Isaac Newton and the Study of Chronology

Prophecy, History, and Method

Cornelis J. Schilt

Amsterdam University Press

Isaac Newton and the Study of Chronology

Amsterdam
University
Press

Amsterdam
University
Press

Isaac Newton and the Study of Chronology

Prophecy, History, and Method

Cornelis J. Schilt

Amsterdam University Press

Cover illustration: Lieve Verschuier, *The Great Comet of 1680 over Rotterdam*, also known as Newton's Comet (Museum Rotterdam).

Cover design: Coördesign, Leiden
Lay-out: Crius Group, Hulshout

ISBN 978 94 6372 116 5
e-ISBN 978 90 4855 428 7
DOI 10.5117/9789463721165
NUR 685

© C.J. Schilt / Amsterdam University Press B.V., Amsterdam 2021

All rights reserved. Without limiting the rights under copyright reserved above, no part of this book may be reproduced, stored in or introduced into a retrieval system, or transmitted, in any form or by any means (electronic, mechanical, photocopying, recording or otherwise) without the written permission of both the copyright owner and the author of the book.

Every effort has been made to obtain permission to use all copyrighted illustrations reproduced in this book. Nonetheless, whosoever believes to have rights to this material is advised to contact the publisher.

Amsterdam
University
Press

For it was revealed to Daniel that the prophesies concerning the last times should be closed up & sealed untill the time of the end: but then the wise should understand, & knowledg should be increased [...] And therefore the longer they have continued in obscurity, the more hope there is that the time is at hand in which they are to be made manifest.

Yahuda Ms. 1.1, fol. 1^{r}

Amsterdam University Press

Amsterdam
University
Press

Table of Contents

Amsterdam University Press

Amsterdam
University
Press

Illustrations

Table

Figures

Amsterdam University Press

Amsterdam University Press

Abbreviations

5-III, 7/8-VII, etc.,	refer to chapters of the 'Originals'
Ms./Mss.	manuscript/s
OR-B, OR-1, etc.,	refer to versions and sections of Newton's 'Origines' manuscript
APS	American Philosophical Society, Philadelphia, PA
ASC	Advent Source Collection, JWL
Babson	Grace K. Babson Collection of the Works of Sir Isaac Newton, HL
CUL	Cambridge University Library
HRHRC	Harry Ransom Humanities Research Center, University of Texas, Austin, TX
HL	Huntington Library, San Marino, CA
JWL	James White Library, Andrews University, Berrien Springs, MI
Keynes	J.M. Keynes collection, King's College, Cambridge
LHL	Linda Hall Library for Science, Engineering and Technology, Kansas City, MO
NCL	New College Library, Oxford
RS	Royal Society Library, London
TCL	Trinity College Library, Cambridge
WACL	William Andrews Clark Memorial Library, Los Angeles, CA
Yahuda	Abraham Yahuda collection, National Library of Israel, Jerusalem

Amsterdam University Press

Amsterdam
University
Press

Acknowledgements

This is a book about Newton, the scholar. Back when I was still an undergraduate at Utrecht University, I was introduced to the history of science and, by default, to Newton, the scientist. It was only as part of an intriguing course titled 'Newton in Context', organized by Rienk Vermij, that I met the other Newton, the scholar, the Newton I never knew. Thus began a fascinating journey into the history of scholarship, especially into the domains of scriptural prophecy and ancient chronology, and one early modern individual's idiosyncratic interpretation of how these disciplines should be studied.

This book could not have been written without the diligent and painstaking work of the editors of the Newton Project, in particular John Young and Michael Hawkins, and of the many transcribers who contributed to the deciphering and digital markup of Newton's scribbles. I am very grateful to the librarians and staff of the archives and libraries I visited throughout the gestation of this project, including the Wren Library in Trinity College and the manuscript archives of King's College, Cambridge; the library of the Royal Society in London; the Memorial Library of the University of Wisconsin-Madison; the Bodleian Library and the Library of New College, Oxford; and the Huntington Library in San Marino, CA. Bill Newman and Wally Hooper of the Chymistry of Isaac Newton project team extended their hospitality to me at the University of Indiana, Bloomington, and provided invaluable advice and assistance on all things digital. Both Linacre College and the History Department of the University of Oxford provided support which at times transcended mere *pecunia*.

I have benefited immensely from discussions on all things Newton, history, and early modern scholarship and science with many wonderful scholars. Particular thanks must go to Steve Matthews, Steve Snobelen, Scott Mandelbrote, Dmitri Levitin, Niccolò Guicciardini, Steffen Ducheyne, John Henry, Per Landgren, Tim Hitchcock, Howard Hotson, Stephen Clucas, Vladimir Urbanek, Vojtěch Hladký, Anna Marie Roos, Philipp Nothaft, Philip Beeley, Pietro Corsi, Daniel Margócsy, Thony Christie, Kees de Pater, Remus Manoilă, Paul Greenham, Daniele Macuglia, John Lidwell-Durnin, Erica Charters, Michelle Pfeffer, Vincent Roy-Di Piazza, Tim and Brandi Miller, Lucia Bucciarelli, Zhaoyuan Wan, and my former colleagues at the *Scientiae* conference series. I had stimulating conversations with many others which shaped the research presented in this book: I salute you. I

Amsterdam University Press

am also very grateful to Erika Gaffney and her colleagues at Amsterdam University Press, who more than delivered.

A special word of thanks must go to Rob Iliffe, under whose caring guidance the research presented in this book emerged. An eminent scholar, he graciously shared his extensive knowledge and understanding of Newton's life and work and gently accompanied me on the way to unravelling Newton's chronology.

Finally, I would like to thank my family and friends, whose invaluable support allowed me to embark upon the ship *Argo* to strange and faraway places. My wife Anca sailed with me through storm and sunshine: I am very grateful to be allowed to share this life with you.

Amsterdam University Press

Conventions

With a handful of exceptions, manuscript transcriptions are taken from the Newton Project, generally opting for the diplomatic version to show Newton's editorial interventions; occasionally, the normalized version has been given preference to enhance readability. Conventional symbols are used to indicate that text has been ~~deleted~~, \inserted above the line/, |inline|, or /below the line\. Quotations are given in the original spelling, including the abbreviations 'y^{e}' for 'the', 'y^{t}' for 'that', 'w^{ch}' for 'which', and 'wth' for 'with'.

Because this book focusses in great detail on Newton's writing practices, his own editorial conventions are kept as much as possible. These include his use of underlining to indicate a quotation, of dashes to abbreviate sentences and paragraphs, and of square brackets to mark a passage for deletion. Since nowadays square brackets are commonly used for interpolation and textual modification, I have marked those instances where Newton's use is to be understood.

Julian calendar dates (Old Style) between and including 1 January and 24 March are given with double years, as in 15 February 1667/8, with the year dated from 1 January. All translations are mine, unless otherwise stated.

Amsterdam University Press

Amsterdam
University
Press

Introduction

In the fall of 1725, a French translation appeared of a short chronological work, composed by an Englishman about a decade earlier. Following a brief introduction, the work consisted mainly of an extensive list of dates for key historical events. These included important episodes in the history of the Jewish people, such as the ascendancy to the throne of King David in 1059 BCE, the building of the Temple under his son Solomon (1015 BCE), and the invasion of Syria and Judea by the Babylonians under Nebuchadnezzar (606 BCE). In between were listed pivotal events in world history, such as the Argonautic expedition (937 BCE), the fall of Troy (904 BCE), the building of Rome (627 BCE), and the conquest of the Persian empire by Alexander the Great (332 BCE). Remarkably, these dates differed significantly from established scholarly consensus. For example, Dionysius Petavius (1583-1652), the renowned French theologian and historian, had arrived at 1226 BCE for the voyage of Jason and the Argonauts and 1184 BCE for the fall of Troy, putting these events almost three centuries earlier.[1] The Paris publisher Guillaume Cavelier appended to the translation a critical analysis of the chronology presented and the methods the author had used to arrive at his dates, from the hand of the renowned scholar Nicolas Fréret. According to Fréret, everything was 'très curieux', and, moreover, entirely wrong.[2] The author had misunderstood – or misinterpreted – several ancient sources, his calculations were off, and so were his conclusions.

That author was Isaac Newton, and the appearance of a work of chronology from the hands of England's greatest natural philosopher must have surprised many of his contemporaries. After all, apart from a handful of people close to him and the circle around Cavelier and Fréret, hardly anyone knew about Newton's chronological studies. The 'Short Chronicle', translated and published as *Abregé de la Chronologie de M. le Chevalier Isaac Newton*, had been a summary of his studies, written for Princess Caroline in 1717 at

1 Petavius, *Rationarium temporum*, pp. 36-40. See also Buchwald and Feingold, *Origin of Civilization*, p. 343.

2 Cavelier and Fréret, *Abregé de la Chronologie*, p. 48.

Schilt, C.J., *Isaac Newton and the Study of Chronology: Prophecy, History, and Method*. Amsterdam: Amsterdam University Press 2021
DOI: 10.5117/9789463721165_INTRO

Amsterdam University Press

the instigation of the Italian Father Antonio Conti. Conti had made Newton's acquaintance the year before and was impressed with his understanding of ancient history.[3] Afterwards, Newton was less impressed with Conti's understanding of friendship, suspecting it was he who had supplied the French with a copy of his work.[4]

In a letter to the *Philosophical Transactions* in which Newton explained the provenance of the manuscript the editors had used, he included several complaints about how his work had been misunderstood. He also stated that, contrary to the impression given by Fréret, he was not working towards the publication of any kind of chronological work. On the contrary, he made it seem as if his chronological studies had been nothing more than a hobby: 'When I lived at Cambridge, I us'd sometimes to refresh myself with history and chronology for a while, when I was weary with other studies'.[5] As the manuscript record testifies, this was at minimum a severe understatement. From the mid-1670s onwards, chronology had never been far from his mind. It is probably true that at the time the *Abregé* saw the light, he was not actively working towards publication of his chronological writings – but that soon changed. During the final eighteen months of his life, Newton frantically drafted version after version of the various chapters that would posthumously be published as the *Chronology of Ancient Kingdoms Amended* (1728). The final iteration of that work turned out be rather different from the preceding drafts, misleading both contemporary critics and modern students of his scholarship as to the purpose of his chronological writings.[6]

In this book, which draws upon the research I completed at Linacre College, Oxford, I argue that the traditional image of Newton as a chronologist composing a universal history of the main Mediterranean civilizations is incorrect, or at least incomplete.[7] Indeed, the posthumously published *Chronology of Ancient Kingdoms Amended* dealt with exactly these themes; but it differed in crucial ways from the preceding drafts. These drafts clearly show the intimate connections between Newton's chronological studies and that other major scholarly project of his, the study of the prophecies in

3 Manuel, *Historian*, pp. 21-23; Westfall, *Never at Rest*, pp. 805-12; Gjertsen, *Newton Handbook*, pp. 39-41; Buchwald and Feingold, *Origin of Civilization*, pp. 307-18.

4 Newton, 'Remarks', pp. 317, 320. For Conti, see Badaloni, *Antonio Conti*; Gjertsen, *Newton Handbook*, pp. 133-34.

5 Newton, 'Remarks', p. 320.

6 For the editorial history of the *Chronology of Ancient Kingdoms Amended* and the *Observations upon the Prophecies of Daniel and the Apocalypse of St. John*, published in 1733, see Schilt, 'Of Manuscripts and Men'.

7 Schilt, 'Prophecy, History and Method', unpubl. thesis.

Amsterdam University Press

Scripture, vestiges of which can still be found in the *Chronology*. These connections become all the more obvious once we begin exploring the complex gestation of Newton's chronological project and discover how the various earlier works Newton composed on the topic are related in time and space.

So far, no historian has attempted to unravel the maze that is Newton's chronological manuscripts, primarily on the grounds of its sheer complexity. There are thousands of undated draft folios found in archives all over the world, with chronology-related lines and paragraphs included with his writings on nearly every other topic. As I show in this volume, the only way to reconstruct these writings and to understand the evolution of Newton's ideas is by paying close attention to his work habits. Only by studying *with* Newton can we understand *what* Newton was actually working on, and *why* it mattered so much to him.

Therefore, this book provides a detailed analysis of Newton's quotidian working practices: his reading, note-taking, writing, and ordering habits, with a particular focus on his chronological studies. Newton's library contained hundreds of books related to the ancient world, many of which show signs of intensive study. Likewise, his manuscripts contain dozens of folios chock-full of notes and excerpts taken from both classical authors and contemporary scholars. But although it is clear that he was influenced by his contemporaries in topic and argument, hardly any research has been done on what exactly Newton took from their works and how he subsequently incorporated this data into his own writings.

The second topic this book deals with relates to the fragmented corpus of Newton's chronological writings, and their order of composition. As no Newton scholar has failed to notice, the manuscripts that bear the fruits of his decade-long studies of ancient civilizations are in significant disarray. Not only have they been dispersed all over the world, the manuscripts in even a single collection frequently appear as a haphazardly arranged series, with folios out of order, seemingly inserted in the wrong place, or missing. So far, attention has been devoted to what at first sight appear to be more or less coherent treatises and chapters. Regrettably, this has led to a fragmented discussion of Newton's chronological writings, as fragmented as the writings themselves, with many unwarranted conclusions about the development of his methods and ideas. By first reconstructing Newton's own ordering and reordering practices, and then restoring the corpus in the order of composition, this book provides the first chronology of Newton's chronology.

Emerging from this reconstruction are the clear connections between Newton's chronological project and his studies of the prophecies in Scripture,

Amsterdam University Press

the third topic this book addresses. Indeed, during the last four decades, Newton's various interests have been studied in depth.[8] Similarly, questions of how particular aspects of Newton's intellectual activities were connected have sparked ample debate, from 'embarrassing controversies' over Newton's alchemical studies in the 1970s and 80s to sophisticated discussions about how Newton compartmentalized his interests.[9] Yet so far, historians have either ignored the question as to what motivated Newton's chronological studies or assumed that he was simply writing a universal history of sorts, either to demonstrate the accuracy of scriptural chronology or the inaccuracy of pagan records.[10] But this does not answer the question of *why* he felt the need to do so or how such a universal history would fit into the greater scheme of his scholarly work. In fact, the manuscript record itself demonstrates the clear connections between Newton's chronological project and his desire to correctly interpret the prophecies in the books of Daniel and Revelation.

These three topics are closely interrelated. Newton's reading, note-taking, writing, and ordering practices inform us about how he approached his

8 The bibliography is vast, but important publications include Guicciardini, *Reading the Principia*; Guicciardini, *Newton on Mathematical Certainty and Method*; Guicciardini, *Newton and Natural Philosophy*; Shapiro, *Optical Lectures*; Smith, 'Methodology of the *Principia*'; Ducheyne, *Main Business of Natural Philosophy*; Newman, 'Background to Newton's Chymistry'; Newman, *Alchemist*; Iliffe, *Newton: A Very Short Introduction*; Iliffe, *Priest of Nature*; Mandelbrote, 'Newton and the Writing of Biblical Criticism'; Mandelbrote, 'Newton Reads the Fathers'; Snobelen, 'Theology of Isaac Newton's General Scholium'; Buchwald and Feingold, *Origin of Civilization*. On the web, both the Oxford-based Newton Project and the Chymistry of Isaac Newton project at the University of Indiana-Bloomington have greatly contributed to our understanding of Newton's life and writings.

9 Casini, 'Classical Scholia', paraphrased from pp. 12-13. A. Rupert Hall and Marie Boas Hall, in their initial studies of Newton's alchemical notebook, refused to call it by that name, claiming that Newton did not practice alchemy; see Hall and Boas Hall, 'Newton's Chemical Experiments', p. 116. In his *Isaac Newton: Adventurer in Thought*, written more than three decades later, A.R. Hall maintained his opinion. Betty Jo Teeter Dobbs's arguments were diametrically opposed to those of the Halls, as expressed in her *Foundations of Newton's Alchemy*, *Janus Faces*, and her often overlooked 'Integrated View of Newton's Work.' For proponents of the middle ground, see e.g. Westfall, 'Newton and Alchemy'; Henry, 'Occult Qualities and Experimental Philosophy'. Rob Iliffe has shown how Newton compartmentalized his interests, to some extent drawing clear methodological distinctions between his theological and philosophical reasoning; see his 'Abstract Considerations', pp. 431-32. See also Force, 'Newton's God of Dominion; Newman, 'Newton's Early Optical Theory and its Debt to Chymistry'; Iliffe, 'Connected System'; Henry, 'God and Newton's Gravity'; Snobelen, 'Theology of Isaac Newton's General Scholium'; Snobelen, 'Newton's Heterodox Theology and his Natural Philosophy'; Schilt, 'Created in our Image'.

10 Markley, 'Tradition of Universal History'; Buchwald and Feingold, *Origin of Civilization*, p. 209; Gascoigne, 'Wisdom of the Egyptians', p. 195.

Amsterdam University Press

chronological studies, and hence provide the keys for reconstructing the manuscript corpus. Likewise, the purpose of Newton's chronological studies becomes clear once one starts unravelling the genesis of what would become the *Chronology of Ancient Kingdoms Amended*.

In the first chapter of this book, I introduce the reader to what was once a thriving part of scholarship, the study of ancient chronology. I explore both its early modern heyday with the efforts of scholars such as Joseph Scaliger and Dionysius Petavius, and the origin of the tradition in which they operated, stretching back to the days of the Church Fathers. I pay particular attention to the seventeenth-century religio-political climate in which chronology was embedded, and its eschatological dimensions. Against this background I briefly discuss the results of Newton's chronological studies, a more detailed account of which I will provide in the following chapters. I then turn to how these studies have been discussed in the literature so far, and the pressing problems of ordering and dating the manuscripts.

Chapter 2 is devoted to Newton's reading and note-taking practices, with particular emphasis on the materials he collected to write his earliest chronological treatise, 'Theologiae gentilis origines philosophicae' ('On the [natural] philosophical origins of pagan theology'). Somewhere in the 1680s, Newton started reading up on the histories of Assyria, Greece, Egypt, and other Mediterranean civilizations. Although he initially made use of the libraries of various other Cantabrigians, he soon started to amass a wealth of books on history and chronology-related topics of his own, including editions of most of the classics and the works of contemporary scholars. Through a careful study of his trademark habit of marking passages via dog-ears, and the analysis of the hundreds of pages with notes he left, I trace what Newton took from the books he read and how he navigated back and forth between primary and secondary sources. I also pay attention to Newton's note-taking practices, both in terms of form and function, and in how these notes were subsequently incorporated into his writings.

Around the time Newton left Cambridge for London to take up his position at the Royal Mint in 1696, he had significantly rewritten the 'Origines'. From what was originally a short treatise on the Egyptian origins of star worship, the work now also included a full comparison of the pantheons of the major Mediterranean civilizations. From this, Newton deduced that the origins of all these nations lay with Noah and his progeny. In Chapter 3, I trace back the development of the 'Origines' and its various stages, by reconstructing its order of composition. I then turn to the writing, editing, and ordering methods Newton employed in his research, to try and understand how Newton continued his chronological studies throughout the late 1690s and

Amsterdam University Press

early 1700s. I pay particular attention to two key writings, the 'Original of Monarchies' and the 'Original of Religions', which so far have been significantly misdated and misunderstood. Informed by Newton's writing and ordering practices, I then reconstruct, through a careful examination of the manuscript record, the connections between these and Newton's other chronological writings. The picture that emerges is one of continuity, both in writing and focus. Instead of discarding the 'Origines' for a more detailed study of the origin of civilizations, Newton in fact expanded his earlier tract. This has clear implications for our understanding of the connections between Newton's writings, including his religious studies, and the reasons why Newton became interested in chronology in the first place.

In the final chapter, I explore the origin of Newton's chronological studies from the perspective of the visions from the book of Daniel. I discuss his studies of the prophecies and his interpretation of the four monarchies, and how Newton tried to harmonize the prophetic record with sacred and secular history. Through a careful examination of the gestation of the *Chronology of Ancient Kingdoms Amended*, I show how the chapters on Assyria, Babylon, Persia, and Media originated directly from Newton's studies of the prophecies and how at some point he combined what were, until then, related but distinct projects. I pay particular attention to how Newton tried to harmonize classical and sacred history, and how he applied a literary criticism to biblical chronology that exceeded that of many of his contemporaries.

As a result, the Newton that emerges from the labyrinth of his chronological manuscripts is an inspired individual. Frantically writing and rewriting to get every word, sentence, paragraph, and chapter right, convinced that Scripture provides a relatively accurate description of the origin of all peoples and nations and that other narratives are but mere derivatives, distorted through time, space, and idolatry. We readers can open the doors to his study, sit down, and through his books and manuscripts observe Newton, the man, at work.

Bibliography

Printed Primary Sources

Cavelier, G., and N. Fréret, *Abregé de la Chronologie de M. Le Chevalier Isaac Newton, fait par lui-meme, & traduit sur le manuscrit anglois* (Paris, 1725)

Amsterdam University Press

Newton, I., 'Remarks upon the Observations Made upon a Chronological Index of Sir Isaac Newton, translated into French by the Observator, and publish'd at Paris', *Philosophical Transactions* 33 (1725), pp. 315-21
—, *The Chronology of Ancient Kingdoms Amended; to which Is Prefix'd, a Short Chronicle from the First Memory of Things in Europe, to the Conquest of Persia by Alexander the Great* (London, 1728)
—, *Observations upon the Prophecies of Daniel, and the Apocalypse of St. John* (London, 1733)
Petavius, D., *Rationarium temporum* (Paris, 1633)

Printed Secondary Sources

Badaloni, N., *Antonio Conti: un abate libero pensatore tra Newton e Voltaire* (Milan, 1968)
Buchwald, J.Z., and M. Feingold, *Newton and the Origin of Civilization* (Princeton, 2013)
Casini, P., 'Newton: The Classical Scholia', *History of Science* 22 (1984), pp. 1-55
Dobbs, B.J.T., *The Foundations of Newton's Alchemy, or, The Hunting of the Greene Lyon* (Cambridge, 1975)
—, *The Janus Faces of Genius: The Role of Alchemy in Newton's Thought* (Cambridge, 1991)
—, '"The Unity of Truth": An Integrated View of Newton's Work', in *Action and Reaction: Proceedings of a Symposium to Commemorate the Tercentenary of Newton's Principia*, ed. by P. Theerman and A.F. Seeff (Newark, London and Toronto, 1993), pp. 105-22
Ducheyne, S., *The Main Business of Natural Philosophy: Isaac Newton's Natural-Philosophical Methodology* (Dordrecht, 2012)
Force, J.E., 'Newton's God of Dominion: The Unity of Newton's Theological, Scientific, and Political Thought', in J.E. Force and R.H. Popkin, *Essays on the Context, Nature, and Influence of Isaac Newton's Theology* (Dordrecht, 1990), pp. 75-102
Gascoigne, J., '"The Wisdom of the Egyptians" and the Secularisation of History in the Age of Newton', in *The Uses of Antiquity: The Scientific Revolution and the Classical Tradition*, ed. by S. Gaukroger (Dordrecht, 1991), pp. 171-212
Gjertsen, D., *The Newton Handbook* (London/New York, 1986)
Guicciardini, N., *Reading the Principia: The Debate on Newton's Mathematical Methods for Natural Philosophy from 1687 to 1736* (Cambridge, 1999)
—, *Isaac Newton on Mathematical Certainty and Method* (Cambridge, MA, 2009)
—, *Isaac Newton and Natural Philosophy* (London, 2018)
Hall, A.R., *Isaac Newton: Adventurer in Thought* (Cambridge, 1992)

Amsterdam University Press

Hall, A.R., and M. Boas Hall, 'Newton's Chemical Experiments', *Archives Internationales d'Histoire des Sciences* 11 (1958), pp. 113-52

Henry, J., 'Occult Qualities and the Experimental Philosophy: Active Principles in Pre-Newtonian Matter Theory', *History of Science* 24 (1986), pp. 335-81

—, '"Pray Do Not Ascribe that Notion to Me": God and Newton's Gravity', in *The Books of Nature and Scripture: Recent Essays on Natural Philosophy, Theology and Biblical Criticism in the Netherlands of Spinoza's Time and the British Isles of Newton's Time*, ed. by J.E. Force and R.H. Popkin (Dordrecht, 1994), pp. 123-47

Iliffe, R., 'A "Connected System"? The Snare of a Beautiful Hand and the Unity of Newton's Archive', in *Archives of the Scientific Revolution: The Formation and Exchange of Ideas in Seventeenth-Century Europe*, ed. by M. Hunter (Woodbridge, 1998), pp. 137-58

—, 'Abstract Considerations: Disciplines and the Incoherence of Newton's Natural Philosophy', *Studies in History and Philosophy of Science* 35 (2004), pp. 427-54

—, *Newton: A Very Short Introduction* (Oxford, 2007)

—, *Priest of Nature: The Religious Worlds of Isaac Newton* (Oxford, 2017)

Mandelbrote, S., '"A Duty of the Greatest Moment": Isaac Newton and the Writing of Biblical Criticism', *British Journal for the History of Science* 26 (1993), pp. 281–302

—, '"Than this Nothing Can Be Plainer": Isaac Newton Reads the Fathers', in *Die Patristik in der Frühen Neuzeit*, ed. by G. Frank, T. Leinkauf, and M. Wriedt (Stuttgart, 2006), pp. 277-97

Manuel, F.E., *Isaac Newton, Historian* (Cambridge, MA, 1963)

Markley, R., 'Newton, Corruption, and the Tradition of Universal History', in *Newton and Religion: Context, Nature and Influence*, ed. by J.E. Force and R.H. Popkin (Dordrecht, 1999), pp. 121-43

Newman, W.R., 'The Background to Newton's Chymistry', in *The Cambridge Companion to Newton*, ed. by I.B. Cohen and G.E. Smith (Cambridge, 2002), pp. 358-69

—, 'Newton's Early Optical Theory and its Debt to Chymistry', in *Lumière et vision dans les sciences et dans les arts: de l'antiquité au XVII^e siècle*, ed. by D. Jacquart and M. Hochmann (Geneva, 2010), pp. 283-307

—, *Newton the Alchemist: Science, Enigma, and the Quest for Nature's 'Secret Fire'* (Princeton/Oxford, 2019)

Schilt, C.J., 'Of Manuscripts and Men: The Editorial History of Isaac Newton's *Chronology* and *Observations*', *Notes and Records of the Royal Society* 74 (2020), pp. 387-404

—, 'Created in our Image: How Isaac Newton Was Fashioned as a Scientist and Forgotten as a Scholar', *History of Humanities* 5 (2020), pp. 75-95

Shapiro, A.E., *The Optical Papers of Isaac Newton. Volume I: The Optical Lectures 1670–1672* (Cambridge, 1984)

Amsterdam University Press

Smith, G.E., 'The Methodology of the *Principia*', in *The Cambridge Companion to Newton*, ed. by I.B. Cohen and G.E. Smith (Cambridge, 2002), pp. 138-73
Snobelen, S.D., '"God of Gods, and Lord of Lords": The Theology of Isaac Newton's General Scholium to the *Principia*', *Osiris* 16 (2001), pp. 169-208
——, 'To Discourse of God: Isaac Newton's Heterodox Theology and his Natural Philosophy', in *Science and Dissent in England, 1688–1945*, ed. by P.B. Wood (Aldershot, 2004), pp. 39-65
Westfall, R.S., *Never at Rest: A Biography of Isaac Newton* (Cambridge, 1980)
——, 'Newton and Alchemy', in *Occult and Scientific Mentalities in the Renaissance*, ed. by B. Vickers (Cambridge, 1984)

Unpublished Theses

Schilt, C.J., 'Prophecy, History and Method: How and Why Isaac Newton Studied Chronology' (University of Oxford, 2018)

Digital Sources

The Chymistry of Isaac Newton project, Indiana University Bloomington, http://webapp1.dlib.indiana.edu/newton
The Newton Project, University of Oxford, www.newtonproject.ox.ac.uk/

Amsterdam University Press