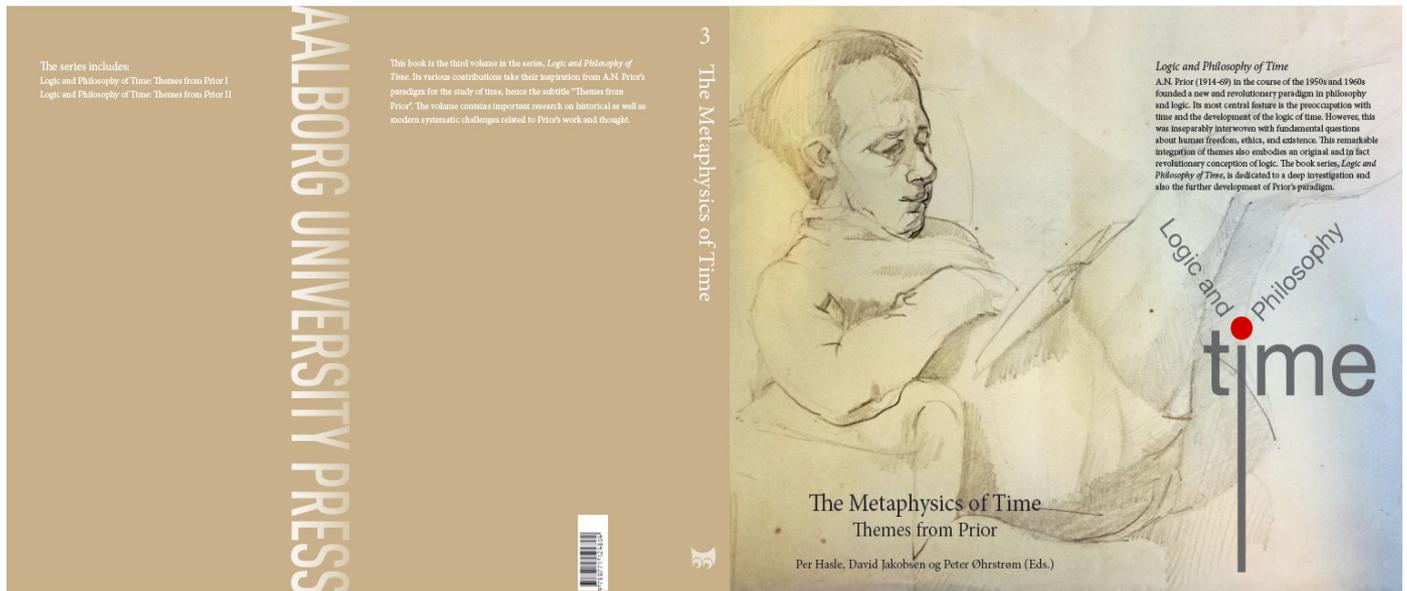


The Metaphysics of Time

Themes from Prior | Aalborg University | 19th – 21st March 2019

PROGRAM & ABSTRACTS



Program

Tuesday 19th March (Chair: David Jakobsen)

- 13.00 – 13.30 Peter Øhrstrøm: Introduction
- 13.30 – 14.10 Florian Fischer (Bonn, Germany): Prior to Prior
- 14.10 – 14.50 Ulrich Meyer (Colgate University, USA): Double-Time and the Future
- 14.50 – 15.20 Coffee break
- 15.20 – 16.00 Per Hasle (Copenhagen University, Denmark). The Beginnings of Hybrid Logic: Meredith, Prior and the Contingent Constant n
- 16.00 – 16.40 Zuzana Rybaříková (University of Hradec Králové, Czechia). Łukasiewicz's and Meredith's Systems of Modal Logic
- 16.40 – 17.40 Discussion

Wednesday 20th March (Chair: Peter Øhrstrøm)

- 10.00 – 11.20 William L. Craig: Time, Tense, and Eternity
- 11.20 – 12.00 Jacek Wawer (Jagiellonian University in Krakow, Poland): History relativism as extreme assessment relativism: A note on Prior's Ockhamism
- 12.00 – 13.00 Lunch
- 13.00 – 13.40 Aldo Frigerio and Ciro De Florio (Università Cattolica di Milano, Italy): Perspectival Semantics and the Open Future
- 13.40 – 14.10 Elton Marques (Lisbon, Portugal). Eternalism, hybrid models and strong change
- 14.10 – 14.40 Break
- 14.40 – 15.20 Antje Rumberg (Stockholm University, Sweden). From Potentialities to Change and Time
- 15.20 – 16.00 Ola Hössjer (Stockholm University, Sweden). Modelling decision in a temporal context: Analysis of a famous example suggested by Blaise Pascal
- 16.00 – 17.00 Discussion
- 18.00 – Conference Dinner

Thursday 21st March (Chair: Per Hasle)

- 10.00 – 11.20 William L. Craig: Legal Pardon, Tensed Time, and the Expiation of Guilt
- 11.20 – 12.00 David Hunt (Whittier College, USA): Fatalism for Presentists
- 12.00 – 13.00 Lunch

- 13.00 – 13.40 Atle Ottesen Søvik (Norwegian School of Theology, Religion and Society): A defence of presentism against the Rietdijk-Putnam-Penrose argument
- 13.40 – 14.20 Hans Götzsche (Aalborg University, Denmark). On Dualism, Time and Prior's "logic of the word of God"
- 14.20 – 14.50 Break
- 14.50 – 15.30 David Jakobsen (Aalborg, Denmark), Martin Prior (London, UK) and Peter Øhrstrøm (Aalborg, Denmark): Letters between Mary and Arthur Prior in 1954: Topics on Metaphysics and Time
- 15.30 – 16.00 Discussion and conclusion

Abstracts

Prior to Prior

Florian Fisher, Fischerf@uni-bonn.de, University of Bonn, Germany

Abstract. In this paper I revisit the debate about tense- versus tenseless theory, or A-versus B-theory. Canonically, Arthur Prior's seminal paper "Thank Goodness That's Over" is said to have triggered the switch from the old to the new B-theory. I argue that Moritz Schlick made the case for indispensable A-sentences 25 years prior to Prior. More precisely, I assert that both philosophers support the same theses: 1) A-sentences are not incomplete; they are understandable without B-theoretic completion. 2) A-sentences contain a special kind of information that is not expressible by B-information. 3) There is no specific B-theoretic sentence into which an A-sentence can be translated without loss of meaning.

Double-time and the future

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Abstract. Many philosophers of time have been tempted to reject the standard picture of time in favor of an account that somehow “doubles up” the time series. For example, it is often said that any account of the passage of time requires a second time series – *supertime* – in which the passage of time unfolds. More recently, this strategy has also been used in time-travel scenarios that are claimed to permit a time-traveller to *change* the past when she gets there.

The aim of this paper is: (i) to clarify what is involved in these proposals, and (ii) to argue in favor of the standard picture of the time series – and against doubling up. There are three different ways of “doubling up” the time series that are not always carefully distinguished by double-timers:

Two-1D Postulate a second time series that is “parallel” to the ordinary time series. This yields two separate one-dimensional time series.

One-2D Add a second time-dimension to the ordinary time series. This yields a single two-dimensional temporal plane.

SPLIT Deny that the later-than relation is the converse of the earlier-than relation. This “splits” the ordinary time-series into two, yielding a two-dimensional temporal plane – but one that differs from the one postulated by the One-2D proposal.

In this paper, I first spell out the three options in the context of Prior-style tense logic. For example, what is involved in SPLIT is the rejection of the standard axiom schemata $\phi \rightarrow FP\phi$ and $\phi \rightarrow PF\phi$. Once these issues have been clarified, I then argue that the doubling-up proposals either (i) fail to deliver what their advocates want (Two-1D), or (ii) commit us to an implausible view on which future-tense claims in English end up being ambiguous between infinitely many different tense operators (One-2D and SPLIT).

The beginnings of hybrid logic: Meredith, Prior and the contingent constant \mathbf{n}

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Abstract. Arthur Prior and Carew Meredith cooperated on the formulation of several systems of logic. One of the most interesting and consequential ideas to come out of their cooperation was the notion of ‘world propositions’. The idea was first introduced by Meredith in 1953. From 1956 to 1965 Meredith and Prior in various connections discussed the idea, leading to a crucial paper in 1965, in which Prior decisively improved the earlier notions of world propositions. This in turn led to Prior’s working out the first versions of hybrid logic in *Past, Present and Future* (1967) and *Papers on Time and Tense* (1968). Even though Arthur Prior himself did not use the term ‘hybrid logic’, his contribution to this discipline from 1967 and till his death in 1969 is by now well studied and documented, especially by (Blackburn 2006, [1]). However the prehistory from 1953 till 1965 has so far been largely neglected. This study fills in that gap and shows how the idea of world propositions was discussed and developed between Meredith and Prior till 1965, leading to Prior’s hybridization in 1967 and later. This development is also related to some of Prior’s crucial metaphysical tenets concerning time and its logic. Paradoxically, these tenets were at the same time promoted and challenged through the techniques of hybridization, as pointed out by Blackburn. However a very late note by Prior (written in Norway a few days before Prior’s death) does seem to indicate that Prior upheld his metaphysics of time to the last, notwithstanding the possible doubts induced through hybridization.

Łukasiewicz's and Meredith's systems of modal logic

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Abstract. Carew Arthur Meredith was an Irish logician, whose most renowned works are linked with the work of Jan Leopold Łukasiewicz. He was acquainted with him due to Łukasiewicz's immigration to Ireland after World War Two. At that time, Łukasiewicz reconstructed his book on Aristotle's logic, developed his new system of many-valued logic and continued his work on the calculus of propositions. Although Meredith published also paper concerning Aristotle's system of logic, most of his work was focused on the latter two issues. My aim is to present Meredith's system of modal logic and demonstrate to which extent it is rooted in Łukasiewicz's four-valued logic. Other systems that influenced Meredith's system of modal logic will be also briefly discussed.

Time, tense, and eternity

William L. Craig, Talbot School of Theology, United States

Abstract. How does God relate to time? Theologians have differed over whether God should be thought to exist timelessly or omnitemporally throughout infinite time. A watershed question for the doctrine of divine eternity is whether one adopts a tensed or a tenseless theory of time. If a tenseless theory of time is true, then God's timeless existence is thus far forth unproblematic. But if a tensed theory of time is true, then God is most plausibly understood to exist temporally, in light of (i) His causal relation to the temporal world and (ii) His knowledge of tensed facts.

History relativism as extreme assessment relativism: a note on Prior's Ockhamism

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Abstract. Since the early days of the Ockhamist semantics, it was recognized that the history-relative notion of truth which the theory postulates is problematic: it is unclear what it means that a sentence is true relative to a possible course of events and it is also unclear how such notion of relative truth relates to the everyday notion of truth simpliciter. To rationalize the Ockhamist notion of truth I compare two relativistic theories: assessment relativism of John MacFarlane and history relativism of Belnap et al. In the end, I suggest that we may understand the history-relative notion of truth as the truth assessed relative to an end of time. On the formal level, I introduce a doomsday extension for every branching model and prove that history-relative truth in a model is equivalent to doomsday-relative truth in the extended model. It turns out that the equivalence holds in general only if the end of time is also, in a sense, beyond time.

Perspectival semantics and the open future

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Abstract. In the first part of this paper, we analyze the concept of the open future. Our main thesis is that the indeterminateness of the future crucially depends on the perspective from which the propositions containing the future operator are evaluated. For this reason, we offer a perspectival temporal semantics, in which propositions are evaluated with respect to two indexes: the time of evaluation and the time of the perspective. This demonstrates the compatibility of this semantics with both a tensed and a tenseless metaphysics of time. In the second part, we apply the theoretical device of perspectival semantics to the problem of divine foreknowledge, demonstrating that this semantics proves to be promising in the solution of the foreknowledge problem. Finally, we discuss this solution from the point of view of both a tenseless and a tensed conception of the universe.

Eternalism, hybrid models and strong change

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Abstract. My main purpose in this paper is to argue that eternalism – in the block universe conception – is compatible with change, in a specific sense. After introducing some restrictions to eternalistic models, we will be able to preserve everything that is relevant to that end, relinquishing some aspects of classical models, such as, for instance, the Parmenidean character sometimes associated with them. The chance to introduce such restrictions will occur in the context of a possible answer to Shanks (1994), when he argues that the classical block universe is incompatible with free-will. After rejecting the author's arguments, we shall seek to introduce hybrid models, which, despite being eternalistic, can accommodate the passage of time and what we call strong change. The original contribution of this paper is, mostly, to bring to light the conditions in which a strong change can be introduced in an eternalist model, presenting what is gained and what is lost with such move.

From potentialities to change and time

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Abstract. It seems a popular idea to account for time in terms of change and to explain change in terms of potentialities or powers. The aim of my talk is to make this idea formally more precise. In particular, my aim is to provide a conceptual framework that elucidates how powerful objects jointly give direction to the possible future courses of events by manifesting their potentialities. To this end, I will first provide a rigorous formal characterization of potentialities and their manifestations, and I will then show how this conception of potentialities allows us to lift the possible future courses of events from a single momentary circumstance in a dynamic fashion. The result of the construction is a branching time model for real possibility, and the underlying picture is this: without powers and their manifestations, there is no change, and without change, there is no time either.

Modelling decision in a temporal context: analysis of a famous example suggested by Blaise Pascal

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Abstract: In this talk we study the temporal aspect of the decision between two mutually exclusive alternatives C and N, where N is the default state and C is an offer that is available for an unknown period of time. One of the applications we have in mind, due to Blaise Pascal, is when C corresponds to becoming a Christian, whereas N codes for not taking this step. In this case the offer extends until the moment of death.

It is assumed that the decision maker or agent bases his decision on his rational belief in the truth of C, and his willingness to accept the offer. To this end, we will use a Bayesian model in order to quantify degrees of belief as posterior probabilities based on prior beliefs and evidence. We then employ a 2x2 reward table in order to quantify the willingness of accepting the offer C, or not accepting the offer C, when C is true or not.

Two decision functions are treated. The first one is such that C is chosen when (if) the expected (posterior) reward of C exceeds that of N for the first time. We illustrate this decision rule by plotting the reward gain of N when N is true, against the reward gain of C when C is true, and then study how evidence may or may not affect the decision. According to the second decision function, the agent is more prone to postponing the decision, and therefore C is chosen when (if) the expected reward of C exceeds the predicted future maximal expected reward of C and N. Here we give some conditions under which it is beneficial to postpone the decision.

We will use a model where the agent to some extent forms his decision in a subjective way, caused by sources only found within him. The agent may for instance choose rewards in such a way that evidence is not accounted for at all. On the other hand, if the agent is more prone to following the truth, so that his decision involves evidence, there is still a subjective way of interpreting and collecting this evidence. In order to construct such a model, we will assume that degrees of beliefs and rewards involve the following three components: 1) a foundational part, 2) circumstances, and 3) subjective preferences. Component 1 is identical for all humans, 2 is individual-specific, but only caused by external influences, whereas 3 is caused by internal influences, from the agent himself. We conclude by discussing whether 1-3 have a deeper spiritual meaning, and whether component 3 represents free will or not.

Legal pardon, tensed time, and the expiation of guilt

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Abstract. Divine forgiveness is much more akin to a legal pardon by an executive authority than to the personal forgiveness characteristic of private relationships. For divine forgiveness, like a legal pardon, involves not merely the relinquishing of certain subjective feelings, but effecting an objective change in a person's legal status, making the pardonee no longer liable to punishment. But does a pardon expunge the guilt of the wrongdoer? In the Anglo-American justice system courts have differed on this question. An examination of legal opinions reveals that the answer hinges upon one's underlying theory of time. Courts which have ruled that a pardon blots out the guilt of the wrongdoer tacitly presuppose a tensed theory of time.

Fatalism for presentists

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Abstract. In contrast to most of the participants in the debate over Nelson Pike's "Divine Omniscience and Voluntary Action," Prior's rejection of theological fatalism in "The Formalities of Omniscience" (actually published three years before Pike's essay), is rooted in his denial of future contingent truth. I explore this denial insofar as it's grounded in Prior's presentism. Presentists have available to them a principled reason for denying future-contingent truth, and some presentists (though not all) avail themselves of this reason. At the same time, presentists need to accommodate truths about the past; if presentism cannot do this, it's a nonstarter. I look briefly at presentist defenses of truths about the past offered by Tom Crisp, Michael Rea, and Dean Zimmerman. Zimmerman suggests that truths about the past can be grounded in basic backward-looking properties. I raise doubts about this strategy and argue that similar doubts can be raised against the other two proposals; more significantly, I show that even if any of these moves succeeded, parallel moves for grounding truths about the contingent future would succeed equally well. Presentism, it seems, does not provide the hoped-for silver bullet against theological fatalism. This is worth determining even though Prior's principal complaint against future contingent truth comes from his endorsement of a Peircean semantics.

A defence of presentism against the Rietdijk-Putnam-Penrose argument

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Abstract. The Rietdijk-Putnam-Penrose argument is a critique of presentism, and argues from the relativity of simultaneity in the theory of relativity to a block universe. This article argues that the argument is imprecisely formulated, and can be refuted by considering its implications more precisely.

On dualism, time and Prior's "logic of the word of God"

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Abstract. Recently dualism has become relevant again, at least for some philosophers. In Loose et al (2018) the issue is debated from the perspective of 'substance dualism', a point of view that is in the book defended by the editors. Opposed to the traditional view I would like to propose an alternative kind of dualism, based on what I call 'metaphysical physicalism'. I say that what is physical is what we can know about the universe and also assuming that there are (i.e. exist) things we cannot know, they are beyond possible knowledge. I have thereby established what I call 'epistemological dualism' (see Götzsche 2013; see also Sellars 1921). In 'metaphysical physicalism' I see time as as a vague, or even indeterminate, concept, maybe an illusion. But, anyhow, we need 'time' to understand the universe and ourselves, among other things when talking about 'guilt' and 'forgiveness', and taking A. N. Prior's paper (Prior 1940) as a point of departure I contemplate Prior's idea about the Bible as 'the Word of God' and that it follows that there must be a 'logic of the Word of God'. In my presentation I will offer more details on both metaphysics and 'God's logic'.

References

Götzsche, Hans (2013): *Deviational Syntactic Structures*. London /New Delhi/New York /Sydney: Bloomsbury Studies in Theoretical Linguistics (Bloomsbury Academic; contract with Continuum).

Loose, Jonathan J., Angus J.L. Menuge, and J.P. Moreland (Eds. 2018): *The Blackwell Companion to Substance Dualism*. London: Wiley & Sons Inc.

Prior, A.N. (1940) The Analogy of Faith, *The Congregational Quarterly*.

Sellars, R. W. (1921): 'Epistemological Dualism vs. Metaphysical Dualism', *The Philosophical Review*, Vol. 30, No. 5.

Letters between Mary and Arthur Prior in 1954: topics on metaphysics and time

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Abstract: This paper will introduce and discuss correspondence between Mary and Arthur Prior and between Arthur Prior and J.J.C Smart from 1954 on the five topics: freedom, abstract entities, modal logic, religion and theology and finally the logic of time. It is claimed that the logic of time was formulated in the context of reflections on the first four of these.