

**On C.A. Meredith and A.N. Prior's
Manuscript *Computations and Speculations* (Box 8)¹,**

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Prior's Nachlass was deposited in the Bodleian Library, Oxford, shortly after his death on 6 October 1969. The main material is kept in a number of boxes (1-22, see www.priorstudies.org) in the Bodleian Libraries, Oxford – specifically, as 'Prior's Papers' in the Weston Library, Special Collections.² In Box 8 is found an incomplete book manuscript with this frontpage:

Computations and Speculations

By

C.A. Meredith.

Edited by

A.N. Prior

Professor of Philosophy, University of Manchester.

In the following pages an analysis and description of the manuscript are given.

Format and condition: Incomplete, typed manuscript with a few additions and corrections by hand originally consisting of over 207 pages (cf. the [Table of Contents](#) whose last section VIII.1. starts at p. 207; <https://research.prior.aau.dk/priorstudies/box/8>). The manuscript as found in *Prior's Papers* Box 8 [inspected by Per Hasle, 15-17 August 2017 and 08-11 August 2018] is somewhat complicated to overview. For one thing, there are two kinds of pages, "original" ones and carbon copies – without doubt the manuscript has been produced with carbon copy paper, reflecting the usages of typewriters at the time. For another thing, there are (physically) two subsequent versions, first a more complete one – called M1 below – which is followed by a less complete one, called M2 below. Carbon copies

¹ Part of this introduction has been published as an appendix in: Hasle, PFV & Rybaříková, Z (2017) 'C. A. Meredith, A. N. Prior, and Possible Worlds'. IN: Hasle, PFV, Blackburn, P and Ohrstrom, P (editors) 2017: *Logic and Philosophy of Time – Themes from Prior*. Aalborg University Press, pp. 41-61.

² Some further Prior Nachlass-material is kept in other archives, see www.priorstudies.org. Contact information for the Prior Archive in Oxford:

Weston Library, Broad Street, Oxford, OX1 3BG

Enquiries: specialcollections.enquiries@bodleian.ox.ac.uk

Bookings: specialcollections.bookings@bodleian.ox.ac.uk

are found in both piles, sometimes as duplicates but sometimes in place of an original page. Below is listed which pages can be found in the two piles.

It should be noted that the manuscript is enclosed within a folder designated 'Miss P. Horne', who was the secretary in the department of Philosophy at the University of Manchester during Prior's years there. She on several occasions typed manuscripts for Prior. The manuscripts for *Computations and Speculations* (both M1 and M2) carry handwritten notes such as 'replace O with nought throughout', obviously being an instruction for a next improved version ('nought' meaning zero i.e. the digit 0).

According to a handwritten note by Mary Prior, found at the beginning of the folder, the manuscript was at one time submitted to OUP (Oxford University Press) but was not accepted. According to a further note by Mary Prior, the missing parts formed the basis of five other publications. Mary Prior listed these with the corresponding numbers from Flo's bibliography, cf. <https://research.prior.aau.dk/priorstudies/box/5>); here Flo's numbers are added in square brackets:

- (1) [96] C.A. Meredith; A.N. Prior. 1963. 'Notes on the axiomatics of the propositional calculus', *Notre Dame Journal of Formal Logic*, vol. 4 (1963), pp. 171-187.
- (2) [110] C.A. Meredith; A.N. Prior. 1964. 'Investigations Into Implicational S5', *Zeitschrift für mathematische Logik und Grundlagen der Mathematik*, vol. 10 (1964), pp. 203-220.
- (3) [113] C.A. Meredith; A.N. Prior. 1965. 'Modal logic with functorial variables and a contingent constant', *Notre Dame Journal of Formal Logic*, vol. 6 (1965), pp. 99 – 109.
- (4) [139] C.A. Meredith; A.N. Prior. 1968. 'Equational logic', *Notre Dame Journal of Formal Logic*, vol. 9 (1968), pp. 212 – 226.
- (5) [146] E.J. Lemmon, C.A. Meredith, D. Meredith, A.N. Prior, and I. Thomas. 1969. 'Calculi of pure strict implication', *Philosophical Logic*, ed. by J.W. Davis, D.J. Hockney, and W.K. Wilson, D. Reidel, Dordrecht, 1969, pp. 215 – 250. (Previously published in mimeograph form, University of Canterbury, 1957.)

Pages available:

M1:

One title page and a three page Table of Contents (i-iii);

5-7, 18-19, 23-24, 26, 28-44 [45-46 available in M2], 47-54, 61-66, 91-122, 136-177, 181, 185-186, 188, 191-192

M2:

One title page and a three page Table of Contents (i-iii);

5-7, 18-19, 23-24, 26, 28-46, 47-54, 61-66, 91-122, 136-177, 181, 185-186, 188, 191-196, 199, 202-206;

Dating:

It is immediately obvious from the title page that the manuscript must have been produced during Prior's time as professor in Manchester, i.e. 1959-1965. Moreover the latest reference which can be found (with the exception of one clearly added later by hand, see below), is in a footnote on p. 194; this reference is to the second edition of Prior's *Formal Logic* from 1961. This makes it clear that the manuscript must have been produced in 1961 or later. Furthermore, since paper (1) above was published in 1963 this narrows down the possible dating to be 1963 at the very latest, and in all likelihood somewhat earlier. Another interesting clue may be found in the manuscript's note 41 (p. 121), which reads (in full): 'For fuller details, see A.N. Prior, 'Possible Worlds', Philosophical Quarterly.' Thus apparently at the time of writing Prior could not yet give the supplementary details, namely: Philosophical Quarterly, vol. 12 (1962), pp. 36 – 43. The lacking details in Prior's note suggest that the paper had been accepted but not yet published at the time note 41 was written.

Finally it may be observed that even in *Computations and Speculations* there is no clear identification of the variable 'a' and possible worlds.³ In papers published in 1962 there is such an interpretation (Rybaříková and Hasle 2017). It all adds up to the conclusion that *Computations and Speculations* must have been produced by 1962 at the very latest, and some parts of it may well have been typed earlier. In conclusion, we end up with a dating most likely 1962 or late 1961. It may be noted that Prior added to it much later; thus on p. 199 is found an added footnote in Prior's hand referring to the paper C. A. Meredith; A. N. Prior. 1965. 'Modal logic with functorial variables and a contingent constant' (cf. (3)) above).

Authorship:

As seen from the front page, C.A. Meredith is presented as the author of the manuscript, and Prior figures as the editor. Nevertheless, Prior unquestionably did more than mere editing. Obviously, Prior had an active hand in producing the running text. First of all, Meredith is mentioned in the third person throughout, e.g. *Computations and Speculations* p. 111 and p. 112. This of course could have been a stylistic choice, even if somewhat unusual, but other passages seem to indicate quite strongly that Prior is the 'direct writer'. On page 138 we find this passage:

Meredith first presented his work on D at a logical colloquium in Oxford in 1956; and it was there suggested at that colloquium by his cousin D. Meredith that there ought to be an axiomatization of that part of modal logic which employs no constant but strict implication. A number of us were provoked by his suggestion to begin work on this [which would later lead to the joint publication 'Calculi of pure strict implication', cf. (5) above].⁴

³ Cf. Rybaříková, Z; Hasle, PFV. 2017, 'C. A. Meredith, A. N. Prior, and Possible Worlds' for a discussion of Prior's use of the variable 'a'.

⁴ The colloquium mentioned was the logic colloquium organised by Prior et. al, cf. the *Logic Colloquium Programme: Oxford, 1956* in Prior's Papers in the Bodleian Library, Box 11, First Folder

Moreover, in the five papers derived from *Computations and Speculations*, Prior in all cases is presented not as editor but as the second author. David Meredith, cousin of C.A. Meredith and a fellow logician, stated this in his obituary of C.A. Meredith:

Many of the results that were prepared for publication by A. N. Prior in the sixties had been discovered as Meredith attempted to respond to queries from logical colleagues. (D. Meredith 1977, 514).

The results ‘prepared for publication’ clearly comprises the five publications listed above and thus implies more than editing. Overall, these features indicate that Prior had a more active role in the creation of *Computations and Speculations* than merely editing, as otherwise suggested by the front page’s ‘Edited by A.N. Prior’. On the other hand, most of the original ideas, proofs etc. etc. without doubt stem from Meredith – completely or at least to a very high degree (it cannot entirely be ruled out that Prior could have amended a formula, a proof or a formulation here and there). Prior was a keen admirer of Meredith’s work and hoped to motivate him to publish more, and his role in editing and working on this manuscript must be seen in that light. However, the cumulative evidence leads to the conclusion that Prior should be included in references to *Computations and Speculations* as more than the editor, to wit, as second author.

Finally, it is worth mentioning that the manuscript’s Chapter VI: ‘Modal Logic with Functorial Variables and a Contingent Constant’ (MS Section VI: pp. 109-135) extensively deals with ‘Meredith’s *n*’. This *n* is alternately presented as a truth-value or a contingent constant which can be understood as a possible world. In a sense this has been an inspiration to Prior’s later work on world propositions and instant propositions – important in its own right but even more important because this makes it belong to early part of the (pre)history of possible world semantics as well as hybrid logic. Sadly, pages 123-135 are missing, though the paper (Meredith and Prior 1965) clearly builds on those pages (see my transcription of chapter VI in the [Nachlass](#) and especially note 2).

Some particularly important papers dealing with “Meredith’s *n*” as well as Meredith and Prior’s contribution to the development of possible world semantics can be mentioned here:

Copeland, B.J. 2006. ‘Meredith, Prior and the History of Possible Worlds Semantics’. *Synthese* 150: 373–397. doi: 10.1007/s11229-005-5514-9

Copeland, J.; Hasle, P.: 2018. ‘Physicalism, Prior’s Problem, and World Propositions’. Submitted November 2018 for *Analysis*.

Rybaříková, Z.; Hasle, P. 2017. ‘C. A. Meredith, A. N. Prior, and Possible Worlds’. IN Hasle, PFV, Blackburn, P and Ohrstrom, P (editors) 2017: *Logic and Philosophy of Time – Themes from Prior*. Aalborg University Press, pp. 41-61.

Meredith, C.A.; Prior, A.N. 1965. ‘Modal Logic with Functorial Variables and a Contingent Constant’, *Notre Dame Journal of Formal Logic*, vol. 6, pp. 99-109

(see www.priorstudies.org – Boxes). This event was crucial to the development of significant logical work including Meredith and Prior’s further cooperation. Several of the publications mentioned in this paper emanated, sooner or later, from this colloquium.

Prior A.N. 1967. 'The Logic of Successive World States'. Chapter V in Prior, A.N. (1967): *Past, Present and Future*, Oxford University Press.

This introduction has been developed in several iterations, in Oxford August 2017, Christchurch (NZ) March 2018 and Oxford August 2018.