discovered tense-logic, he found a way to provide a rigorous and logical way to make sense of James' 'real freedom', which had always attracted him. Though he seems as a young boy to have been able to find a James' concept of God lofty and H. G. Wells' view of God as the captain of humanity fantastic, his early assessment of such a view seems to have been just as clear: a God without foreknowledge is not a God worthy of worship.

9 Prior on Scientia Media

The medieval view of God's foreknowledge and human freedom affirms God's foreknowledge of future contingent states of affairs. Even if he has determined future contingent states of affairs, as Thomas Aquinas (1225-1274) affirms, this does not entail that they happen with necessity. Prior was aware of this, as well as being aware that—contrary to Aquinas view on God, as existing outside of time—Duns Scotus (1265-1308) affirms God's foreknowledge of future contingent states of affairs as existing in time. Prior fundamentally rejected Aquinas' view that 'God sees time as a tapestry' and for that reason found himself, in *Some Free Thinking About Time*, more in line with the view of Scotus:

> Other medieval theologians such as Duns Scotus argued, I think very sensibly, that since time isn't a tapestry, either God doesn't see it that way or he has an illusion about it, and since He hasn't any illusions He doesn't see it that way but sees it as it is, as passing. (Prior 2014a, 2, [29]).

Prior never developed a Scotian model of future contingency. On the contrary, he wanted to 'go further than Duns Scotus and say that there are things about the future that God doesn't yet know because they're not

yet there to be known, and to talk about knowing them is like saying that we can know falsehoods' (Prior 2014a, [29]). As described above, Prior developed, what he called, the Ockham model of branching time. In his model, truths about the future are branch relative such that, unless God determines what will happen, he cannot be said to have knowledge about what will *actually* happen in distinction from what *could* happen. In his important contribution to the modern discussion of divine omniscience and human freedom, *Formalities of Omniscience* (1962b, [24]), Prior rejects Ockham's solution to the problem:

> Nor have Occamists hesitated to ascribe a like contingency to God's foreknowledge. But I must confess to a difficulty here. I think I can attach intelligible senses to the phrases 'was *true* yesterday' and 'was *the case* yesterday' which give the Occamist results; but I cannot find any such sense for 'was *known* yesterday'. . . . I cannot see in what way they can be 'known'; or to put it another way, I cannot see in what way the alleged knowledge, even if it were God's, could be more than correct guessing. (Prior 1962b, 49, [24])

It turns out, however, that when Prior could not find any sense of 'was known yesterday' in Ockham's theory, it is because Prior's model is not really Ockhamist at all! In the Ockham model, it is only possible to make sense of two kinds of truths about the future—namely, *truth relative to some chronicle* and *truth on all chronicles*. The contingent future in Prior's Ockham model can be guessed, hoped or anticipated, but if it is known to be the true future chronicle, then it needs to be of a third kind, different from the two mentioned above—it must be what *actually* is the future true chronicle.

Prior, in an unpublished note, written in the mid 60s, worked on what would have come close to being a Molinist model of future contingents (Øhrstrøm 2014 [35]), named after the Jesuit priest Luis de Molina (1535-1600), who was an important figure of what is known as second scholasticism. It is a quite unexpected turn of events that the semantic models which allows for an actual true future spells out a view on future

contingency in line with Molina's theory known as *scientia media*. As pointed out by Øhrstrøm (2014, [35]), Prior's unpublished note could be a draft of chapter VII.4 in *Past, Present and Future* (1967, [26]) and *Postulate Sets for Tense Logic* (1966, [25]). It is evident that Prior, in this model, does not merely relegate future contingency to truth-at-a-branch, as in his published Ockham version, but also postulates, 'a single designated line (taking one only of the possible forward routes at each fork), which might be picked out in red representing the actual course of events' (Prior 1966, [25]). Why did this model, with a designated line in red, not make it into *Past, Present and Future*? As early as 1970, Thomason pondered the question why Prior, in his modelling of Ockhamism, talked about a *prima facie* assignment of truth-values to the branches. He undoubtedly did this, according to Thomason, to avoid any mention of, what Thomason calls, a specification of 'a real future'. Prior merely means that the assignments of a truth-value are provisional, in order to speak of a mere branch relative truth-value of propositions about the future. Thomason thereby suggests that Prior would have concurred with his own belief, that postulation "a real future" to one of the branches, will force an indeterministic tense-logic to collapse "to deterministic tense-logic." (Thomason 1970, 271, [33]).

> For if a time α can have only one "real" future, times located in other alternative futures cannot really bear any temporal relation to α. They can bear an *epistemic* relation, being futures for a situation which for all we know is the actual one α, but strictly speaking this is not a temporal relation. (Thomason 1970, 271, [33]).

It turns out, from Prior's early considerations on predestination and human free will, that we have good reasons for accepting Thomason's explanation. Prior was already aware, in the early 1940s, of Luis de Molina's theory of *scientia media*, or middle knowledge. In an article about the discussions surrounding the formation of the Westminster Confession of Faith, Prior mentions the theory, with a reference to Francisco Suarez (1548-1617):

> Section II refers to a controversy then current about the nature of God's foreknowledge. Calvinists held

that God's knowledge was of two kinds—a knowledge of what was possible, and a knowledge of what was and would be actually the case. And His knowledge of what did and would actually happen boiled down to a knowledge of what He himself had purposed to do, since everything that happened did so as a result of His free decision and decree. Jesuits and Arminians, however, taught that there was a third kind of divine knowledge in between these two, a *scientia media* which was neither a knowledge of what was merely possible nor a knowledge of what He himself had decreed, but a knowledge of what was bound to happen because certain other things had happened, or because He had decreed certain other things. Some of the *consequences* of His decree were thus conceived as outside His control, though not beyond His foresight. (Prior 1942b, 2, [16])

What Prior considered the Jesuit/Arminian view was the idea that, in between God's knowledge of what is possible and his knowledge of what he purposes to do, 'what he himself had decreed', we find God's *scientia media*. It is called so, due to the logical sequence it holds with regards to the God's knowledge prior to creation. A logical sequence, not temporal, is maintained, by Molina, to constitute God's knowledge, such that his knowledge of counterfactuals of creaturely freedom, is situated in between his natural and free knowledge. Flint (1998) provides the

Natural Knowledge	Middle Knowledge	Free Knowledge
Necessary truths	Contingent truths	Contingent truths
Does not depend on God's will.	Does not depend on God's will.	Depend on God's will.

Figure 1 Molina's theory of God's middle-knowledge, situated in between Natural and Free knowledge, sharing properties of both kinds of knowledge.

following overview of Molina's theory (figure 1), in which it is evident why Molina's theory hinges upon *where* God's knowledge of counterfactuals of creaturely freedom belongs, which again is a question

of what properties it has. The overview helps us understand why Prior's presentation of *scientia media* as a 'knowledge of what was bound to happen because certain other things had happened' (Prior 1942b, 2, [16]), reveals the lasting impression of Edwards' criticism of free will. In 1931, it was evident to Prior that either an action is done for a reason and is the logical and necessary result of that reason, or an action is not done for a reason but is a 'blind, irrational and unnatural impulse' (Prior 1931, 200, [11]). What Molinism insists on, basically, is that God's knowledge of counterfactuals of creaturely freedom, is not a knowledge of some necessary truth, but about a contingent matter, and so Prior does not accurately represent scientia media, when he describes it as a knowledge of people's belief and unbelief as 'inevitable consequences of the various circumstances in which He decreed to place them' (Prior 1942b, [16]). Prior therefore rejects *scientia media* as a theory that can reconcile predestination and free will:

> The 'freedom' safeguarded by this devise seems a very empty one—it is freedom only from the direct designing of God, but complete slavery to an impersonal system of necessary connections. Calvinists did not fail to point out that the only significant outcome of the scheme was to divert our faith and trust as to our ultimate destiny from God alone to God—plus—necessity. (Prior 1942, 2, [16]).

Through 1945 Prior wrote several letters to Mary on Molinism from which it is clear, that Prior considered Molina's theory a "Jesuit version of Edward's theory of the will" (Arthur to Mary Prior, 29 April 1945, p. 1). In the letters Prior's objection are theological in nature, but as is typical for Prior, these are also existential as well:

> It depicts God as calculating how to get results in a world where the basic conditions of working are not imposed by Himself. … And if God doesn't impose these conditions upon either Himself or us, the question obviously arises, Who <u>does</u> impose them? Molinism neither asks that question nor answers it;

the blank that remains in one's mind has something
sinister about it. Is there another God somewhere,
one whom we haven't heard about & of whom it is
advisable not to speak? (29 April 1945, pp. 1-2).

Adherents of Molinism would, of course, not accept Prior's presentation
of what it is God foreknows but insist upon maintaining that God's
foreknowledge of counterfactuals of creaturely freedom is a knowledge
of a contingent state of affair, that obtain independently of God's will. Be
that as it may, these considerations could explain why he did not explore
this route more intensely in *Past, Present and Future* (1967). His argument,
though theological in nature, appears to be based upon the same
reasoning as Thomason's. If there are facts about how an agent will act in
the future, then any alternative action postulated, prima facie, is not
sufficient to account for any real indeterminism. It might be a freedom
from being determined by God, but then, since the truth-value is already
settled, it merely means determined by something other than God.
Intuitions differ however on this matter, and there is no logical reason, to
force such an interpretation upon models of branching time that allows
for a 'true future'. The Molinist, or follower of Ockham for that matter,
will consider divine foreknowledge and freedom of alternative action as
primitive facts about reality, both of which, any formal treatment must
take into account. This means, that if a will do b in the future, then it is a

past fact that *a* will be do *b*, and if *a* would not have done *b* in the future, then it would have been a past fact that *a* will not do *b*. The Molinist does not see this as "a slavery to an impersonal system of necessary connections", as Prior suggest, but as important facts concerning future conditionals of creaturely freedom. To get this right we assume a thin red line from every instant in TIME with three properties:

(TRL1) $i \in \mathrm{TRL}(i)$
(TRL2) $(i` \in \mathrm{TRL}(i) \ \& \ i < i`) \supset \mathrm{TRL}(i) = \mathrm{TRL}(i')$
(TRL3) $i < i` \supset i \in \mathrm{TRL}(i`)$

These three properties secures that any instant *i* is a member of the thin red line that passes through *i* (TRL(*i*); that any moment *i'* which is a member of TRL(*i*) and is later than *i* is part of the same thin red line and finally, that the thin red line is backwards linear. It is however well known that problems arise for TRL with regard to what MacFarlane calls
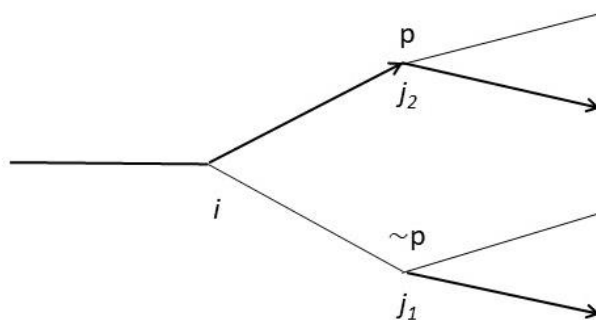

Figure 2 a Molinistic model in which the time branches at moment I and j, and where it is stipulated, with an arrow, what will be the case at j, namely p.

"counterfactual retrospective assessments of future conditionals" MacFarlane (2014), originally addressed by Belnap (1994) concerning how to affirm $p \supset HFp$ outside the thin red line. Several solutions exist to this problem. Fundamentally, the problem touches on the close affinity between the actual and the counterfactual. Consider figure 2 and assume that Smith at *i* contemplates actualizing *p* or ~*p*. As a matter of fact, God foreknows that, at *i* Smith will actualize *p* at j_2, but God *would* foreknow

that at *i* Smith will actualize ~*p* to be the case at j₁ had Smith so decided. Maintaining that *p* ⊃ *HFp* should hold outside TRL is to claim that if Smith decides, at i whether *Fp* or *F~p,* he has counterfactual power over the past. Thus, the moment *j,* is privileged, as the moment at which God's counterfactual foreknowledge is decided. Let *j* be a privileged foreknown moment of creaturely freedom such that *j* would, at any past moment *i* be part of the true future. TRL*j*(*i*) thus gives us the thin red line of *i* with temporal priority to *j,* such that TRL*j*(*i*) = TRL(*j*) for *i* < *j,* and otherwise TRL*j*(*i*) = TRL(*i*). It is evident that TRL*j* means that we should only look on figure 2 as an illustration and that it would be more proper to develop an abstract truth-assignment model such that valuation fundamentally depends upon truth-values assigned along *durations* (back and/or forewords) in time. We say that there is a back function such that *back*(*i,n*) takes us to the instant *n* time units earlier than *i.* Likewise there is a forward function *forward*(*i,j,n)* that, due to the privileged moment *j,* takes us to the unique moment *i',* where *back*(*i,n*) = *i* and *i'* ∈ TRLj(*i*). At this point it is evident that the *prima facie* assigned truth-values of figure 2 can only serve an illustrative purpose of TRL*j.* Truth-assignments are instead laid down such that temporal priority is given to *j* in the following recursive manner:

$$\pi(i,j,p) = 1 \text{ iff } p \text{ is assigned 1 at i.}$$
$$\pi(i,j,P(n)p) = 1 \text{ iff } \pi(back(i,n),j,p) = 1$$
$$\pi(i,j,F(n)p) = 1 \text{ iff } \pi(forward(i,j,n),j,p) = 1$$
$$\pi(i,j,\Diamond(n)p) = 1 \text{ iff } \exists i' \geq i: \pi(i,i',q) = 1$$

Now with these it is evident that we are able to affirm *p* ⊃ *PFp,* since, letting *i=j* we have:

$$\pi(i,i,P(n)F(n)p) = 1 \text{ iff } \pi(i,i,p) = 1$$

and

$$\pi(i,i,F(n)P(n)p) = 1 \text{ iff } \pi(i,i,p) = 1$$

Having made these adjustments to the semantics we have achieved a position which, to the Molinist, should be preferable. We have avoided

the apparent Platonistic implications of the TRL model which makes it vulnerable to Belnap's criticism, by emphasizing that the truth-value that will make *Fp* true depend upon the perspective of the temporally prioritized moment *j,* not on some branching structure stuck there for good.

The nature of the TRL as the actual history running through time together with the priority given to the moment of assessment spells out the intuition behind Molinism in which the TRL ultimately is not some "system of necessary connections" as Prior envisioned, but rather a fundamental fact of reality that must be given priority concerning infallible divine foreknowledge and creaturely free will. It is a peculiar turn of events, that despite the fact that "the intuition behind The Thin Red Line is strong" (MacFarlane 2014, 211) and "our tendency to believe that there is a thin red line is powerful" (Belnap 1994), MacFarlane, as well as Belnap, fails to spell out a semantic that can support those intuitions in the same sense of the theologically grounded theory of Molina does. While Belnap and MacFarlane both seem to reject the semantics of the thin red line for logical, or semantical reasons, it is, as demonstrated here, a claim which can only be supported by metaphysical arguments. Perhaps Prior anticipated this, in his desire to go 'further than Scotus'? His investigation of a tense-logical solution to the problem of determinism and 'real freedom', would bring him to back to the medieval solutions that he ultimately could not accept. For Prior, freedom is real because it is grounded in the ontological difference between a past 'out of our reach' and a future that is 'to some extent, even though it is only to a very small extent, something we can make for ourselves' (Prior 2014a, [29]). In all medieval theories, the future, just as the past, is wholly known by God, whether he is inside or outside of time. Prior was, however, looking for a more modern future along the lines of what he had termed 'modern Arminianism' in 1931 and returned to in his crisis of faith as 'real freedom'.

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