

GODLY SCHOLAR: THE MAKING OF ISAAC NEWTON

Rob Iliffe, *Priest of Nature. The Religious Worlds of Isaac Newton* (Oxford: Oxford University Press, 2017), ISBN: 978-0-19-999535-6, 522 pp.

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For more than half a century, the field of Newton studies was characterized by a long and “exciting chase,” as Richard H. Popkin aptly described the painstaking process of reading, transcribing, attempting to date, understand and interpret the multitude of Newton’s manuscripts.¹ Sometimes, the chase brought remarkable discoveries; but quite often it ended in puzzles, paradoxes and unanswered questions.

Take, for example, one decade of Newton’s life, from 1670 to 1680. In these years Newton undertook extensive research in optics and published his first paper on light and colors; he engaged in extensive controversies over refraction, the nature of light and colors and the role of experiment in natural philosophical demonstrations; he wrote (and published) an extensive paper on light sometimes characterized as “alchemical cosmology”²; he worked on advanced mathematics, corresponded with Boyle on the nature of chemical bonding, corrected and rethought his initial theory of the aether; corresponded (and quarrelled) with Robert Hooke over the nature of (a force of) gravitation. And yet, if one judges by the sheer bulk of manuscripts coming from the same decade, Newton was not really concerned with any of these issues. His major projects were quite different: they involved nothing short of rewriting the prophetic history, clarifying (and perhaps correcting) the corrupted history of Christianity; finding the “original of religion” and the psychological and political mechanism of idolatry. A sidetrack project involved extensive alchemical experimentation and the reformulation of the entire alchemical vocabulary. None of these major projects was published during Newton’s lifetime. Indeed, until quite recently scholars seemed to agree with Richard S. Westfall that none of these major investigations was ever finished. In a well-known passage of his intellectual biography of Newton, Westfall appraised the achievement of the *Principia* with the following words:

The *Principia* was not only Newton’s monumental achievement. It was also a turning point in his life. As we know from his papers, he performed prodigies in a number of fields. As we also know, he completed nothing. By 1684 he had littered his study with unfinished mathematical treatises. He had not pursued his promising insights in mechanics. His alchemical investigations had produced only a chaos of unorganized notes and disconnected essays. Had Newton died in 1684 and his papers survived, we would know from them that a genius had lived. Instead of hailing him as a figure who shaped

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the modern intellect, however, we would at most mention him in brief paragraphs lamenting his failure to reach fulfilment.³

Rob Iliffe's book, *Priest of Nature*, tells a different story. To begin with, if Iliffe's Newton would have died in 1684, the world would have been able to reconstruct, from the remaining manuscripts, the work of an insightful and original theologian. What emerges from this book is the character of a godly scholar, i.e., a learned and competent interpreter of the Scriptures, versed in church history, with an original interpretation of prophecies, an excellent command (and deep suspicion) of patristic sources and a deeply revisionist view of the history of Christianity. The making of Newton's original theology took the same essential decade mentioned above, from 1670s to the early 1680s, when Newton "immersed himself in church history and apocalyptic studies," acquiring a "deep and probably unrivalled knowledge of the historical events" eventually incorporated into a "giant history of the corruption of Christianity" (pp. 133-134). Eventually, Newton's complete theological investigations spanned three decades; but unearthing them from the millions of words of his theological manuscripts will certainly take much longer. Rob Iliffe, one of the initiators of the Newton project, had a major contribution both in making these manuscripts available online, and in providing contemporary scholars with some keys to access the "religious worlds of Isaac Newton," i.e., Newton's numerous projects of historicizing theology, writing a history of religion(s), setting up a universal chronology, interpreting the prophecies and the Apocalypse, etc. One of the major claims of his book is that Newton's theological manuscripts have a value by themselves; and that, perhaps, even more research is needed to fully unearth their meanings. As stated in the introduction,

Although the predominantly theological writings that form the basis of this book have had to wait until the present century to be published, they are eminently worthy of study. This is not because they shed light on, or are early version of, some published work, or because they exerted a major influence on his scientific work, or on other authors. Instead, they represent the concerted efforts of the greatest thinker of his age to engage with the biggest questions of his time, and they offer unique, and previously unknown insights into his character (p. 12).

And yet, *Priest of Nature* is not simply a book on Newton's theology. Rob Iliffe has given us an engaging intellectual biography of Isaac Newton in the strict sense of the term, i.e., a story of intellectual formation of a deeply original thinker with many scholarly interests spanning fields difficult to classify in modern and contemporary terms. In contrast with the received view of a Newton engaged in theology, science and politics, Iliffe depicts a finer-grained picture of a seventeenth century scholar performing brilliantly within the confines of seventeenth-century disciplines of practical divinity and Biblical interpretation, church history and chronology, natural philosophy and mathematics, faculty psychology, alchemy and experimentation. Each of these disciplines was regulated by specific rules of practice, interpretative

techniques, and sometimes by common methods of investigation and argumentation. Questions of genre, types of argumentation and style of writing are of essence in this fascinating story of the making of Isaac Newton; a story reflecting many of the recent twists and turns resulting from the “exciting chase” through Newton’s manuscripts. One way of reading Iliffe’s book is by placing it in a dialogue with recent scholarly investigations published by Mordechai Feingold and Zev Buchwald,⁴ Scott Mandelbrote and Dmitri Levitin,⁵ Steven Snobelen and William Newman. Within the dynamic and vibrant community of Newton scholars, Iliffe’s book will most certainly produce vivid answers and perhaps also controversies, thus furthering our understanding of some of the still mysterious episodes of Newton’s life. For readers outside of this community, Iliffe’s book will provide an illuminating reconstruction of some of the main episodes of Newton life, contextualized and set against the rich background of post-Restoration England.

Priest of Nature is essentially a story of intellectual formation; it takes the reader through the main episodes of the making of Isaac Newton, from his religious upbringing and university education (Chapters 1-3); to his early publications and controversies (Chapter 4), from withdrawal from the world of experimental philosophers into the relative peace of a collegiate existence (Chapter 5); to his serious theological investigations into the language of the Scriptures (Chapter 6-8); from his bitter disputes of priority with Hooke and Leibniz (Chapter 5, 9); to his writing of the *Principia*, his political career in London, his episodes at the Mint and finally to his establishment as the president of the Royal Society, and the leading “scientific” voice of his time (Chapter 10).

The key to understand all these episodes, according to Iliffe, is to contextualize them, i.e., to read Newton’s achievements against the background of his upbringing and education, intellectual formation and (especially) university training. Iliffe’s Newton is essentially an independent scholar (very much in contrast with the reclusive and paranoid character depicted by Richard Westfall). But this scholar gained his independence working within the bounds, and according to the rules of a *collegiate environment*, i.e., the post-Restoration Trinity College, Cambridge. Iliffe’s book reconstructs convincingly the atmosphere, advantages and restrictions of this milieu of a highly regulated academic life, which still allowed, at a certain level, a degree of intellectual independence. This independence, according to Iliffe, mainly regarded the philosophical training. It gave students, not only a standard and relatively up to date curriculum, but also the possibility of pursuing “independent research” (p. 72). More precisely, collegiate life provided not only access to sources and high-quality training (in arguing and debating, forensic techniques of argumentation, historical and humanistic research, classics and philosophy) but also a certain degree of privacy which allowed fellows to pursue research relatively undisturbed.⁶ Iliffe contrasts the peace of this collegiate life with the lively and vibrant public science of the mid-seventeenth century “republic of letters” and pictures Newton’s reluctance to engage with the latter. In Iliffe’s reading, Newton’s reaction to his publication of the first paper on light and colors, in 1672, and his subsequent disputes with Hooke and the Jesuits, can be understood as springing from Newton’s marked preference for the privacy and relative independence of the collegiate life, and his reluctance to engage

publicly with the open “print culture” so characteristic for the English *virtuosi* (Chapter 4 and 5).

In contrast to Westfall, for example, Iliffe argues that Newton’s withdrawal from the scene of early modern (experimental) science had little to do with his (heretical) beliefs. In fact, following Scott Mandelbrote,⁷ Iliffe claims that Newton did not have any heterodox views on religion when he was repeatedly writing colleagues and peers (in between 1672 and 1675) that he has better things to do than argue about natural philosophy and mathematics. Sometimes in that decade, but gradually, and throughout a process of painstaking research, Newton – according to Iliffe – simply “read himself into heresy” (p. 135) through independent scholarly study of primary sources and modern commentaries. Chapter 4 of Iliffe’s book is a masterfully written and quite convincing depiction of this process through which Newton immersed himself into the study of the early church, putting to work all the skills acquired as a true scholar, plus his own intellectual brilliance and endless capacity for hard work.

During this hermitage he had a physical presence in his seventeenth-century Trinity rooms, but effectively lived out much of his life in the fourth century, when (as he saw it) pristine Christianity was corrupted by the importation of the despicable beliefs and practices that would later constitute the core of the Roman Catholic faith, chief of which was the doctrine of the Trinity. [...] As he developed a mastery of the source materials, he acquired a deep and probably unrivalled knowledge of the historical events that constituted what he called the Great Apostasy. [...] In terms of research practice, which was mirrored in every area he studied, his notes and glosses became short essays and then lengthy tracts, none of which seem to have been finished to his satisfaction before he pursued a different project. After devising a general interpretative scheme or framework, he would return to analyze the source materials in more detail, garnering evidence for his case. [...] Although he continually redrafted his history of the events that had taken place in the early church, the core elements and basic shape of his narrative did not change much over the following half century. [...] This consisted of eight parts: the appearance of the monks, the worship of saints, relics and images; the polytheistic worship of three equal gods, or tritheism; the morals of Athanasius and his followers; the morals and practices of Athanasius’ enemies; the nature of the true Christian religion drawn from apostolic writings and very early patristic texts; the decline and fall of the church; and prophetic references to the history of the church and of the General Apostasy. In due course, and backed by a vast range of evidence, he seamlessly incorporated all these topics into a giant history of the corruption of Christianity (pp. 133-34).

The reader of Rob Iliffe’s book will become familiar with the scenario described in the long quote above; because, according to Iliffe, this is how Newton worked, regardless of the subject. Newton simply “read himself into heresy” through a careful, scholarly investigation, of all the materials available on a given subject. Once convinced to take

sides, such as in the case of the dispute between Arius and Athanasius, and to adopt a theoretical standpoint (in this case, what Iliffe describes as a “radically subordinationist conception of Christ,” p. 142),⁸ Newton would devise an approximate interpretative scheme which he would subsequently refine by appeal to more historical data. This peculiar and extremely characteristic way of working is fully explained by Iliffe on his chapters on Newton’s interpretation of the Apocalypse (Chapters 7-9) which are amongst the most complex and spectacular chapters of the book. They illustrate what Iliffe sees as Newton’s “intertwining” of a “theoretical structure” with “his use of data” (p. 292) and a long and painstaking process of “fine-tuning” the theory, which bears remarkable resemblances with Newton’s work on dynamics and optics. In the case of Biblical hermeneutics Newton used as starting point for his interpretations of the Apocalypse the hermeneutical framework proposed by Joseph Mede. This initial theoretical framework was subsequently amended through a complex process of theory-construction on which the manipulation of data plays an essential role. In Iliffe’s words:

[...] the most significant aspect of Newton’s early prophetic research was the “intertwining” of his theoretical structure with his use of data. It is hard to think why he would have initially launched himself into the literature of the early church if he had not already made up his mind that the doctrine of the Trinity lie at the heart of the corruption of Christianity. With these preconceptions, he began to seriously examine the “internal” logical order of the apocalyptic visions, using Mede’s scheme as a template. Once he had developed his general prophetic scheme, he foraged in the literature for more detailed evidence that would support it. As we have seen, he amassed a vast amount of often very detailed and exact information, all of which helped him fine-tune his prophetic scheme. [...] Although he was of course working in two entirely separate genres and disciplines, there are *prima facie* similarities between the way he adduced data in his work on prophecy and the exact sciences. There was no metaphysics, and no contamination by the imagination – just a dynamic interaction between reason and experience, that is, between a continuously enriched method and an expanding pile of increasingly detailed empirical data. In each case, his analytical framework guided the collation of special evidence from an ocean of available information – which in turn corroborated and refined a highly original theory that was essentially irrefutable (p. 292).

With this enticing suggestion, Rob Iliffe revives the idea of a “Newtonian style” of problem-solving. In this, he builds, again, on recent work by George Smith and William Harper (on Newton’s fine-tuning of planet trajectories on the basis of empirical data), Mordechai Feingold and Jed Buchwald (on Newton’s treating similarly empirical and historical data in optics and chronology).⁹ Although extremely engaging, this “fine-tuning” hypothesis needs, I think, further corroboration. The *Priest of Nature* does not fully develop the details of this problem-solving method; and it does not illustrate its uses into natural philosophy. The suggestion is rather left open, to direct

further research. In the argumentative structure of the book, on the other hand, the same methodological suggestion is often used to support the other major claim of the author, namely that Newton's "style" of research in theology unveils important details of Newton's personality. This is an important argumentative trend permeating all the chapters dealing with Newton's controversies. For example, in Chapter 5, Iliffe claims that a careful investigation of Newton's harsh criticisms of early monasticism can enlighten the modern reader with respect to the sources and driving force of Newton's work ethics. Thus, Newton's "extensive account of how one should live a religious and productive scholarly existence was deliberately framed as a contrast with what he took to be the depraved lives of the early monks (p. 181)." It is true that in a number of texts Newton identifies monasticism and its spiritual exercises with the main source of idolatry. He also claims that asceticism through isolation, fasting, abstinence and spiritual exercises simply produce "inflammations" of the faculty of imagination and hence whole legions of idols. It is also true that, much like many of his contemporaries, Newton is distrustful of the imagination and suggests techniques to overcome, or reduce its influence in the process of thinking (in favor of the intellect). One can even somehow pull all those threads together, as Rob Iliffe is doing, and suggest connections between Newton's criticisms of idolatry and his positive articulation of a work ethics which leaves little room for "idle thoughts," and works of the imagination. But Iliffe's analysis is going further than that, suggesting that Newton's vivid descriptions of the lustful thoughts and inner demons of the early monastic communities are describing his own battles. To which he responds with his own set of spiritual exercises comprising "demanding techniques for evading the temptations of imagination, combining a devotion to hard work, a commitment to chastity, and a heightened sensitivity to the dangers of idolatry" (p. 182). Tempting as it is to read Newton in the tradition of practical religion and spiritual exercises, I think this reconstruction would need further evidence.

Another risky inference regards Newton's transfer of the use of forensic argumentation in theology, legal reasoning and philosophical dispute (Chapters 5 and 10). If this transfer is sometimes apparent in the case of the rhetorical structure of a particular document (such as Newton's letters to Hooke or the Jesuits), I find it problematic to conclude, as Iliffe does in Chapter 10, that Newton's case against Leibniz (on the priority dispute) follows the "pattern" (i.e., argumentative pattern) of his legal cases against counterfeiters (pp. 347-349).

However, regardless of these details, *Priest of Nature* is a complex, highly informative, and fascinating book. What keeps all its interpretative threads together is the image of the "priest of nature." This is yet another enticing suggestion, emerging slowly and gradually from the successive chapters of the book, like a puzzle from all its pieces. It begins with Newton discovering his divine mission to correct the corrupted history of Christianity. In Iliffe's words:

The notion that he was one of the godly permeated Newton's early work. He believed that he was a special exegete and having "searched [...] after knowledge in the prophetic scriptures," he was morally bound to spread the Word for the benefit of others. The irony in this most private of men

(and an Anti-Trinitarian at that) recommending the dissemination of gospel of truth is obvious, and he warned like-minded people not to be “too forward in becoming a teacher, like those men who catch at a few similitudes & scripture phrases, & for want of <further> knowledge make use of them to censure & reproach superiours & rail at all things that displeas them.” Instead, he told his (implied) readers to thoroughly instruct themselves both in the prophecies and also in the plain simplicities of Christianity, in order to put them into practice and make them a habit” (p. 233).

This tension between Newton’s belief in his divine mission and his growing awareness of the gulf separating his Biblical interpretations from those of his contemporaries is at the very core of Iliffe’s complex character. Somehow, the whole intellectual formation of Isaac Newton is seen as an attempt to solve this tension. Iliffe’s Newton is a priest whose preaching develops on multiple and intricate layers. At the very basis, and for everyone, is a form of practical religion with an ethical core and an emphasis on the literal readings of (the easier parts of) Scriptures. On the top, there are the incredibly complex interpretations of Daniel and the Apocalypse, reserved to the selected few. Mid-way in between stood Newton’s historical projects discussing the “originals of religion” and the successive and idolatrous corruptions of it during pagan and Christian times. At this intermediate level, theology, mathematics and natural philosophy are somehow intertwined, mainly because Newton’s style of problem solving which somehow conflates historical and empirical data to play a role in his “fine-tuning” methodology.¹⁰

Even if many details of this intricate construction still remain to be clarified, one of the many merits of Rob Iliffe’s scholarly challenging and fascinating book is to propose a framework which does bring all these projects together; giving coherence to the many “religious worlds of Isaac Newton.”

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References

- ¹ Popkin, R. H. and J. Force, (eds.), “Newton and Religion. Context, Nature and Influence,” vol. 161, *Archives Internationales D’histoire Des Idees/International Archives for the History of Ideas* (Dordrecht: Kluwer, 1999), Introduction, vii.
- ² Westfall, R. S., *Never at Rest: A Biography of Isaac Newton* (Cambridge; New York: Cambridge University Press, 1980), 271.
- ³ Westfall, R. S., (1980), 407.
- ⁴ Buchwald, J. Z. and M. Feingold, *Newton and the Origin of Civilization* (Princeton; Oxford: Princeton University Press, 2013).
- ⁵ Levitin, D., “Newton and Scholastic Philosophy,” *The British Journal for the History of Science* 49/1 (2016): 53-77; Greenham, P., “Isaac Newton, Scholar: An Exceptional Example of Normal Erudition,” *History Compass* 15/6 (2017); Mandelbrote, S., “Isaac Newton and Thomas Burnet: Biblical Criticism and the Crisis of Late Seventeenth-Century England,” 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. J. Force and R. H. Popkin (Dordrecht: Springer, 1994), 149-78.

⁶ It is worth mentioning here that we are talking about a relatively small degree of independence and privacy which was, mostly, confined to the years of study for an MA. The senior fellows of Trinity College were required to take holy orders within seven years of their fellowship, a point at which, presumably, the independence ended. This is also how Iliffe explains Newton's desperate attempts to avoid that moment, by finding ways out of the obligation to become an ordained priest of the Church. Again, against Westfall and earlier biographers, Iliffe explains this episode not through Newton's incipient heretical views, but through his love of the peace and quiet solitude of an independent scholar who sought to pursue this life of undisturbed research (see Chapters 4 and 5).

⁷ Scott Mandelbrote and also Dmitri Levitin tend to place Newton's passage to "heterodoxy" quite late in the seventeenth century, perhaps as late as 1677. Iliffe quotes (p. 425 n. 19) Mandelbrote, S., "Becoming Heterodox in the Seventeenth Century: The Case of Isaac Newton" (forthcoming). Mandelbrote and Levitin extensively argued for their view during their talk in the Newton Masterclass organized at IRH-ICUB, Bucharest, March 2017.

⁸ According to Iliffe, Newton's position can be described more accurately as anti-Athanasian than Arian (or anti-Trinitarian); with these caveats, Iliffe attempts to moderate his earlier accounts of Newton's Anti-Trinitarianism. Names apart, however, Iliffe clearly explains that Newton's Christology makes him heterodox, or even heretic with respect to the established interpretation held by his peers in Cambridge. His original and profound theological views would have costed at least the fellowship, perhaps also the exile from the academic world, as in the case of his disciple William Whiston.

⁹ Harper, W. L., *Isaac Newton's Scientific Method: Turning Data into Evidence About Gravity and Cosmology* (Oxford: Oxford University Press, 2011); Smith, G.E., "Closing the Loop: Testing Newtonian Gravity, Then and Now," in *Newton and Empiricism*, ed. Z. Biener and E. Schliesser (Oxford: Oxford University Press, 2014), 262-353; Buchwald, J. Z. and M. Feingold, (2013).

¹⁰ As shown by Buchwald, J.Z. and M. Feingold, (2013), Chapters 1-3.