

**The Legacy of Newton
in Eighteenth-Century Writing**

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Submitted in accordance with the requirements
for the degree of Doctor of Philosophy

The University of Leeds

School of English

September 2019

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Acknowledgments

Throughout the writing of this thesis I have received a great deal of support.

I would like to thank my supervisor Professor Robert W Jones for his expertise and patience.

I would also like to thank my family, my partner and my friends. You supported me greatly, in both tangible and intangible ways.

Abstract

This thesis operates at the junction between the study of literature and the history of science to examine two questions. The first is to determine the influence of the figure and ideas of Isaac Newton in eighteenth-century writing, while the second is that of how writers in the period reflected on the proposition that man could produce certain knowledge in the way Newton was believed to have done with natural phenomena. This thesis argues that these two questions are interlinked and should be addressed by investigating the dissemination of ‘Newtonianism’, a complex historical phenomenon better understood in two complementary ways. Firstly, Newtonianism consists of an extensive and variegated body of commentaries on Newton produced throughout the century and focused on both his figure and the ideas expressed in his texts, mainly *Philosophiae Naturalis Principia Mathematica* (1687) and *Opticks* (1704). Secondly, Newtonianism is meant as a climate of opinion ensued from the body of commentaries on Newton and characterised by a new confidence in the ability of man to produce knowledge with a certainty akin to that of Newton in both nature and other spheres, including that of human nature. Together, these two facets of Newtonianism constitute the legacy of Newton referred to in the title of this thesis. The main argument made in this thesis is that the texts written by Daniel Defoe, Henry Fielding, David Hume, Tobias Smollett and It-Narrative writers endorsed, contested or dramatized the confidence to know with certainty that was disseminated by Newtonianism.

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Introduction

1. The Importance of Newton in Eighteenth-Century Britain

While it is acknowledged that Newton's scientific ideas proved central to the development of philosophy in Britain and Europe, much less critical attention has been devoted to understanding the impact of Newton beyond the scientific sphere and the strictly philosophical one.¹ However, Newton played a major role in the British culture of the eighteenth century. Lay readers celebrated Newton as the genius who had been bestowed by God with the gift of discovering secrets of nature that, until his coming, had remained shrouded in darkness. In the inscription on his bust in the Temple of British Worthies in Stowe, designed by William Kent in 1734, Newton is said to be the one to whom 'the GOD of Nature made to comprehend all his Works; and from simple Principles to discover the Laws never known, and to explain the Appearances never understood, of this stupendous Universe'.² Alexander

¹ The main reference work for the impact of Newton's ideas on philosophy is Robert E. Butts and John W. Davis, eds, *The Methodological Heritage of Newton* (Toronto: University of Toronto Press, 1970). See also Andrew Janiak, 'Newton's Philosophy', in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta (Stanford: Stanford University, 2016) (<https://plato.stanford.edu/archives/win2016/entries/newton-philosophy>). Newton's impact on eighteenth-century British culture has been explored in Patricia Fara's *Newton: The Making of Genius* (London: Picador, 2002). Fara's, however, is less a theoretical elaboration than a survey of all the references made to Newton in the century.

² Quoted in Daniel Defoe, *A Tour Thro' the Whole Island of Great Britain*, 4 vols (London, 1748), I, 229. A note on two words frequently employed in this thesis is necessary. I am aware of the difficulties involved in the use of the word 'nature'. In *Keywords: A Vocabulary of Culture and Society*, Raymond Williams believed it to be the 'most complex word in the language' (London: Fontana, 1983), p. 219. Here, nature is usually intended in its general sense as 'the phenomena of the physical world collectively' (OED). In other cases, it is used to indicate everything that man can cast his senses upon. Such occurrences will either be made clear from the context or clearly specified. A similar problem arises for 'man'. In this

Pope's intended epitaph 'Nature and Nature's Laws lay hid in Night / God said, *Let Newton be!* and All was *Light*', is a testimony of the imagery of Newton as the extraordinary man who, better than anybody else before him, had illuminated nature with his superior intelligence.³

How this popularity among lay-readers came to occur has remained something of a mystery. Historians of science have tended to assume that over time Newton's ideas trickled down from the heights of philosophy to a public of non-specialists. This is the position taken, for example, in Richard S. Westfall's biography *Never at Rest*. According to Westfall, Newton was a genius who, at a very young age, read the works of Euclid, Copernicus, Kepler, Galileo and Descartes. An exceptional mind who could find 'an ordered cosmos where only chaos appeared', Newton soon proceeded to write the *Principia* and, in the space of a few decades, the greatest minds of Europe validated his ideas as the new orthodoxy in natural philosophy.⁴ After that, it was a matter of time for Newton's philosophy to become increasingly accepted by a public of non-specialists.

This view builds on the assumption that the philosophy of Newton was clearly identifiable. But it is debatable whether Newton meant his ideas as amounting to a

thesis, this word is used in variation with 'mankind' and 'humankind', and always with the meaning of humans thought as one large group.

³ Alexander Pope, *Poetry of Alexander Pope*, ed. John Butt (New Haven: Yale University Press, 1963), p. 808. On the belief that Newton's intelligence enlightened nature, see Mordechai Feingold, *The Newtonian Moment: Isaac Newton and the Making of Modern Culture* (New York and Oxford: The New York Public Library and Oxford University Press, 2004), pp. 143–167. See also Marjorie Hope Nicolson, *Newton Demands the Muse: Newton's Opticks and the 18th Century Poets* (Princeton: Princeton University Press, 2015).

⁴ Richard S. Westfall, *Never at Rest: A Biography of Isaac Newton* (Cambridge: Cambridge University Press, 1980), pp. 1, 38–39, 472.

philosophy in the accepted sense of the word, and if he ever intended to see them understood as such. The term ‘philosophy’ appears in his texts to refer to a very specific discipline, natural philosophy, with a very sectorial language, that of advanced mathematics. The *philosophandi modo* (the ‘mode of philosophizing’) advocated in the *Principia* is declaredly the enquiry on the mathematical principles that determine the physical forces constituting nature, for the whole difficulty of philosophy, Newton writes, ‘seems to be to discover the forces of nature from the phenomena of motions and then to demonstrate the other phenomena from these forces’.⁵ In the *Principia*, this translates into an exposition of problems, propositions and theorems that are expressed through a combination of complex geometrical diagrams and forbidding equations. The declared goal of offering ‘a full explanation [...] of how to determine true motions from their causes, effects, and apparent differences, and, conversely, of how to determine from motions, whether true or apparent, their causes and effects’ (p. 61) pertains more to our field of physics than philosophy.

Although easier to read because written in English (in contrast with the dry scientific Latin of the *Principia*), the *Opticks* stands in continuity with the *Principia* in that it reiterates Newton’s disinterestedness in disciplines other than his physics-heavy variety of natural philosophy.⁶ Like its predecessor, the *Opticks* presents

⁵ Isaac Newton, *Philosophiae Naturalis Principia Mathematica*, eds I. Bernard Cohen and Anne Whitman (Berkeley, Los Angeles, and London: University of California Press, 1999), pp. 28–29.

⁶ The differences between the two works are emphasised by Thomas Kuhn. Kuhn considers the *Principia* as the offshoot of the classical Aristotelian tradition of geometry and mathematics applied to natural phenomena such as the movement of planets; whereas the *Opticks*, although displaying elements of the mathematico-geometrical lineage, is derived from a tradition that Kuhn calls ‘experimental’ and that has its founding father in Lord Bacon.

natural philosophy as a field to be explored only through specific technical means – in this case, complex experiments with prisms, lenses and sunlight that proved very difficult to replicate even for very expert practitioners.⁷ This is a purpose made clear from the very first paragraph of the book, in which Newton writes that ‘[m]y Design in this Book is not to explain the Properties of Light by Hypotheses, but to propose and prove them by Reason and Experiments’. In order to do so, Newton premises the *Opticks* with ‘Definitions and Axioms’ which are required to understand the series of experiments with the prism that investigate the phenomena related to the manifestation of light and colour.⁸

Newton is adamant that the only philosophical project he pursues is one that is scarcely understandable as such even by philosophers themselves, so much so that even a high-standing philosopher like John Locke had to look for the help of Christiaan Huygens – one of the few people in Europe able to verify Newton’s calculations – to confirm the validity of the argument in the *Principia*. This is why, for all his influence on philosophy, it is erroneous to think of Newton as a philosopher in the way Locke himself was.⁹ Differently from virtually all other eighteenth-

In Thomas S. Kuhn, ‘Mathematical vs. Experimental Traditions in the Development of Physical Science’, *The Journal of Interdisciplinary History*, 7:1 (1976), 1–31.

⁷ The difficulty encountered by European natural philosophers to replicate Newton’s experiments is described in Dennis Sepper, *Newton’s Optical Writings: A Guided Study* (New Brunswick: Rutgers University Press, 1994); A. Rupert Hall, *All Was Light: An Introduction to Newton’s Opticks* (London and New York: Clarendon Press, 1993).

⁸ Isaac Newton, *Opticks, or, a Treatise of the Reflections, Refractions, Inflections & Colours of Light*, ed. I. Bernard Cohen (New York: Dover Publications, 1979), p. 1.

⁹ This point is made very convincingly in Bernard Cohen and George E. Smith, ‘Introduction’, in *The Cambridge Companion to Newton*, eds I. Bernard Cohen and George E. Smith (Cambridge: Cambridge University Press, 2002), pp. 1–32 (p. 2).

century philosophers, Newton was hardly concerned with proposing applications of his ideas outside of the sphere of physics, and this might be the reason why he constantly refrained from any discussion that attempted to examine his works without a thorough examination of the mathematics behind them.¹⁰ In 1733, six years after his death, his close friend and populariser William Derham would reveal that Newton had been so loath to engage in philosophical topics with laypersons that he ‘designedly made his *Principia* abstruse’ in order to ‘avoid being baited by little Smatterers in Mathematicks’. His ideal audience was made up of ‘able Mathematicians who, ‘by comprehending his Demonstrations, would concur with him in his Theory’.¹¹ In a gesture emblematic of this radical view, the third and last book of the first edition of *Principia*, initially written ‘in popular form, so that it might be more widely read’, just prior to its publication was rewritten afresh in the forbidding mathematical style of the first two volumes.¹² That Newton wanted to be addressed only by other mathematical experts was very clear to the eighteenth-century reading public. It was commonly acknowledged that the ‘Great *Sir Isaac*

¹⁰ Newton’s tendency to avoid controversy in fields other than mathematics is famously instanced in his reply on the cause of gravity to clergyman Richard Bentley, who was preparing the first of his 1692 Boyle Lectures on God and natural philosophy. ‘You sometimes speak of gravity as essential and inherent to matter’, Newton writes. ‘Pray, do not ascribe that notion to me; for the cause of gravity is what I do not pretend to know’. In Isaac Newton, *Correspondence of Isaac Newton*, ed. H.W. Turnbull (Cambridge: Cambridge University Press, 1963), III, 240.

¹¹ Quoted in Derek Thomas Whiteside, ‘The Mathematical Principles Underlying Newton’s *Principia Mathematica*’, *Journal for the History of Astronomy*, 1:2 (1970), 116–138 (p. 116).

¹² Newton, *Principia*, p. 793.

Newton had written this book ‘for The Few: both the Manner and Matter of it placing it out of the Reach of the Generality even of Learned Readers’.¹³

When Newton’s intellectual legacy is analysed, it is thus crucial to keep in mind that only a handful of people in Europe were able to read the *Principia* when it was first published in 1687, and that the *Opticks* was not read extensively either.¹⁴ Intriguingly, Newton’s most widely read work was the *Chronology of Ancient Kingdoms Amended* (1728), a work unrelated to the bulk of his scientific ideas.¹⁵ In fact, hardly anything Newton wrote was directly perused, other than the few digestible prose excerpts at the beginning and end of the *Principia* and the *Opticks*. Peter Jones raises a very sensible point when he comments on the question of what, in absence of proof to the contrary, even a well-read thinker like David Hume could have directly read of Newton. As with the large majority of people in the eighteenth century, Hume’s familiarity must have extended, ‘at most’,

¹³ Benjamin Sarum, ‘Preface’, in Samuel Clarke, *Sermons* (London, 1730), p. iii. See also Fara, *The Making of Genius*, p. 5.

¹⁴ On the reception of *Opticks*, see Sepper, *Newton’s Optical Writings*, Ch. 10; Hall, *All Was Light*, Ch. 4; Nicolson, *Newton Demands the Muse*, Ch. 1.

¹⁵ *Chronology of the Ancient Kingdoms Amended* was an attempt at re-dating biblical, mythological and historical events by a retrospective analysis of the recession of the equinoxes. It was not supposed to be published because Newton thought it was too controversial. On Newton’s biblical history, see Frank E. Manuel, *Isaac Newton, Historian* (Harvard: Harvard University Press, 1963). On *Chronology of the Ancient Kingdoms Amended* see Mordechai Feingold, ‘Isaac Newton, Historian’, in *The Cambridge Companion to Newton*, eds Rob Iliffe and George E. Smith (Cambridge: Cambridge University Press, 2016), pp. 524–543; Anna Marie Roos, ‘Taking Newton on Tour: The Scientific Travels of Martin Folkes, 1733–1735’, *British Journal for the History of Science*, 50:4 (2017), 569–601 (esp. p. 576).

with the Prefaces, Definitions and Axioms of *Principia*, together with the General Scholium, the Rules of Reasoning in Book III and Cotes's famous Preface in the second edition. In addition, Hume would have been familiar with parts of the *Opticks*, but especially with the Queries appended to Book III.¹⁶

In this rather scanty collection of direct references, the longest and conceptually richest item is the preface to the second edition of *Principia* (1713), which was not even written by Newton but by his close assistant and book editor, Plumian Professor of Mathematics Roger Cotes. This was the rule. By far the greatest part of the eighteenth-century knowledge about Newton's scientific ideas was mediated through texts that simplified Newton's arguments and highlighted their importance outside of the sphere of natural philosophy. To give some proportion, the first edition of *Principia* had amounted to approximately 300 copies, many of which seem to have remained unsold. William Whiston's popularisations published before the second edition of the *Principia* sold collectively about four thousand copies, more than ten times as much.¹⁷

Newton's popularity was a function of the numerous texts that commented on his ideas, what I call in this thesis the body of commentaries on Newton. The book market was crowded with commentaries on Newton's ideas, each with different degrees of faithfulness to the original and with different audiences. Willem Jacob's Gravesande's *Introduction to Sir Isaac Newton's Philosophy* (translated from the

¹⁶ Peter Jones, *Hume's Sentiments: Their Ciceronian and French Context* (Edinburgh: Edinburgh University Press, 1982), p. 12.

¹⁷ Stephen D. Snobelen, 'On Reading Isaac Newton's *Principia* in the 18th Century', *Endeavour*, 22:4 (1998), 159–163 (p. 163).

Latin into English by Jean-Theophilus Desaguliers in 1720), for example, faithfully refers to ‘Newton’s Philosophy’ as the mathematics-based natural philosophy advocated in the *Principia* and the *Opticks*. Texts like that by ’s Gravesande were constructed as detailed step-by-step commentaries on Newton’s mathematical arguments. But even ’s Gravesande, in a dedication to Newton himself, recognised that ‘there are more Admirers of your wonderful Discoveries’ than ‘Mathematicians’ able to understand the *Principia*.¹⁸ This is why most commentaries were the so-called ‘popularisations’, simplifications written to the benefit of an audience of novice readers. Whiston’s *Sir Isaac Newton’s Mathematick Philosophy More Easily Demonstrated* (1716) is probably the first full-fledged instance of a popularisation aimed at the general public in which the author seeks to convey ‘in a more easy Method’ the ideas of the ‘Great Man’.¹⁹

One of the main trends that can be noticed in these commentaries is the attempt to divest Newton’s ideas of their intricate mathematics. In *Sir Isaac Newton’s Mathematick Philosophy More Easily Demonstrated* (1716), Whiston introduces ‘the Philosophy of the Famous Sir Isaac Newton’ by explaining that it requires knowledge of geometry, arithmetic, astronomy and the physics of motion, especially the ‘Nature and Properties of those Curve Lines’ (that is, conic sections). In effect, Whiston’s text is a step-by-step explanation of the intricate passages of the *Principia* for ‘Mathematicians of the lower Form’ – a polite understatement to indicate the lay readers.²⁰ The aim of these commentators, as Desaguliers puts it, was to bring

¹⁸ Willem Jacob ’s Gravesande, *Mathematical elements of natural philosophy confirmed by experiments, or an introduction to Sir Isaac Newton’s philosophy* (London, 1720), p. ii.

¹⁹ William Whiston, *Sir Isaac Newton’s Mathematick philosophy More Easily Demonstrated* (London, 1716), p. 1.

²⁰ Whiston, *Mathematick Philosophy*, p. 1.

Newton ‘within the Reach and Comprehension of those, who are but indifferently perhaps exercis’d in the Mathematicks, and communicate the Knowledge thereof as far as may’. Desaguliers, another famous populariser and public demonstrator, ventured to amend Newton’s own words by claiming that the ‘Truth’ of the ‘Newtonian Philosophy’, although indeed ‘supported by Mathematicks’, may still be fruitfully communicated without it, so it was better to set mathematics aside.²¹ This approach proved very popular in Britain and, over time, popularisations such as those by John Harris and Francesco Algarotti (translated by Elizabeth Carter) would insist from their title pages that the philosophy of Newton could be conveyed to readers unwilling to face the mathematical hostilities of the original.

The result was that, notwithstanding the complexity of Newton’s texts, people increasingly referred to a supposed ‘Newtonian philosophy’ that soared in popularity among the more casual readers. As Henry Pemberton reports in the ‘Dedication’ to his famous *A View of Sir Isaac Newton’s Philosophy* (1728), ‘[t]here are more Admirers of your wonderful Discoveries, than there are Mathematicians able to understand the first two Books of your Principia’.²² The question is why eighteenth-century laypersons were so interested in sectorial knowledge that they were unable, and not keen, to understand in its original formulation. The answer to this complex interrogative rests on Massimo Mazzotti’s contention that Newton’s science does not

²¹ Jean-Theophilus Desaguliers, *A Course of Experimental Philosophy* (London, 1734), ‘Preface’.

²² Henry Pemberton, *A View of Sir Isaac Newton’s Philosophy* (London, 1728), ‘Preface’. On the eighteenth-century perception of Newton’s work as engendering an intellectual revolution, see I. Bernard Cohen, *The Newtonian Revolution* (Cambridge: Cambridge University Press, 1983), particularly chapter 3.

exist in isolation from the culture in which it arose.²³ Newton's ideas were conveyed as a matter of the utmost public relevance from the very first moment, and its popularity was in great part due to this, rather than to the appreciation of its intellectual value.²⁴ It is telling that astronomer Edmund Halley, after convincing Newton to publish the *Principia* in 1687, felt the necessity to premise a book replete with hardly intelligible mathematical technicalities with *An Ode on This Splendid Ornament of Our Time and Our Nation*, a panegyric in verses that praised the discovery of the laws of the universe as Newton's ever-lasting gift for the whole of humankind.²⁵ That of Halley was one of the first steps in a cultural process aptly called by Larry Stewart 'the formation of consensus over [Newton's] lasting reputation in the wider society', an operation of intellectual surrogating that made the first-hand understanding of Newton's own words unnecessary.²⁶

To be sure, Newton did not protest this treatment. As commentators such as Rob Iliffe, Steven Shapin and Patricia Fara have all contented, Newton contributed in subtle ways to the promotion of his own image. Iliffe especially has shown how, through a highly-selective access to his private texts and person, Newton cultivated

²³ Massimo Mazzotti, 'Newton for Ladies: Gentility, Gender and Radical Culture', *British Journal for the History of Science*, 37:2 (2004), 119–146 (p. 121).

²⁴ According to historian of science Valerio Ronchi, that of Newton is 'an incoherent and uncertain theory, a theory so full of contradictions and lacunae that one is surprised to see to what extent it could convince the majority of the physicists of the 18th century'. In Paul Feyerabend, 'Classical Empiricism', Butts and Davis, *The Methodological Heritage of Newton*, 150–170 (p. 164, n11).

²⁵ Edmund Halley, 'Ode on This Splendid Ornament of Our Time and Our Nation', in Newton, *Principia*, pp. 379–380.

²⁶ Larry Stewart, *The Rise of Public Science: Rhetoric, Technology, and Natural Philosophy in Newtonian Britain, 1660-1750* (Cambridge: Cambridge University Press, 1992), p. xxix.

the pose of a virtuous person uninterested in the accolades of society because engrossed in the discovery of the secrets of nature.²⁷ How this contributed to the success of his figure is difficult to ascertain. What is certain is that, since the beginning of the century, his public presence became elephantine. Newton became President of the Royal Society in 1703, then Baronet and Master of the Mint immediately after. Tellingly, he was the English person that sat for the most portraits and sculptures apart from royals.²⁸ His death amplified his status, entering what Mordechai Feingold aptly called his ‘Apotheosis’ period.²⁹ During his majestic funeral, Newton had peers as pall-bearers, and the coffin was interred at Westminster Abbey, the reserve of noble persons and royals. His bust in the Temple of British Worthies was placed next to that of William Shakespeare, and medallions with his engraved profile (a privilege usually accorded to kings and queens) became prized objects for collectors.

²⁷ Robert Iliffe, “‘Is He Like Other Men?’ The Meaning of the *Principia Mathematica*, and the Author as Idol’, in *Culture and Society in the Stuart Restoration: Literature, Drama, History*, ed. Gerald Maclean (Cambridge: Cambridge University Press, 1995), pp. 159–178 (pp. 159–160, 175). On solitude as Newton’s cultivated pose of the man of genius, see Steven Shapin, “‘The Mind Is Its Own Place’: Science and Solitude in Seventeenth-Century England”, *Science in Context*, 4 (1990), 191–218 (pp. 194, 205–206); Simon Schaffer, ‘Newton on the Beach: The Information Order of *Principia Mathematica*’ *History of Science*, 47 (2009), 243–276 (pp. 243–247).

²⁸ Newton boasts an estimated 122 portraits and 109 sculptures. See Milo Keynes, *The Iconography of Sir Isaac Newton to 1800* (Suffolk: Boydell Press, 2005).

²⁹ See Feingold, *Newtonian Moment*, p. 169. Some complained that the admiration for Newton bordered on uncritical acceptance. As a journalist in the *Grub Street Journal* wrote with reference to Newton’s *Chronology of the Ancient Kingdoms Amended*, the ‘extraordinary fame and reputation of this great man in some arts and sciences, may probably induce persons to pay too great a deference to his opinion in others’. In *Grub Street Journal*, Thursday, May 3, 1733; Issue 175.

While still alive, Newton made use of his positions to put pressure on his detractors with the aim of improving his primacy among European intellectuals, as the ostracization of Robert Hooke, the repeated attacks on Descartes' French supporters and the controversy with Leibniz on the invention of calculus testify.³⁰ For Newton, these disputes mostly remained within the premises of natural philosophy, a discipline which, as he intended it, required deep mathematical knowledge to engage in a debate. Because he did not want to compromise on these intellectual requirements, Newton was always reticent to compound his ideas into an identifiable body of philosophy. For lay-people, however, these subtleties were irrelevant – as Geoffrey Cantor puts it, 'superficiality was what the audience seemed to require'.³¹ His countrymen were ardent to hear about the discoveries of Newton and talk about them in a very general sense. This helps to understand why newspapers and books were increasingly replete with references to a supposed 'Newton's philosophy' or 'Newtonian philosophy'. Neither of these expressions had a univocal meaning, though commentators have often tried to find a common thread. In particular, Margaret C. Jacob and John Gascoigne identified the proponents of 'Newtonian philosophy' as a group of Whig low-church Latitudinarian thinkers who stood in support of the king after the settlement in 1688.³² The Newtonians, as Jacob calls them, developed the religious implications in Newton's scientific ideas to

³⁰ See John Bennett Shank, *The Newton Wars and the Beginning of the French Enlightenment* (Chicago: Chicago University Press, 2008), especially Ch. 7.

³¹ Geoffrey N. Cantor, *Optics After Newton: Theories of Light in Britain and Ireland, 1704-1840* (Manchester: Manchester University Press, 1983), p. 46.

³² Margaret C. Jacob, *Newtonians and the English Revolution 1689-1720* (Ithaca: Cornell University Press, 1976); John Gascoigne, 'From Bentley to the Victorians: The Rise and Fall of British Newtonian Natural Theology', *Science in Context*, 2 (1988), 219–256.

propose a theological framework that was said to have been endorsed by Newton himself. Starting with the 1692 Boyle Lecture delivered by clergyman Richard Bentley, the Newtonians argued that Newton's discovery of universal gravitation showed that the universe was a harmonious system managed by an omnipresent and benevolent God. In the hands of the Newtonians, Newton's scientific ideas on a universe governed by a limited set of laws of motions contributed to the stabilisation of a society that, in the aftermath of the Glorious Revolution of 1688, was in dire need of cohesion.³³ In a 'universe desperate for stability', as Larry Stewart puts it,

Newton's laws of nature, it had been discovered, had meaning for theologians and for politicians who had need to control those social forces that had already unleashed a regicidal civil war. No restoration intellect could ignore that fact.³⁴

Yet, that of the Boyle lecturers was only one of the possible appropriations of Newton's scientific ideas. There were also Tory, High-Church Jacobites who would in good faith claim to be keen adherents of the Newtonian philosophy.³⁵ Even radical texts that openly questioned traditional structures of religion, such as John Toland's *Letters to Serena* (1704), built, overtly or covertly, on what they believed were the tenets of Newtonian philosophy.³⁶

³³ Jacob, *Newtonians*, p. 73.

³⁴ Stewart, *The Rise of Public Science*, p. 30.

³⁵ Anita Guerrini, 'The Tory Newtonians: Gregory, Pitcairne, and their Circle', *Journal of British Studies*, 25:3 (1983), 288–311 (pp. 289–90, 311).

³⁶ On John Toland's use of Newton's ideas, see Jeffrey R. Wigelsworth, 'Lockean Essences, Political Posturing, and John Toland's Reading of Isaac Newton's Principia', *Canadian Journal of History*, 38:3 (2003), 521–35. It should be added that this thesis does not discuss the religious orientations of Newton and his commentators in depth unless they have a

The amount and diversity of eighteenth-century references to ‘Newtonian philosophy’ and ‘Newton’s philosophy’ is not a by-product, but the main characteristic of the diffusion of Newton’s ideas in eighteenth-century Britain. As Anita Guerrini contends, although not ‘quite all things to all men’, ‘Newtonian philosophy’ was certainly not ‘a coherent ideology outside the realms of science’. People of variegated political and religious backgrounds called themselves Newtonians and, more importantly, were accepted as such.³⁷ The transversal attractiveness of Newton was due less to the specific ideas presented in *Principia* and *Opticks* than to its imagery that evoked harmony, order and balance as properties inherent in nature.³⁸ It is easy to see why ideas of natural order would appeal to political propaganda – in a poem titled *The Newtonian System*, for example,

bearing on epistemology. When this is the case, it will be signalled in a footnote. For an overview on Newton and religion, see James E. Force and Richard Popkin, eds, *Newton and Religion: Context, Nature and Influence* (Dordrecht: Springer, 1999).

³⁷ Guerrini, ‘Tory Newtonians’, p. 311.

³⁸ Richard Striner, ‘Political Newtonianism: The Cosmic Models of Politics in Europe and America’, *The William and Mary Quarterly*, 52:4 (1995), 583–608 (p. 584). Striner investigates the role played by ‘Newtonian metaphors’ as a ‘pervasive form of intellectual discourse in eighteenth-century thought’. As said, his focus is on political theory, about which he perceptively notes that ‘[t]he sense of intellectual illumination attending the Newtonian epoch prompted the frequently remarked-upon Enlightenment confidence in human reason as the basis for similar break-throughs in social and political relationships. Yet conclusions varied widely. Recommendations for achieving social balance might entail political action (the crafting of checks and balances) or political laissez-faire (allowing balances latent in society or the economy to emerge). They might entail a vision of forces that repel one another—the “Jarrings” in Mandeville’s formulation and the “counter-workings” in Pope’s *Essay on Man*—or an emphasis on gravitational attractions, as in Desaguliers’s poem and the “moral sense” theory of Hutcheson’ (p. 587).

Desaguliers famously interprets the harmonious cosmology discovered by Newton as the definitive proof that validated the monarchy of George II.³⁹

However, it would be a mistake to infer that the manifold evocations of Newton were all concerned with the advancement of political, religious and social agendas. Eighteenth-century publications were replete with references to Newton, or his supposed philosophy, that find no justification save that Newton was so popular that writers mentioned his name to meet the expectations of their readers. Among the many instances, one discovers, for example, that the ‘Law of Love’ is perfectly exemplified by the ‘Newtonian Philosophy’.⁴⁰ The portrayal of the world of polite society made by dramatist James Miller’s portrayal in his play *The Humours of Oxford* (1730) addresses Newton-related *clichés*: ‘a Beau [*is*] encompass’d with Telescopes and Globes, instead of Looking Glasses, and Peruke-Blocks; and a Coquette with Euclid and Newton on her Toilet, instead of Waller and Congreve; and stript of all her Patches, to mark the Planets in the Solar System, ha, ha!’.⁴¹ John Newbery’s *Philosophy of Tops and Balls* (1761), a popularisation of Newton’s ideas for young children, uses the discoveries of Newton to speculate, among many things, on whether the moon was inhabited.⁴²

³⁹ David J. Twombly, ‘Newtonian Schemes: An Unknown Poetic Satire from 1728’, *British Journal for Eighteenth-Century Studies*, 28:2 (2005), 251–272.

⁴⁰ John Reynolds, *Death’s Vision Represented in a Philosophical, Sacred Poem* (London, 1709), p. 8.

⁴¹ Quoted in Tita Chico, *The Experimental Imagination: Literary Knowledge and Science in the British Enlightenment* (Stanford: Stanford University Press, 2018), p. 55.

⁴² John Newbery, *The Newtonian System of Philosophy. Adapted to the Capacities of Young Gentlemen and Ladies, and familiarized and made entertaining by Objects with which they are intimately acquainted* (London, 1761), p. 22.

Instances like these serve to indicate that the sum total of eighteenth-century evocations of Newton and his ideas may also take the form of a kaleidoscope of fragmented references. Some were germane to Newton's original ideas, but many less so; some were consciously used to advance specific agendas, but many were just occasional references with no specific purpose other than the very act of naming Newton. A spurious body of knowledge grows out of this continuous act of naming him, so that the noun 'Newton' and the adjective 'Newtonian' become buzzwords attached to the vague knowledge that Newton had discovered that all known and unknown natural phenomena were governed by a limited set of invariable laws, and that the ultimate secrets of nature had thus been discovered once and for all.⁴³

It is less to the question of what a supposed Newtonian philosophy consisted of than to the widespread yet fuzzy interest with Newton and his ideas that the critical gaze of this thesis is directed at. Rarely read directed and hardly understood, Newton was the name that emblemized the culmination of centuries of intellectual progress, evoking a sense of absolute mastery over nature. The eighteenth-century Briton, as James Sambrook contends, considered Newton's work as the 'triumph of mind' that had 'an awe-inspiring, elemental, universal quality which seemed comparable with Nature itself'.⁴⁴

⁴³ Rienk Vermij, 'The Formation of the Newtonian Philosophy: The Case of the Amsterdam Mathematical Amateurs', *British Journal for the History of Science*, 36:2 (2003), 183–200 (p. 183). It should be added that references to Newton's name never mentioned with Newton's lifelong interests in alchemy or biblical chronology – both subjects of study that were kept secret by Newton because they would have damaged his reputation. See also Gerd Buchdahl, *The Image of Newton and Locke in the Age of Reason* (London and New York: Sheed and Ward, 1961), p. 4.

⁴⁴ James Sambrook, *The Eighteenth Century: The Intellectual and Cultural Context of English Literature 1700-1789* (London and New York: Routledge, 1997), p. 2.

2. The Definition of Newtonianism Employed in This Thesis

Based on what has been discussed in the preceding section, throughout this thesis Newtonianism will stand to indicate a complex historical phenomenon that must be understood in two complementary ways. Firstly, it identifies the extensive body of productions that overtly reference both Newton's ideas and his figure. Along with Newton's own words, it includes paratextual apparatus within his works, such as Edmund Halley's *Ode to Sir Isaac Newton* at the beginning of the first edition of *Principia* and Roger Cotes' *Editor's Preface* attached to its second edition; popularisations like Pemberton's *A View of Sir Isaac Newton's Philosophy* (1728) and MacLaurin's *An Account of Sir Isaac Newton's Philosophical Discoveries* (1748); the many newspaper articles that commented on Newton's achievements, implications of his ideas and personal qualities; as well as literary works that referenced Newton, such as, for instance, Pope's *An Essay on Man*; and, in a wider sense, non-literary works such as monuments, sculptures and inscriptions about Newton, as for example the statue in Westminster Abbey.

This is not the only sense in which the word Newtonianism is used in this study. In a century when, to use the words of Fara, 'generations of interpreters have created mythical visions of Newton from which the central core of the man himself is missing', the historiography of cause-effect relations does not provide an adequate sense of the extent and pervasiveness of Newton's intellectual influence.⁴⁵ The

⁴⁵ Fara, *The Making of Genius*, p. xv. On the constructed mythology of Newton's biographies see Michael Fores, 'Constructed Science and the Seventeenth Century "Revolution"', *History of Science*, 22:3 (1984), 217–244. The problem is still current, as Fores shows in relation to Westfall's biography *Never at Rest*.

paradox of the enormous popularity of a figure whose works were rarely read suggests that Newton's historical influence in the eighteenth century did not follow the traceable paths of historical causation. As Marjorie Hope Nicolson perceptively noted, the impact of Newton worked as an imaginative thrust. His figure, ideas on nature and conception of how man knows nature transformed eighteenth-century thought in ways that are difficult to map because they go beyond clearly identifiable references.⁴⁶

To navigate this fluid scenario, it is vital to go beyond what John R. R. Christie calls 'the stubborn empirical streak in Anglo-American historiography' – that is, the search for influences that can be directly and undoubtedly established.⁴⁷ This second meaning of Newtonianism I propose in this thesis is that of a climate of opinion in which ideas initially related to Newton circulated, and were endorsed, criticised or dramatized even when they were not explicitly recognized as derived from Newton. The mechanics of Newtonianism as a climate of opinion is analogous to those investigated by Peter De Bolla in his *The Discourse of the Sublime* (1989). De Bolla argues that the thousands of texts on the topic of the sublime that were

⁴⁶ In Nicolson, *Newton Demands the Muse*, 'Preface'. That Newton's influence on eighteenth-century culture was detached from his name is a point also made by Keith Thomas. According to Thomas, the influence of Newton occurred even if many in England had possibly never heard of Newton, 'and certainly could not have explained the nature of [his] discoveries'. In Keith Thomas, *Religion and the Decline of Magic: Studies in Popular Belief in Sixteenth-Century England* (Harmondsworth and Ringwood: Penguin, 1973), pp. 773–774.

⁴⁷ John R. R. Christie, 'Introduction: Rhetoric and Writing in Early Modern Philosophy and Science', in Andrew E. Benjamin, Geoffrey N. Cantor, John R. R. Christie, *The Figural and the Literal: Problems of Language in the History of Science and Philosophy, 1630-1800* (Manchester: Manchester University Press, 1987), 1–9, p. 1.

published in the eighteenth century engendered the discourse of the ‘sublime’. While the offspring of the publications, this discourse acquired an existence that was independent from them. Meant in De Bolla’s sense, the sublime turned into a topic of extensive critical discussion across many disciplinary domains of eighteenth-century culture, up to the point that people started to think in terms of the ‘sublime’ even if they were not acquainted with the texts that theorised on it.

De Bolla’s is an empirically-weak approach to history, and this is precisely where its strength lies. Enquiries into the distant past, as De Bolla contends, carry with them the almost insurmountable difficulty ‘of talking at the most general levels about the subject and history’. Because of our very standpoint as situated observers with no direct evidence of things past, it must be accepted as a matter of course that our historical analyses of the eighteenth century are mediated insofar as they reconstruct ‘the aims and intentions of dead persons’. Whatever our belief in the reliability of historical sources, ‘historical knowledge is, de facto, discursive’ because it is transmitted to us via written words. Rather than looking for an irretrievable authorial intention, the historian of thought should devote more energies to the recognition of those discursive networks that ‘articulate the real’ – the imaginative ways through which historical actors represented their own world.⁴⁸

Newtonianism can be also seen in these terms, although in this thesis the word discourse will be avoided because charged with Foucauldian connotations that, when read attentively, point rather to meta-epistemological questions.⁴⁹ The

⁴⁸ Peter De Bolla, *The Discourse of the Sublime: Readings in History, Aesthetics and the Subject* (Oxford: Blackwell, 1989), pp. 4, 7–8

⁴⁹ Foucault’s interest in meta-epistemological questions is apparent, for instance, in *The Order of Things*, where the author claims to be interested in understanding how ‘knowledge

conceptualisation proposed is that of a climate of opinion that, while spurred by the many publications of the commentators on Newton, influenced the way of thinking throughout the century. It is useful here to quote Richard Striner's contention on the influence of Newton-inspired ideas in eighteenth-century political theory, because it can be adapted to make a more general point about Newtonianism as a climate of opinion:

The world of Newtonian political theory included both explicit formulations of philosophers and notions that were simply 'in the air', elements of the climate of opinion that historians working in the French *Annales* tradition assign to the broad category of *mentalité*. The Newtonian paradigm may at times be traced through intellectual biography as well as through source analysis for establishing doctrinal provenance. But it must also be inferred from a long-vanished netherworld of dinner parties at which no Boswell served as recording angel, from continuing chatter through which ideas might be picked up at third and fourth hand and become absorbed into the ruminative life of individuals.⁵⁰

Reasoning in terms of a climate of opinion is all the more necessary because Newton represents an exceptional case study, one in which traces of his ideas are scattered, fragmented and re-purposed all the time, often without a clear perception, let alone acknowledgment, of their derivation from either Newton or his commentators. In this second sense, Newton's ideas, mediated by the commentaries on Newton, seep into

and theory became possible; within what space of order knowledge was constituted'. Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences*, trans. by Tavistock/Routledge (London and New York: Routledge, 1989), p. xxiii.

⁵⁰ Striner, 'Political Newtonianism', p. 584.

what Striner calls ‘the ruminative life of individuals’ – that is, the way people in the eighteenth century digested ideas and make them into their own, creating a climate of opinion that, while affected by the texts published on Newton, was not limited to them and found expression on texts that did not explicitly engage with Newton. This thesis argues that, alongside the identification and analysis of the many texts that constitute the body of commentaries on Newton, it is thus critical to investigate Newtonianism as a climate of opinion that penetrated into, and shaped, eighteenth-century thought.

Clearly, the identification of the traces of Newtonianism in this second sense is complicated by its very characteristic as a historical phenomenon that operates not through causation but through a more disseminated, and thus nebulous, influence on thought. The method adopted in this study to find the traces of Newtonianism is by juxtaposing the language used by the commentators on Newton with that of the writers analysed in this thesis. A number of keywords like ‘reason’, ‘demonstration’, ‘accuracy’ and ‘things’ that were employed in new ways by the commentators on Newton regularly appear in eighteenth-century texts, usually with no mention of Newton. This thesis interrogates a group of eighteenth-century texts in order to explore the complex dynamics of these keywords as they were used by different writers, linking them back to the usage made by the commentators on Newton with the aim of drawing conclusions about man’s ability to know with certainty.

The main argument made in this thesis is that the texts written by a number of influential authors supported, contested or dramatized the confidence in the ability of man to know with the same level of assuredness that the commentators on Newton associated with the *Principia* and the *Opticks*. As argued extensively in the first chapter, the body of commentaries on Newton promoted the rise of the confidence

that nature could be known with certainty, if only the observer could follow Newton's precept not to feign hypotheses – that is, to avoid conjectures and let nature speak for herself without the interference of subjective explanations. This resulted primarily in the belief that Newton's ability to know natural phenomena with certainty could extend to those who followed his example. Newton's legacy, in this sense, is that, through the commentaries on Newton, the methodological ideas presented in the *Principia* and *Opticks* raised a new confidence that the powers of man afforded to produce knowledge of any subject with the same level of certainty claimed by Newton. The opposite belief that Newton's qualities were too exceptional to be emulated is also investigated as a logical derivation of said confidence. This position, which finds expression in the descriptions of Newton as a semi-divine figure, provoked anxiety with regards to the position of man in the universe, which was believed to have been irreversibly de-centred. Newton's superior intelligence unveiled nature as a perfect, immutable mechanism that depended on a limited set of laws. As such, questions were raised about man's ability to understand, and thus control, nature.

In adopting this methodology, this thesis finds its space in a current of publications arguing that in eighteenth-century Britain the boundaries between eighteenth-century scientific practice and textual productions were porous. Newton's ideas, it should be observed, were conveyed in the same venues where literature was commented on. Along with the printing press, the *loci* of the diffusion of Newtonianism were coffee-house conversations and public demonstrations, since the connection of science and sociability was very strong in an age when scientific

practice was the domain of gentlepeople of wide interests.⁵¹ Unsurprisingly, the writing of science and of literature tended to overlap, with the very advancement of natural philosophy and its progressive characterization into modern sciences often grounded in literary terms.⁵² In line with the blurred division that separates science and literature in the eighteenth-century, this thesis also chooses to avoid establishing strong formal boundaries with regards to genres. Jill Marie Bradbury has rightly remarked the well-known, yet often neglected point that, during the century, forms such as the romance and the novel were not clearly distinguishable from each other, and often they were used as synonyms of the inclusive category of history.⁵³ The rationale for this flexible approach to generic and disciplinary division is the belief that in eighteenth-century Britain the distinction between works of fiction and non-fiction was fuzzy rather than binary.

Chapters two to five examine texts by eighteenth-century writers selected for their shared concern with the use of writing as a platform to adopt, contest or dramatize the confidence of knowing with certainty that was associated with Newtonianism. The writers analysed in this study all offer reflections on the human

⁵¹ Richard Coulton, “‘The Darling of the Temple-Coffee-House Club’: Science, Sociability and Satire in Early Eighteenth-Century London”, *Journal for Eighteenth-Century Studies*, 35:1 (2012), 43–65 (p. 44). On the printing press as an agent for the diffusion of Newton’s ideas, see Laura Miller, *Reading Popular Newtonianism: Print, the Principia, and the Dissemination of Newtonian Science* (Charlottesville: University of Virginia Press, 2018).

⁵² As Tita Chico argues, eighteenth-century scientific texts often made use of formal devices (such as the dialogue and the metaphor) typical of literature. Chico, *The Experimental Imagination*, p. 1. See also Courtney Weiss Smith, *Empiricist Devotions: Science, Religion, and Poetry in Early Eighteenth-Century England* (Charlottesville: University of Virginia Press, 2016).

⁵³ Jill Marie Bradbury, ‘New Science and the “New Species of Writing”: Eighteenth-Century Prose Genres’, *Eighteenth-Century Life*, 27:1 (2003), 28–51 (p. 29).

subject split between the impetus to know and the recognition that judgment should be suspended when there is the temptation to use one's imagination to fill gaps in knowledge. This tension is addressed through a variety of narrative positions ranging from the declared historical factuality of Hume's *History of England* to the fictional set-up of It-Narratives. In the middle stand a panoply of strategies, from Defoe's rehearsing of the 1665 plague epidemics in *A Journal of the Plague Year* to Fielding's semi-fictional biography of *Jonathan Wild* to Smollett's multi-subjective travel epistles of *Humphry Clinker*. What unites the works explored in this study is that each vindicates their author's ability to offer, or recognize, certain knowledge while also elaborating on the impossibility that such knowledge could be as certain as that claimed by Newton, according to the commentaries on Newton.

Building on the idea that Newtonianism is a climate of opinion that should be enquired without establishing tight cause-effect connections, the chapters on writing are not necessarily linked to one another. Although connections may occasionally be established, this thesis does not argue for a progression of ideas from Defoe (Chapter 2) to Fielding (Chapter 3) to Hume (Chapter 4) to Smollett and It-Narratives (Chapter 5), for doing so would force them into the logic of causation that this thesis contests in favour of a wider understanding of Newtonianism as a climate of opinion.

Moreover, since the category of writing has been adopted as the subject matter of this thesis, poetry and more occasionally drama also make their appearance. The potential for poetry to be receptive of Newton's ideas is now well documented, from Marjorie Hope Nicolson's ground-breaking *Newton Demands the Muse* onwards; so is that of drama, especially in recent works by Al Coppola and Tita Chico. Because this has already been done successfully, it is now worth shifting our attention to those prose works to which surprisingly little attention has been dedicated

in the way of exploring its relationship with scientific ideas in the field of eighteenth-century studies. On the same token, this thesis does not include a discussion on Jonathan Swift's *Gulliver's Travels* (1726), a task fruitfully undertaken by other commentators.⁵⁴ Yet, the 'writing' in the title of the thesis retains all its aperture. Anne Finch's poem *Upon the Hurricane*, for example, is analysed side by side with Defoe's prose account on the same event titled *The Storm*; and Henry Fielding's novels are discussed in chapter 3 side by side with the legal pamphlets he wrote during his tenure as the Westminster Justice of the Peace.

Finally, some observations about the nomenclature used in this thesis are necessary. The term Newtonianism has been chosen to avoid the ambiguities generated by 'Newton's philosophy' and 'Newtonian philosophy', the two expressions that were common in eighteenth-century Britain. Only in 1751 did d'Alembert and Diderot use 'Newtonianisme' as a synonym for 'Philosophie Newtonienne' in the *Encyclopédie* (1751-1772), but the term never gained traction in Britain. The English Short Title Catalogue does not list any results for 'Newtonianism' and the only occurrence in the Eighteenth-Century Collections Online is the 1777 translation of a letter of Pope Clement XIV to Francesco Algarotti, the author of *Sir Isaac Newton's Philosophy Explain'd for the Use of the Ladies* (1739). As discussed above, in this thesis Newtonianism is used in two senses, which will be clearly marked up to avoid unnecessary confusion. The expressions with 'commentaries on' (such as 'commentaries on Newton' and 'body of commentaries on Newton') stand to identify texts that directly engage with, or unmistakably evoke, Newton. Unless otherwise specified, the noun Newtonianism refers to the climate of

⁵⁴ See Gregory Lynall, *Swift and Science: The Satire, Politics, and Theology of Natural Knowledge, 1690-1730* (Basingstoke: Palgrave Macmillan, 2012), especially Chapter 4.

opinion. Finally, the adjective ‘Newtonianist’ indicates the confidence in the possibility to produce knowledge as certain as that of Newton. Because of the hazy nature of Newtonianism, both noun or adjective will be used sparingly – as said, the traces of Newtonianism are primarily detected through the dissemination of concepts like ‘reason’, ‘demonstration’, ‘sagacity’ and ‘things’ – but they will be employed when necessary to shift the focus back to Newtonianism in Chapters 2 to 5, which are necessarily heavy in discussions on each writer and the scholarship about them and their works. The adjective ‘Newtonian’ is instead used in its standard contemporary meaning of ‘relating to or arising from the work of Newton, esp. his physical or optical theories’ (OED).

Chapter 1

The Rise of the Confidence of Newtonianism

1. Newton's Certainty as a New Standard of Knowledge

The aim of this chapter is to examine how the confidence in the ability of man to produce knowledge with a certainty akin to that claimed by Newton was promoted through the body of commentaries on Newton, eventually becoming a commonly held assumption. As this confidence became widespread, many contested it on the grounds that Newton's example could not be emulated by anyone else. Eighteenth-century writers, among which those discussed in Chapters Two to Five figure prominently, could adopt, contest and dramatize this confidence. In this sense, this chapter lays the foundation for the rest of the thesis.

In the conclusion to Query 31 of *Opticks*, Newton suggests that if his method is extended beyond natural philosophy, 'the Bounds of Moral Philosophy will be also enlarged'.⁵⁵ What Newton refers to as his method consists of the exclusion of hypotheses (or conjectures, the two terms being for him synonymous) in favour of experiments paired with mathematical elaborations of the data obtained. The latter are only possible by a commitment to the former. While both the *Principia* and the *Opticks* describe framing hypotheses as the result of using the faculty of imagination, this point had been made early in Newton's career. In his first communication to the Royal Society, a letter sent in 1672 which came to be known as 'New Theory about Light and Colors', Newton's declared goal was not to 'mingle conjectures with certainties' when examining the behaviour of light and colour, as well illustrated as

⁵⁵ Newton, *Opticks*, p. 405.

follows.⁵⁶ This short but direct paragraph epitomizes Newton's aim of producing knowledge as certain as mathematics, and thus incontestable by people with different opinions:

A naturalist would scarce expect to see the science of those [colours] become mathematicall, & yet I dare affirm that there is as much certainty in it as in any other part of Opticks. ffor what I shall tell concerning them is not an Hypoth{esis} but most rigid consequence, not conjectured by barely infer{ring} 'tis thus because not otherwise or because it satisfies all phænomena (the Philosophers universall Topick,) but evinced by the mediation of experiments concluding directly & without any suspicion of doubt.⁵⁷

This particular passage was eventually excluded from publication because Newton's confidence in certainty stood in disagreement with the scientific beliefs of the early Royal Society practitioners, who believed that the production of knowledge was to pass through assent within the community of experimenters. After a cold reaction by Oldenburg and Hooke, Newton would famously interrupt his correspondence with the Royal Society until Halley convinced him to publish the *Principia* fifteen years later.⁵⁸ Newton's position about conjectures, however, never changed. As Alan

⁵⁶ Isaac Newton, 'New Theory about Light and Colors', *Philosophical Transactions of the Royal Society* 80 (1672), p. 3085.

⁵⁷ Isaac Newton, *MS Add. 3970.3* (Cambridge: Cambridge University Library), f. 462v.

⁵⁸ This process is well explained by Zev Bechler, who showed that Newton's 'New Theory' raised 'a fundamental inconsistency in accepted scientific beliefs' and 'the need for a revolution' that were at odds with the central tenets of the Royal Society's methodology. See Zev Bechler, 'Newton's 1672 Optical Controversies: A Study in the Grammar of Scientific Dissent', in *The Interaction Between Science and Philosophy*, ed. Yehuna Elkana (New Jersey: Humanities Press, 1974), pp. 115–142 (pp. 116–117).

Shapiro explains, he continued to pursue his goal to claim ‘a greater degree of certainty than most of his contemporaries allowed, especially those gathered about the Royal Society’.⁵⁹ Both the *Principia* and the *Opticks* were carefully planned applications of the method hinted at in ‘New Theory’, and display a sharp demarcation between conjectures and what Newton variously defines as demonstrative, certain and true knowledge.⁶⁰ This point is especially evident in the description of the ‘method of analysis’ included in the long Query 31 of *Opticks* (originally included in the 1706 Latin edition *Optice* and translated in English for the 1717 revised edition), where hypotheses are opposed to ‘experiments, or other certain Truths’:

This Analysis consists in making Experiments and Observations, and in drawing general Conclusions from them by Induction, and admitting of no Objections against the Conclusions, but such as are taken from Experiments, or other certain Truths. For Hypotheses are not to be regarded in experimental Philosophy. [...] And if no Exception occur from Phaenomena, the Conclusion may be pronounced generally.⁶¹

⁵⁹ Alan E. Shapiro, *Fits, Passions, and Paroxysms: Physics, Method, and Chemistry and Newton’s Theories of Colored Bodies and Fits of Easy Reflection* (Minnesota: University of Minnesota Press, 2009), p. 14.

⁶⁰ The ‘Queries’ section in *Opticks* is the most visible instance of this organizing principle. Annexed to the end of the volume, Newton employs the ‘Queries’ to freely entertain, and comment on, suppositions on various subjects (including alchemy) without them interfering with the theory of colours and light presented in the main body of *Opticks*. Alan E. Shapiro argues that Newton distinguished between ‘experimental’ and ‘imaginary hypotheses’, making use of the former and discarding the latter. Newton, however, never makes this distinction. See Shapiro, *Fits*, p. 17.

⁶¹ Newton, *Opticks*, p. 404.

In line with this structure, the very first sentence in *Opticks* reads that ‘my Design in this Book is not to explain the Properties of Light by Hypotheses, but to propose and prove them by Reason and Experiments: In order to which I shall premise the following Definitions and Axioms’.⁶² In Query 28, Newton further elaborates on this distinction by opposition, attacking unnamed ‘philosophers’ (probably Descartes and his followers) who kept on ‘feigning hypotheses for explaining all things mechanically, and referring other Causes to Metaphysics’, whereas the ‘main Business of natural Philosophy’, Newton contends, ‘is to argue from Phaenomena without feigning Hypotheses’.⁶³

From these passages, it appears that according to Newton the establishment of certain knowledge depended on the exclusion of hypotheses. This proscription would be qualified in the famous General Scholium to the second edition of *Principia* published in 1713. It is here that the famous motto *hypotheses non fingo* first appears – a pronouncement that, contrary to the choice made by the first translator Andrew Motte in 1729, should be rendered as ‘I do not feign hypotheses’ (rather than ‘I do not frame hypotheses’), with the verb *fingere* , from which the noun *fictio* derives.⁶⁴ The etymological difference is critical, for Newton contends that hypotheses are the product of the imagination, and imagination is in turn understood as the faculty that adulterates the data provided by ‘the evidence of experiments’. Using one’s imagination is to ‘depart from the analogy of nature’, which is ‘always simple and ever consonant with itself’. Therefore, according to Newton, hypotheses are in direct

⁶² Newton, *Opticks*, p. 1.

⁶³ Newton, *Opticks*, p. 369.

⁶⁴ I. Bernard Cohen, ‘The First English Version of Newton’s Hypotheses Non Fingo’, *Isis*, 53 (1962), 379–388 (p. 381).

contrast with nature. If man wants to understand nature, the main requirement is to refrain from subjective explanations.⁶⁵

This point can be better appreciated by considering the question of how forces such as that of gravity are determined by Newton notwithstanding their being visible only in their effects. The determination of gravity rests on Newton's use of the conceptual category of *phenomenon*. In philosophy, *phenomenon* had been another name for secondary qualities, or appearances. In Newton, by contrast, a phenomenon is a self-evident expression of nature that does not require further explanation. As Peter Achinstein explains, Newton's phenomena are 'noncontroversial' entities, facts indisputable by unbiased observers.⁶⁶ Phenomena are presented as incontrovertible numerical data.⁶⁷ The use of phenomena as indisputable because grounded in mathematics allows Newton to claim that his empirical findings are unmediated expressions of nature, matters of fact which hold true independently of anybody's opinion. In this way, even the invisible forces that Newton assumes to be at work in all bodies are explained through mathematical calculation of their effects, rather than by devising conjectural explanations. These are presented by Newton as unacceptable because they propose solutions that cannot be impartially verified.⁶⁸ The 'basic problem of philosophy', he argues, is not finding explanations for the mysteries of nature but to 'discover the forces of nature from the phenomena of motions and then

⁶⁵ Newton, *Principia*, p. 795.

⁶⁶ Peter Achinstein, 'Newton's Corpuscular Query', in *Philosophical Perspectives on Newtonian Science*, eds Phillip Bricker and R. I. G. Hughes (Cambridge and London: The MIT Press, 1990), pp. 135–174 (p. 138).

⁶⁷ See the 'Phenomena' section on the third book of Newton, *Principia*, pp. 445–447.

⁶⁸ The example quoted by many late seventeenth-century and early eighteenth-century commentators was that of the Cartesian vortex, Descartes' hypothesis that the movement of celestial bodies resulted from the contact of a great number of vortices.

to demonstrate the other phenomena from these forces'.⁶⁹ It is in this sense that Newton, in a seemingly self-contradictory passage, maintains that his 'principles of philosophy' are 'not, however, philosophical but strictly mathematical'.⁷⁰

Phenomena processed through mathematics are reckoned to be so objective that they can be used to deduce universal laws. The discovery of causes derived from an impartial observation of phenomena is what in *Opticks* is called the 'method of analysis', which proceeds 'in general, from Effects to [...] Causes, and from particular Causes to more general ones, till the Argument ends in the most general'. Analysis is then followed by what Newton calls 'method of synthesis', which 'consists in assuming the Causes discover'd, and establish'd as Principles, and by them explaining the Phaenomena proceeding from them, and proving the Explanations'.⁷¹ This same pattern of analysis and synthesis can be identified in respectively the third and the fourth rule of reasoning in *Principia*. Rule 3, which states that 'those qualities of bodies [...] that belong to all bodies on which experiments can be made should be taken as qualities of all bodies universally', generalises phenomenal patterns into universally valid laws. Accordingly, in Newton's own commentary to Rule 3, the gravitational law is said to be established by 'experiments and astronomical observations'. Rule 4 clarifies that hypotheses cannot be used as evidence – 'this rule should be followed so that arguments based on induction may not be nullified by hypotheses', the commentary reads. Only phenomena can be used to produce knowledge:

⁶⁹ Newton, 'Author's Preface to the Reader', in Newton, *Principia*, pp. 382–383.

⁷⁰ Newton, *Principia*, p. 439.

⁷¹ Newton, *Opticks*, pp. 404–405.

In experimental philosophy, propositions gathered from phenomena by induction should be considered either exactly or very nearly true notwithstanding any contrary hypotheses, until yet other phenomena make such propositions either more exact or liable to exceptions.⁷²

The discursive power of this method can hardly be overestimated. As Hylarie Kochiras emphasises, Newton's practice of demonstratively deriving laws from effects and then dovetailing them to further observations allows for a wide-reaching empiricism that embraces potentially 'all substances including traditional metaphorical objects' that were conventionally interpreted by means of conjectures.⁷³ While indeed, as argued in Query 31 of the *Opticks*, the causes of 'active principles' such as gravity cannot be discovered because they leave 'no impression on the senses', we may still consider these principles 'not as occult qualities [...] but as general Laws of Nature, by which the Things themselves are form'd'. Their truth, the excerpt continues, 'appears to us by Phaenomena', which are the perceivable effects that gravity produces on every body.⁷⁴

After having bolstered his method by the claim that 'the laws of motion and the law of gravity have been found by this method' of experimental demonstration, Newton establishes that feigning hypotheses to make sense of invisible phenomena should also be proscribed. As he wrote in relation to gravity in the General Scholium to the second edition of *Principia*, no attempt should be made to identify how gravity works in practice, for '*satis est quod gravitas revera existat* [it is enough that gravity

⁷² Newton, *Principia*, p. 796.

⁷³ Hylarie Kochiras, 'Gravity and Newton's Substance Counting Problem', *Studies in History and Philosophy of Science*, 40:3 (2009), 267–280 (p. 270).

⁷⁴ Newton, *Opticks*, p. 401.

really exists] and acts according to the laws that we have set forth and is sufficient to explain all the motions of the heavenly bodies and of our sea'.⁷⁵

The innovative aspect in Newton's position is less that mathematics should be used to determine the behaviour of bodies – Galileo, for one, had made the same point. More relevant is the annexed claim that knowledge created with mathematics is incontrovertible because it does not depend upon human interpretation. Newton writes of the 'demonstration' of his laws as an automatic procedure where no interpretation is needed because the resulting generalisations (in the forms of laws, forces and principles) are based on self-evident phenomena, and are themselves therefore self-evident too. If hypotheses are excluded, knowledge is a logical process of identification between nature and numbers. What past philosophers (such as Descartes) understood as an appearance that needed to be interpreted, Newton understands as an unambiguous matter of fact that cannot have more than one interpretation.

This translates in the contention that everything that is affected by human interpretation is automatically invalid. The epistemological change generated by this position is dramatic. As Alexandre Koyré contends, Newton's method undermines the powers of the human subject, virtually erasing the very act of interpreting nature in favour of a 'strict determination' of phenomena. Newton, in Koyré's words, abolishes the 'world of qualities and sense perception, the world of appreciation of our daily life' replacing it with the 'universe of precision, of exact measures, of strict determination'.⁷⁶ In the universe of precision created by Newton, the human

⁷⁵ Newton, *Principia*, p. 943.

⁷⁶ Alexandre Koyré, *Newtonian Studies* (London: Chapman and Hall, 1965), p. 5. It should be added that with the term Newtonianism Koyré means an intellectual current of thought in

inclination to offer explanations is a problem, for it is seen as a distorting factor in what is supposed to be as objectively and measurable an observation of nature as possible. This is a key aspect of Newton's method and, as it will be seen throughout this thesis, it lies at the heart of the ambivalence that would be felt in eighteenth-century Britain with regards to Newton's legacy. To attain the standard for knowledge advocated by Newton, observers were required to erase the trace of themselves.

2. The *Hypotheses non fingo* from Newton to the Commentaries on Newton

The interdiction of conjectures would be represented as the essential aspect of Newton's method according to his commentators, with the implication that not feigning hypotheses was the mark of the perfect observer of nature. The preface to the second edition of the *Principia*, written by the mathematician Roger Cotes under Newton's close supervision, proved instrumental to advancing this view. While Newton does not offer much in the way of further explanations, Cotes proposes an articulated account of why conjectures are detrimental to observation. The 'true constitutions of things', Cotes claims, 'is obviously to be sought in vain from false conjectures, when it can scarcely be found out even by the most certain observations'. Persevering in this habit, as many do, is the same as 'drifting off into dreams'; or, what is perhaps worse, 'putting together a romance':

the history of ideas. Koyré shows little interest in determining the differences between Newton's own science and the diffusion of a Newtonian philosophy by third-party commentators.

Those who take the foundation of their speculations from hypotheses [...] even if they then proceed most rigorously according to mechanical laws, are merely putting together a romance, elegant perhaps and charming, but nevertheless a romance.⁷⁷

It is through an unadulterated observation of the ‘true constitution of things’ undisturbed by human faculties that accurate knowledge is to be made. Venturing into knowledge that is not based on experiments followed by mathematics-based appraisals is tantamount to writing romances which, although ‘elegant perhaps and charming’, are not faithful renditions of nature. Other commentaries on Newton were ready to build on Cotes’ argument and identified Newton as the ideal subject because able to avoid hypotheses and observe nature objectively. Through a conflation of comments on the methodological statements of the *Principia* and *Opticks* and descriptions of Newton’s character, a kind of mythicized version of Newton was created as an exceptional observer of nature because of his ability to adhere to the requirements of relinquishing hypothesis and thus avoid all traces of subjective interference – in the words of a 1774 newspaper, Newton exercised a ‘persisting application, and such a mastery over his imagination’.⁷⁸

This model proposed by the commentators on Newton sets an unrealistic standard that not even Newton could have met. Newton did use conjectures, and some of his contemporaries were quick to notice the contradiction between his propositions and his practice. Leibniz, for example, publicly criticised Newton on the charge of disguising gravitation as a law demonstratively valid, while, since nobody could

⁷⁷ Roger Cotes, ‘Editor’s Preface to the Second Edition’, Newton, *Principia*, p. 386.

⁷⁸ *London Chronicle or Universal Evening Post*, November 12, 1774 – November 15, 1774; Issue 2798.

verify its validity, it should rather be considered as an occult force – that is, a conjecture based on no evidential data.⁷⁹ Although in an anonymous reply to Leibniz Newton retorted that the accusation was unfounded, the defence is not very convincing, because since the publication of *Opticks* (1704) Newton had attempted several times to propose hypotheses to explain how the force of gravity really worked. The most famous case is Query 29 of the *Opticks*, in which is postulated the presence of an invisible aether that, standing in-between all celestial bodies, would convey the force of gravity through mechanical means.⁸⁰ Similarly, natural philosopher George Gordon remarked in 1719 how the ‘Motions of the Heavens’ that Newton and his commentators had rendered through unverified mathematical truths were as ‘many Instances of unintelligible Causes’. According to Gordon, evoking a power of attraction universal to all bodies was not different from what Newton sought to abolish with his *hypotheses non fingo* motto. Arguing for an invisible and unverified power of attraction looked just ‘as monstrous as any of the Fictions of Antiquity; and the Mathematical Dress of the Arguments which support that Cause, does not hinder me from suspecting their Sufficiency’.⁸¹

⁷⁹ Ori Belkind, ‘Leibniz and Newton on Space’, *Foundations of Science*, 18:3 (2013), 467–497 (p. 470).

⁸⁰ While Newton disclaimed that, since his conjecture was in the Queries, a section created on purpose to entertain hypotheses, it had nothing to do with the establishment of matter of fact, he was privately convinced that it was ‘inconceivable, that inanimate brute Matter should, without the Mediation of something else, which is not material, operate upon, and affect other Matter without mutual Contact’. This is expressed in his third letter to Richard Bentley, the first Boyle Lecturer in 1692. In Isaac Newton, *Four Letters from Sir Isaac Newton to Doctor Bentley, Containing Some Arguments in Proof of a Deity* (London, 1756), p. 25.

⁸¹ George Gordon, *Remarks Upon the Newtonian Philosophy* (London, 1719), p. 6.

The criticism of Leibniz and Gordon reveal that Newton's claim that hypotheses are not to be feigned is based on a conception of man that is abstract rather than concrete. To understand this point, it is useful to consider the well-established strand of European philosophical thought that distinguished between primary qualities, which give knowledge of the external world; and secondary (or sensory) qualities, appearances like colours and sounds that are not necessarily related to primary qualities. In the early modern times this division was discussed by Galileo and then reformulated by thinkers as diverse as Hobbes, Spinoza, Malebranche and Locke but, as Richard Popkin explains, Descartes was particularly relevant to this discussion. The French philosopher contended that secondary qualities are subjective, by which he meant that they resided only in the mind of man. Primary qualities, by contrast, are objective because they are qualities of the real, external world. Consequently, primary qualities could be mathematised and their definitions made universally valid.⁸² In his requiring that man avoid the use of hypotheses to know nature with certainty, Newton makes a claim comparable to that made by Descartes, but with an important difference. As in Descartes, Newton suggests that primary qualities are in nature. Unlike the French philosopher, however, Newton is unconcerned with the practical problem of how primary qualities can be perceived by man. Newton's only concern is to set the requirements for an accurate observation. Not that Newton was unaware of the problem: in the *General Scholium* added to the second edition of the *Principia*, he writes that our limitation as human subjects is that:

⁸² Richard Popkin, 'The High Road to Pyrrhonism', in *The High Road to Pyrrhonism*, eds Richard A. Watson and James E. Force (Indianapolis and Cambridge: Hackett Publishing Company, 1980), pp. 11–38 (p. 17).

We see only the shapes and colors of bodies, we hear only their sounds, we touch only their external surfaces, we smell only their odors, and we taste their flavors. But there is no direct sense and there are no indirect reflected actions by which we know innermost substances.⁸³

Still, Newton's acknowledgement of the weaknesses of the human senses does not change the proscription against conjectures, and the *hypotheses non fingo* remains the precept for the observer on how to behave to perceive the 'true constitution of things'. In other words, Newton is unconcerned with the practical application of his methodology. The *hypotheses non fingo* posits an ideal subject who not only has mastered the language of mathematics, applying it effortlessly to codify and express the results of complex experiments, but who limits the imagination too, since it would lead to devise inaccurate explanations of natural phenomena. In this sense, Newton's method posits a subject capable of transcending actual human abilities; or, to be more accurate, one able to efface its human presence. What is essential about the subject posited in the *hypotheses non fingo* is its lack of subjectivity, for what Newton demands is that nature be observed passively, without interfering with the data provided by natural phenomena.

This is a lofty requirement, but Newton was unconcerned with practical feasibility to begin with. It is therefore important to investigate how, notwithstanding Newton's own inconsistencies in the use of hypotheses, his commentators created an image of him that was the embodiment of the unattainable ideal subject his methodology demanded. The quality that encoded the ability of the ideal subject to eschew conjectures was 'reason'. One year after his death in 1727, Henry

⁸³ Newton, *Principia*, p. 942.

Pemberton's *A View of Sir Isaac Newton's Philosophy* describes Newton as a turning point in history, in that he had done 'honour to human nature, by having extended the greatest and most noble of our faculties, reason, to subjects, which, till he attempted them, appeared to be wholly beyond of our limited capacities'.⁸⁴ It is particularly important to trace the use made by commentators on Newton of the attribute of 'reason', which is here meant to indicate Newton's ability to eschew hypotheses, because the word would have meant something different forty years earlier.

Reason had long tended to be understood as a faculty that, while conducive to discoveries about nature, had limited powers because of its subordination to faith. In this traditional sense, reason is a faculty at the service of proper religious behaviour. The main commentator for this position was theologian Richard Hooker, who, in 1594, devoted a long section of his influential *Of the Laws of Ecclesiastical Polity* to this topic. According to Hooker, reason is 'the director of man's will by discovering in action what is good'. The very 'laws of well-doing', Hooker specifies, 'are the dictates of right reason', whereas, when reason errs, 'we fall into evil'.⁸⁵ A century later, John Dryden's poem *Religio Laici; or a Layman's Faith* (1682), a text that stands in a line of continuity with Hooker's *Of the Laws of Ecclesiastical Polity*, contends that 'reason's glimmering light' pales 'at religion's sight', and is eventually dissolved by the 'supernatural light' of God. Even more so than Hooker, who is optimistic about the reliability of reason in everyday matters, Dryden conceives of

⁸⁴ Pemberton, *View*, 'Dedication'.

⁸⁵ Richard Hooker, *Of the Laws of Ecclesiastical Polity*, ed. Arthur Stephen McGrade (Cambridge: Cambridge University Press, 2002), pp. 72, 75.

reason and faith as two separate, non-reconcilable types of light, the latter having an indisputable superiority on the former.⁸⁶

This is not of course to imply that ‘reason’ was not praised prior to Newton. Early experimenters emphasised it at the cost of reducing the importance of faith. Indeed, Dryden’s *Religio Laici* insists on the hierarchical superiority of faith to reason in reaction to the rise of science in Britain, where the activity of the Royal Society on the one hand and Hobbes on the other increasingly placed emphasis on reason as the faculty to rely on when producing knowledge about nature.⁸⁷ But praising reason carried with it the risk of exposing oneself to the charge of deism, so this position was never held too openly in the late seventeenth century.⁸⁸ It is therefore surprising to see Pemberton’s insistence on reason as the most important faculty that man could aspire to. A shift had evidently taken place at the turn of the century. Samuel Clarke, Newton’s most important disciple in his later years, preached in one of his 1705 Boyle Lectures that the ‘constant and sincere observance of all the Laws of Reason and Obligations to Natural Religion, will unavoidably lead

⁸⁶ John Dryden, *The Works of John Dryden*, eds H.T. Swedenberg and Edward Niles Hooker (Oxford: Oxford University Press, 1956), II, 242. On Dryden’s religious allegiances, see Douglas G. Atkins, *The Faith of John Dryden: Change and Continuity* (Lexington: University Press of Kentucky, 1980); John West, *Dryden and Enthusiasm: Literature, Religion and Politics in Restoration England* (Oxford: Oxford University Press, 2018).

⁸⁷ Thomas H. Fujimura, ‘Dryden’s *Religio Laici*: An Anglican Poem’, *PMLA*, 76:3 (1961), 205–217 (pp. 206–207).

⁸⁸ Deism is here used in the general sense of belief in the existence of a God that created the universe but does not intervene. However, the term had very different nuances according to the author and the religious context. For a survey of the different uses of this term, see Wayne Hudson, Diego Lucci and Jeffrey R. Wigelsworth, *Atheism and Deism Revalued: Heterodox Religious Identities in Britain, 1650-1800* (Burlington: Ashgate, 2014).

a Man to Christianity'.⁸⁹ Reason is praised unconditionally by Clarke, with no suggestion that it clashed with faith but, on the contrary, with an emphasis on its being the ability peculiar to man to clearly see through nature and, thanks to that, the design of God.⁹⁰

This shift is a function of the rising amount of commentaries on Newton which insistently used 'reason' as one of the attributes of Newton. As Voltaire reports, British people were consonant in believing that, thanks to Newton, no less than 'a new Universe' had been discovered.⁹¹ He had achieved this unprecedented feat because, the story went, he was characterized by a perfect reason that illuminated the secrets of nature. Because of their fascination with Newton, eighteenth-century poets readily abandoned Dryden's prudent conceptualization of reason as a glimmer and crafted majestic metaphors that correlated the power of reason to a shining light. Reason became daringly associated with the 'Sun' – a sun that was explicitly related to Newton by poets like James Thomson and Edward Young.⁹² But the portrayal of Newton's reason was not limited to the sphere of poetry. His march, according to a

⁸⁹ In Stewart, *The Rise of Public Science*, p. 75.

⁹⁰ John Gascoigne, *Joseph Banks and the English Enlightenment: Useful Knowledge and Polite Culture* (Cambridge, New York: Cambridge University Press, 1994), p. 32. Gascoigne also specifies that this elaboration of reason was in contrast with the rationalism 'which pervaded the work of such great seventeenth-century metaphysicians as Descartes or Leibniz with their elaborate systems constructed through patient application of reason to philosophical first principles' (p. 32).

⁹¹ François-Marie Arouet de Voltaire, *Letters Concerning the English Nation* (London, 1733), p. 122.

⁹² Nicolson, *Newton Demands the Muse*, p. 32. For a discussion of Nicolson's book more focused on eighteenth-century popularisations, see William Powell Jones, 'Newton Further Demands the Muse', *Studies in English Literature 1500–1900*, 3:3 (1963), 287–306.

mid-century periodical writer, was ‘that of a giant’. As he entered ‘at once into the depths of science [...] all his steps were those of discovery’:

His account of the Universe and the laws by which it is regulated, is founded upon the most indubitable principles of Reason, Science, and Observation. We are now, no longer, to wander through the intricate mazes of hypothesis and conjecture. Nature appears again, in all her primitive simplicity. Newton has dissolved the chaos, and separated the light from the darkness.⁹³

As the writer suggests, Newton’s extraordinary reason had done a service for his fellows. Thanks to him, man is no longer to wander ‘through the intricate mazes of hypothesis and conjecture’. It seems that ‘reason’ in eighteenth-century Britain progressively came to encode the feeling that, with Newton’s advent, a new era had dawned, one in which the darkness of uncertainty and error was finally overcome. As an anonymous poet put it in a 1731 issue of the *Daily Advertiser*, it is because of the benefits brought to ‘Human-kind’ that Newton’s reason is celebrated:

The finish’d Universe when God survey’d
He rested pleas’d with what his Hands had made.
Five Thousand Years did Human-kind explore
The vast Machine, and Ignorant, adore.
Newton at last arose, and looking through
All Nature, laid her open to their View:
Now Nature, Newton, and Mankind may go
At once to rest: There is no more to know.⁹⁴

⁹³ *Adventurer*, Tuesday, March 5, 1754; Issue 139.

⁹⁴ *Daily Advertiser*, Saturday, September 25, 1731; Issue 202.

These are occasional verses, but they are representative of two tendencies in the representation of Newton's reason that recur in texts published throughout the century and that contribute to the shaping of the widespread belief in the confidence on the abilities of man to know with certainty. Newton is celebrated as an unprecedented instance in the history of mankind, the outstanding man who for the first time drew the veil from nature and 'laid her open' to the view of mankind in a definitive way, so that there is 'no more to know'. The exceptionality of Newton's reasoning abilities was a commonplace of the century, as exemplified by the epigraph to the monument erected to his memory in Westminster Abbey, whose epitaph in Latin invites contemporaries to be proud of having lived with a man whose vigour of mind was *quivi prope divine* – that is, 'almost supernatural'.⁹⁵

At the same time, the poem also suggests that Newton's ability to use reason to discover the secrets of nature could be extended to everybody. Newton unveiled the secrets of nature to the view of everybody, in effect putting within reach knowledge that was before thought to be beyond human ability. This was an increasingly common position. As Voltaire explains in his *The Elements of Sir Isaac Newton's Philosophy* (originally published in France in 1737 and translated into English in the same year), Newton's ideas are directed towards 'the Improvement of all such as desire to cultivate their Reason', so that everybody is able 'to conceive certain Truths aright'. Newton is portrayed by Voltaire as the exemplary man who had simplified the complexity of nature, making it understandable to everybody:

⁹⁵ In David Brewster, *The Life, Writings, and Discoveries of Sir Isaac Newton*, 2 vols (London, 1860), I, 305. The inscription was widely quoted in eighteenth-century publications. The first printed occurrence seems to be in *Grub Street Journal*, Thursday, April 22, 1731, Issue 68.

The Knowledge of Nature is a Good, to which all Men have an equal Right: all are for knowing their Good, which few have Time or Patience to calculate; this *Newton* has done for them.⁹⁶

Emphasising Newton's exceptionalism was not necessarily in contrast with arguing that his 'reason' was a quality that could be developed by the rest of people. In fact, these two claims often found a point of convergence in the image of Newton as a benevolent demi-God that, like a novel Prometheus, gifted humanity with the light of reason. Partisan commentators like Edmund Halley and Pemberton were very active in the public promotion of Newton and insisted to convey an image of him that synthesised intellectual exceptionalism and public generosity. Halley's *Ode on This Splendid Ornament of Our Time and Our Nation*, written to accompany the first edition of the *Principia* published in 1687, is a case in point. The ode depicts Newton as 'dear to the Muses', a privileged man bestowed with the ability to open 'the treasure chest of Hidden Truth'. But this gift is one directed to the benefit of the many. Newton's sagacity is unique, and thus celebrated as soaring above that of fellow human beings, so much so that 'No closer to the gods can any mortal rise'. Nevertheless, thanks to his generosity, potentially everybody can rise to his level of knowledge of nature. 'Mortals' can also 'arise' and 'put aside earthly cares, / And from this treatise discern the power of a mind sprung from heaven'.⁹⁷

Pemberton, cited at the beginning of the chapter, went as far as to claim that the reason that Newton made available to the many was 'that faculty, whereon the conduct of our lives, and our happiness depends', to contemporary and future

⁹⁶ François-Marie Arouet de Voltaire, *The Elements of Sir Isaac Newton's Philosophy. Translated from the French* (London, 1737), p. 1–4

⁹⁷ Halley, 'Ode', pp. 379–380.

generations.⁹⁸ Nonetheless, elevating Newton as the standard to be achieved produced a tension between a ‘reason’ that was said to guarantee a certainty that went beyond personal interpretation and the sense that Newton had been extraordinary in his use of it. In his panegyric *Éloge de Isaac Newton* (translated into English in 1727), Fontenelle had made the point that ‘[w]hen we are for prying into Nature, we ought to examine her like Sir Isaac—that is, in as accurate and importunate a manner’. As Fontenelle concedes, however, even that might not be sufficient, for some phenomena escape observation, ‘almost hid[ing] themselves from our enquiries, as being of two [*sic*] abstracted a nature’. These evasive phenomena Newton knew ‘how to reduce to calculation’, but ‘such calculations might elude the Skill of the best Geometricians, without that Dexterity which was peculiar to himself’.⁹⁹

As Fontenelle elevates Newton as a model for knowledge, he implicitly poses the question of whether his reason could be employed by anybody other than him. According to the French writer, even if the mismatch between the qualities of Newton and those of all other people needs to be acknowledged, this does not lead to a negative outlook. Rather, Fontenelle suggests that a change might be underway and that the deficiencies of the average human observer compared to Newton could be reduced by developing ‘reason’.¹⁰⁰ In a more nuanced way, Pemberton recognizes

⁹⁸ Pemberton, *View*, ‘Dedication’.

⁹⁹ Bernard Le Bovier de Fontenelle, *An Account of the Life and Writings of Sir Isaac Newton. Translated from the Eloge of M. FONTENELLE, Secretary of the Academy of Sciences at Paris* (London, 1727), p. 21.

¹⁰⁰ The celebration of Newton as a thinker that had made better than anyone else in the past was interlaced with the dispute between ancient and moderns that animated the first decades of the eighteenth century. For an overview, see Joseph M. Levine, *The Battle of the Books: History and Literature in the Augustan Age* (Cornell: Cornell University Press, 1991), chapter 1.

that Newton's 'reason' might be difficult to attain for others because the rigidity of Newton's own method, requiring something of a super-human objectivity, was at odds with the actual, limited abilities of man. The total interdiction of hypotheses is a very restrictive requirement and Pemberton astutely reframes it as an ideal to meet, rather than a goal that could be realistically attained, making allowances for the limited capacities of man:

The proof in natural philosophy cannot be so absolutely conclusive, as in mathematics. For the subjects of that science are purely the ideas of our own minds. [...] But in natural knowledge the subject of our contemplation is without us, and not so completely to be known: therefore our method of arguing must fall a little short of perfection.¹⁰¹

Pemberton brokers a mediation between Newton's example and man's capabilities by identifying the 'just course' that stands between 'the conjectural method of proceeding' and 'demanding so rigorous a proof, as will reduce all philosophy to mere scepticism, and exclude all prospect of making any progress in the knowledge of nature'.¹⁰² Pemberton is implicitly admitting that Newton's 'reason' did not readily apply to other people because the abilities of man fall a 'little short of perfection'. Since Newton's example could not be fully emulated, Pemberton offers the solution that the attainment of the absolute truth of mathematical demonstration was not after all necessary, and that it was enough to get as close as possible to truth. Covertly denying that man is as able as Newton to reach certainty, Pemberton

¹⁰¹ Pemberton, *View*, p. 23.

¹⁰² Pemberton, *View*, p. 23.

establishes a middle ground between Newton and man based on a shared natural inclination to search for truth. Nothing is more suitable to the human mind

than the contemplation of truth; and that all men are moved with a strong desire after knowledge, esteeming it honourable to excel therein; and holding it, on the contrary, disgraceful to mistake, err, or be in any way deceived.¹⁰³

In this way, Newton's *hypotheses non fingo* is transformed from a proscription into a declaration of intent. Like Newton, man is not satisfied with feigning hypotheses but aims at the establishment of truth; unlike Newton, man does not have the power to do so. In this way, 'reason' is repurposed as the tendency of man to contemplate truth and despise deception to reach a surrogate of mathematical certainty, without having to worry about to fulfil the prohibitive conditions set by Newton's methodology.

In effect, this resignification of 'reason' was part of a widespread attempt made by commentators to make Newton more tangible. This is manifest by the treatment reserved to Newton's claim that natural phenomena be expressed through the language of mathematics. As Newton's ideas were commented on and made more popular, readers – especially polite ones – increasingly considered mathematics as a synonym of pedantry or, worse, dogmatism. Pedantry and dogmatism disrupted the intercourse of society because they monopolised knowledge, making it the exclusive province of a few specialists who were sure to be in the right. If reason was the quality that made Newton's claims to certainty possible, then there was the risk that reason

¹⁰³ Pemberton, *View*, p. 2.

was a dogmatical quality.¹⁰⁴ This is where texts such as Francesco Algarotti's 1736 *Newtonianismo per le dame*, immediately translated into English by Elizabeth Carter, enter the conversation, attempting to preserve the confidence derived from Newton's reason while making it into a less dogmatic quality. This was achieved by separating mathematics and the claim that certainty was within human reach. Algarotti aims to 'recivilize this savage Philosophy, which in the Paths of Calculation and the most abstruse *Geometry* was returning more than ever to its ancient Austerity'. According to Algarotti, anything that cannot be understood by the majority of polite people should be excluded from conversation. Accordingly, all '[I]nes and mathematical Figures', which would have given 'these Discourses too Scientific an Air', are eschewed; by the same token, 'Mathematical Terms' are 'as much as possible avoided'.¹⁰⁵ With the goal of allowing his public to feel empowered by Newton's reason without their having to master mathematics, Algarotti's discursive acrobatics bend Newton's ideas to make them more readily acceptable for his readers. His popularization is paradoxically 'a Work of Philosophy and Politeness' where the 'reason' granted by the use of Newton's method could be shared by virtually anybody, as long as they do not attempt to impose their ideas on other people:

Let the Age of Realities once more arise among us, and Knowledge instead of giving a rude and savage Turn to the Mind, and exciting endless Disputes

¹⁰⁴ For an investigation of the problems of pedantry and dogmatism, see Lawrence E. Klein, *Shaftesbury and the Culture of Politeness: Moral Discourse and Cultural Politics in Early Eighteenth-Century England* (Cambridge: Cambridge University Press, 1994).

¹⁰⁵ Francesco Algarotti, *Sir Isaac Newton's Philosophy Explain'd for the Use of the Ladies. In Six Dialogues on Light and Colours* (London, 1739), pp. iv-vii.

and wrangling upon some obsolete Phrase, serve to polish and adorn Society.¹⁰⁶

Reason is converted by Algarotti into a blend of confidence about knowledge made with certainty and social appropriacy. Following the polysemy of the Italian word *ragione*, Carter translates the beginning of the first dialogue by keeping the narrator's pun that '[t]he very same Reason that led me every Day to a Concert of Music, a gay and elegant Entertainment, a Ball, or the Theatre induced me to write' (p. 1). Reason in this sense conjoins two apparently contradictory strands: the faculty of casting light on the deeper mystery of nature and the ability to avoid disputes by discarding the assertiveness that was inherent in Newton's original position.

3. 'The Miracle of the Present Age'. The Anxiety of Human Limitations

Commentators like Pemberton, Fontenelle and Algarotti worked to preserve the confidence that a certainty like that claimed by Newton was within human reach, while acknowledging the limitations of man compared to the lofty requirements set in *Principia* and *Opticks*. In doing so, these commentators attempt to defuse the anxiety that man could not measure up with Newton. Other commentators, however, were more perturbed by this possibility. A typical example is a 1731 issue of the *Grub Street Journal*, which critically comment on Pemberton's *View of Sir Isaac Newton's Philosophy* because of its emphasis on reason as a quality that yields indisputable truths. The epigraph chosen by the newspaper was, emblematically, a couplet from Dryden's *The Hind and the Panther*, whose preparatory poem had been the *Religio Laici* – the poem that, as discussed above, chastised the emphasis on

¹⁰⁶ Algarotti, *Sir Isaac Newton's Philosophy*, pp. iv-v, xi, xvi.

reason placed by early scientists in the late seventeenth century. The couplet chosen in *Grub Street Journal* is the famous ‘Let Reason then at her own quarry fly: / But how can finite grasp infinity?’.¹⁰⁷ Could man really grasp the infinity of the universe that Newton had unveiled? The *Grub Street Journal* writer uses Dryden’s lines to suggest that, notwithstanding its lofty ambitions, it is debatable whether the reason celebrated by Pemberton, Fontenelle and Algarotti really made nature apprehensible.

Behind such a sceptical position lies the reflection that the perfection of nature, its working by laws that are immutable and universal that some commentators on Newton claimed he had discovered, entailed problematical conclusions about the epistemological powers of humankind. Newton’s discoveries were due to his being endowed with a ‘wonderful Sagacity’.¹⁰⁸ As a result, doubts arose as to whether anybody else would have been able to understand nature in the way Newton did. Joseph Addison’s definition of Newton as ‘the Miracle of the present Age’ in a 1712 *The Spectator* issue is clearly celebrative, but its wording entails that Newton was also perceived as something of an exception in the history of humankind.¹⁰⁹ Not that normal people are not equipped with reason, Addison argues, but their reason is on a very different level from that of Newton in terms of intellectual achievements. Newton’s reason makes him able to ‘look through a whole Planetary System’, while our understanding is ‘more confined’:

The more extended our Reason is, and the more able to grapple with immense
Objects, the greater still are those Discoveries which it makes of Wisdom and

¹⁰⁷ *Grub Street Journal*, Thursday, May 20, 1731; Issue 72.

¹⁰⁸ See, for example, William Derham, *Astro-Theology: or, a Demonstration of the Being and Attributes of God, from a Survey of the Heavens* (London, 1715), p. 154.

¹⁰⁹ *The Spectator*, Saturday, November 22, 1712; Issue 543.

Providence in the Work of the Creation. A Sir *Isaac Newton*, who stands up as the Miracle of the Present Age, can look through a whole Planetary System; consider it in its Weight, Number, and Measure; and draw from it as many Demonstrations of infinite Power and Wisdom, as a more confined Understanding is able to deduce from the System of an Human Body.¹¹⁰

The fear that Newton had been exceptional, and not simply exemplary, introduced some uneasy reflections about the actual knowing abilities of the rest of humankind. William Warburton's 1740 commercially successful commentary on Pope's *An Essay on Man* is one of the key texts to develop this anxiety. The commentary on Warburton, who was Pope's chosen editor of the *Dunciad*, reads the *Essay on Man* as a text that emphasises the flawed conditions of human understanding. According to Warburton, Pope is less the poet who keeps in check human ambition by restoring it to its rightful place in the great chain of beings than a sceptical thinker who describes 'the dark and feeble State of the human Understanding' compared to the standard set by Newton.¹¹¹ Warburton's argument is specifically made with regard to the 'Knowledge of ourselves' – that is, to whether laws as universal and immutable as those discovered by Newton could be found in human nature. Warburton's answer is negative, for it is a 'Fact' that the '*clearest Science, which results from the Newtonian Philosophy*' does not translate to the study of man. Thus, the question becomes whether it is possible to discover the laws of human behaviour in as clear a way as Newton had done with the laws of nature.

¹¹⁰ *The Spectator*, Saturday, November 22, 1712; Issue 543.

¹¹¹ William Warburton, *A Vindication of Mr. Pope's Essay on Man, from the Misrepresentations of Mr de Crousaz* (London, 1740), p. 50.

Pope's *Essay on Man* is often the vehicle through which these types of anxieties are conveyed, possibly because of Pope's own ambiguities in committing to Newton's ideas.¹¹² Building on the argument of the second epistle of the *Essay on Man*, in which Newton is shown in Heaven 'as we shew an Ape', the front-page article of the *Universal Spectator and Weekly Journal* of 23 March 1745 reports that not even Newton, this 'great Philosopher', knew 'more of *himself* than another Mortal, because *Passion*, in our own Work, *undoes what Reason weaves*'.¹¹³ Passion, the writer suggests, is what Newton meant when he spoke about conjectures, and not even he could refrain from it all the time. If not even Newton's genius could fully trust his reason and the related ability to shut off his imagination, how can the rest of humankind compare? As David Hume had put it in the final appendix to the sixth and last volume of the *History of England* published in 1754, Newton had *seemed* to solve the mystery of nature for everybody. In fact, his discovery could hardly be partaken in by anybody else. Newton, Hume argues, 'seemed to draw off the veil from some of the mysteries of nature' but, as he died, he eventually 'restored her ultimate secrets to that obscurity in which they ever did and ever will remain'.¹¹⁴ Paradoxically concluding a historical narrative with the future tense, Hume predicts that, because of Newton, nature will be forever unknowable by anybody else because Newton's own exceptionality brought to light the structural shortcomings of man in a definitive way.

¹¹² See B. W. Young, "'See Mystery to Mathematics Fly": Pope's *Dunciad* and the Critique of Religious Rationalism', *Eighteenth-Century Studies*, 26:3 (1993), 435–448.

¹¹³ *Universal Spectator and Weekly Journal*, Saturday, March 23, 1745; Issue 859.

¹¹⁴ David Hume, *The History of England from the Invasion of Julius Caesar to the Revolution in 1688*, 6 vols, ed. William B. Todd (Indianapolis: Liberty Fund, 1983), VI, 542.

If a revolution in the degrees of assurance in making knowledge had occurred thanks to Newton, this was perceived by some as a negative one that unveiled once and for all the imperfections of man in the face of nature. The image of Newton, with its emphasis on his extraordinary, super-human, knowledge-making abilities, highlighted all the more starkly the inability of man to trust one's own understanding. In this sense, it is the very confidence in the ability to know with the certainty of Newton that provokes this anxiety. Those who endorsed this confidence explicitly tended to liken themselves to Newton, claiming that their evidence was nature itself rather than personal authorities. In doing so, they contributed to a scepticism towards all forms of knowledge based on personal authority. George Cheyne's *Philosophical Principles of Natural Religion* (1705) is a particularly salient example. In this text that aims at proving the existence of God, past authorities are excluded because unreliable compared to what Cheyne calls 'demonstration'. In the preface, Cheyne explains that he 'industriously avoided all Quotations, because [the] Subject wanted not *Authorities*; but *Demonstrations*'. While past authorities are eventually cited and what is meant by 'demonstrations' in the context of natural religion is never really explained, it is significant that Cheyne feels compelled to ground his enquiry on the idea that authorities, no matter how prestigious or creditable, are tantamount to subjective opinions that, *ipso facto*, must be discarded because man is prone to feign conjectures. As such, they have less value than demonstrations, which are instead to be automatically accepted because derived from a careful observation of nature.

The systematic exclusion of authorities prefigures a universe in which man is a negligible presence in the face of nature. It is telling that Cheyne conceptualizes the universe as a 'vast, if not infinite *Machin* of the *Universe*, the Perfect and Wise Production of Almighty God consisting of an infinite number of lesser *Machines*,

every one of which is adjusted by Weight and Measure'. As a mechanism set in motion by God, nature does not require the presence of man to function. From this conceptual standpoint, it is a short step to argue that nature, and the God that created it, are indifferent to the presence of human beings. Cheyne is not willing to explicitly make this claim, but his insistence on demonstration borders on this radical argument. The 'System of Universe', he contends, must be 'liken'd to a finish'd Piece of Clockwork form'd upon *Geometrick* Principles'. To determine the principles of religion with the certainty of demonstration, living beings with their own free-will have to be excluded. Accordingly, Cheyne premises his text with the warning that he 'shall not here consider the Actions of Beings, that have a Power of *Free-Will*', because these would interfere with the establishment of knowledge that, he intimates, will be mathematically certain once all forms of personal authority are excluded.¹¹⁵

Cheyne is one of those who were exalted by the conceptual possibilities offered by Newton's ideas. He promoted the elimination of personal authority as a necessary step to extend the certainty of Newton's natural philosophy to other spheres, in hope of finding regular patterns that hold regardless of personal opinions. Cheyne sees the reduced role of man as a welcome change, but others saw it as a factor of anxiety. In an article on *The Spectator* published in 1714, Addison intimates that the advent of Newton deprived man of the ability to make sense of nature. Telling the story of a walk at dusk, Addison lifts his eyes to the stars to observe 'the Richness and Variety of Colours, which appeared in the Western Parts of Heaven: In Proportion as they faded away and went out, several Stars and Planets appeared one after another 'till the whole Firmament was in a Glow'. Indirectly referencing

¹¹⁵ George Cheyne, *Philosophical Principles of Natural Religion* (London, 1705), pp. 2, 5.

Newton, he writes of ‘the *Æther*’, of the ‘*Galaxy*’ that ‘appeared in its most beautiful White’ and, to ‘compleat the Scene’, he looks at the ‘full Moon’. The universe he beholds is that discovered by Newton. Falling into a contemplative mood, Addison exclaims that ‘[w]hen I consider the Heavens the Work of thy Fingers, the Moon and the Stars which thou hast ordained; what is man that thou art mindful of him, and the son of man that thou regardest him!’. The vista of ‘that infinite Host of Stars, or, to speak more Philosophically, of Suns, which were then shining upon me, with those innumerable Sets of Planets or Worlds, which were moving round their respective Suns’ prompts him to consider his place in the universe that Newton had unveiled:

When I still enlarged the Idea, and supposed another Heaven of Suns and Worlds rising still above this which we discovered, and these still enlightened by a superior Firmament of Luminaries, which are planted at so great a Distance, that they may appear to the Inhabitants of the former as the Stars do to us; In short, whilst I pursued this Thought, I could not but reflect on that little insignificant Figure which I my self bore amidst the Immensity of God’s Works.

The fear of insignificance quickly extends into an apocalyptic scenario where the solar system to which our planet belongs is obliterated. ‘Were the Sun, which enlightens this Part of the Creation, with all the Host of Planetary Worlds, that move about him, utterly extinguished and annihilated, they would not be missed more than a grain of Sand upon the Sea-shore’. Addison’s description escalates into a large-scale representation of the universe as that which cannot be apprehended by the human senses anymore. Even the solar system in which the earth is located amounts to scarcely a blank:

The Space they possess is so exceedingly little, in Comparison of the whole, that it would scarce make a *Blank* in the Creation. The Chasm would be imperceptible to an Eye, that could take in the whole Compass of Nature, and pass from one end of the Creation to the other, as it is possible there may be such a Sense in our selves hereafter, or in Creatures which are at present more exalted than our selves. We see many Stars by the help of Glasses, which we do not discover with our naked Eyes; and the finer our Telescopes are, the more still are our Discoveries. *Huygenius* carries this Thought so far, that he does not think it impossible there may be Stars whose Light is not yet travelled down to us, since their first Creation. There is no Question but the Universe has certain Bounds set to it; but when we consider that it is the Work of infinite Power, prompted by infinite Goodness, with an infinite Space to exert it self in, how can our Imagination set any Bounds to it?

To an ‘Eye’ that, like Newton’s, could ‘take in the whole Compass of Nature’, the solar system would appear as an insignificant speck within the enormous edifice of the universe. The distance between Newton’s reason and human reason that Addison had emphasised in *The Spectator* two years before when he claimed that Newton was ‘the Miracle of the Present Age’ is here dramatized in terms of spatial proportion. The powerlessness of man is nowhere more apparent than in the inability to grasp the immensity of the universe.¹¹⁶

The anguishing question that logically follows is whether man has any voice at all in the universe – that is, if there is any way for man to understand nature or if the two are incommensurable for knowledge to be possible. God, that ‘infinite Power,

¹¹⁶ *The Spectator*, Saturday, November 22, 1712; Issue 543.

prompted by infinite Goodness' that created the universe, was the traditional intermediary that allowed man to offer interpretations about natural phenomena that man struggled to explain. But why should the needs for knowledge of man be a concern for God in such a vast universe?

This question leads to the frightful realization that, in the universe discovered by Newton, man is of no importance whatsoever. The only thing Addison can do once he realizes the powerlessness of man, and the possibility that God does not intervene to make sense of nature, is to look upon himself

with secret Horror, as a Being that was not worth the smallest Regard of one who had so great a Work under his Care and Superintendency. I was afraid of being overlooked amidst the Immensity of Nature, and lost among that infinite Variety of Creatures, which in all Probability swarm through all these immeasurable Regions of Matter.¹¹⁷

How can somebody other than Newton be asked to make use of 'reason' when it is impossible to overcome 'the Poorness of our Conceptions?'. 'Prejudices', Addison concludes, still 'rise in us unawares, and are natural to the Mind of Man', and no appeal to reason can change that. Voicing the anxiety that appeals to human reason were bound to be ineffective because prejudices are 'natural to the Mind of Man', Addison intimates that it was not possible for man to follow Newton's steps and eschew hypotheses. Therefore, it was not possible for man to understand nature.

What contributions like those of Addison reveal is that the confidence in certainty promoted by the commentaries on Newton could also trigger the realization

¹¹⁷ *The Spectator*, Friday, July 9, 1714; Issue 565.

that man never had, and never will have, ‘reason’ meant as the faculty to understand nature with the same assuredness Newton was considered to have had. This created an uneasy opposition between a heightened sense that hypotheses needed to be excluded and the awareness that man was incompatible with certainty. Colin MacLaurin is representative of this position. In 1748, MacLaurin explicitly denounced the use of ‘imaginary knowledge’ as the ‘greatest obstruction to true science’.¹¹⁸ The enemies of knowledge, and of man by logical implication, are those who, ‘instead of suiting their philosophy to nature, [...] had misrepresented the phaenomena, that they might appear conformable to their own suppositions’. However, MacLaurin does not submit to the confidence that certain knowledge could be achieved by discarding conjectures. Nature, he argues, will always remain beyond the intellectual means of man because the ‘processes of nature lie so deep, that, after all the pains we can take, much, perhaps will remain undiscovered beyond the reach of human art or skill’. This does not imply that man should give over to the ‘belief of fictions, be they ever so ingenious’ instead of ‘hearkening to the unerring voice of nature; for she along can guide us in her own labyrinths’.¹¹⁹ What man is allowed to do is nothing more than ‘hearkening’. That is, man should put itself in a passive stance, listening to nature without attempting to advance any interpretation. The best man could do in the face of nature was, therefore, to reach a kind of transparency that reduced all possibilities of corruptions of knowledge through human prejudices.

¹¹⁸ It is important to recall that in the eighteenth century the word ‘science’, following classical usage, was still used as a synonym of ‘knowledge’.

¹¹⁹ Colin MacLaurin, *An Account of Sir Isaac Newton’s Philosophical Discoveries* (London, 1748), pp. 12, 28, 35.

According to MacLaurin, the insistence on reason in the commentaries on Newton disclosed a contradiction between the acknowledgment of the innate limits of humankind that make enquiries of nature impossible, and the need to refrain from conjectures all the same in order not to further corrupt what data on nature has been collected. In lack of any possibility of action, the only thing that can be done is to stand back and observe. The shortcomings of man should be humbly acknowledged, as Père Pluche, the famous French populariser whose *History of the Heavens* was translated into English in 1740, had suggested, and no comparison with Newton should be made. Père Pluche takes the example of Newton's enquiry of light and colour to claim that the *Opticks* did not change our abilities. Newton understood its workings, but for everyone else it remained 'an inconceivable marvel, a real abyss'. Père Pluche's contention is that, in terms of man's ability to understand as mysterious a phenomenon as light – and, by extension, the entirety of nature – nothing had really changed since Newton's advent. The human mind has natural deficiencies that prevent it from having any functions other than 'admiring and adoring' what is expressed by nature. The best man can do, Père Pluche concludes, is to apply the *hypotheses non fingo* to the point where no interpretation of nature is ever offered, and nature is simply admired from afar.¹²⁰

It is significant that, at the end of the century, even periodicals uninterested in theoretical questions would preach caution on the proper behaviour that man should keep with respect to enquiries on nature. It goes to show that the belief in the inferiority of man's abilities compared to those of Newton was one that seeped into everyday culture. In an article published on *World and Fashionable Adviser* in 1787,

¹²⁰ Père Pluche, *History of the Heavens* (London, 1740), p. 95.

it is contended that even the smallest attempt at interpretation could be detrimental to nature, almost in a literal sense. Since man is unable to improve nature by explanations, '[a]ll that is left to human ability, is to deform, not to mend her'. Nature works in a disinterested fashion 'without intermeddling with the motions by which it proceeds, superior to our efforts, self-directed to its goal!'. As the anonymous writer of this article put it, in the universe discovered by Newton 'NATURE WILL HAVE HER COURSE' regardless of the interpretative efforts one can exert, so the best man should do is to avoid any adulterating interferences and embrace a passive position.¹²¹

4. From Authority to Demonstration. The Acknowledgement of the Limits of Man

Commentaries on Newton agreed that man should not adulterate the result of their observations through conjectures. Some, like Fontenelle, Pemberton and Algarotti, were confident that man could develop the same 'reason' of Newton. Others, like Warburton, Addison, MacLaurin and the writer of *World and Fashionable Adviser* discussed above, considered 'reason' as an ability exclusive to Newton, and the best everybody else could do was to take a reduced role and observe nature passively. In either case, personal authority – what was also called human testimony – was distrusted because the *hypotheses non fingo* demoted everything that was not demonstrative to the status of unreliable knowledge. Commentators like Cheyne who were confident in the potential for man to attain 'reason', argued that personal authority should be discarded altogether in favour of demonstration. Others still reflected on the anxiety derived from the acknowledgment of the shortcomings of

¹²¹ *World and Fashionable Adviser*, Monday, February 5, 1787; Issue 31.

man by arguing that, while personal authority is not to be trusted as the basis for certain knowledge, it is also true that man's only way to produce knowledge is by trusting others, so all pretences to demonstrative knowledge should be abandoned.

A mid-way perspective is offered by Thomas Morgan in the third volume of his *Moral Philosopher* (1740). Building on the common use of the religious word 'Revelation', Thomas Morgan explains what is at stake when knowledge is made by trusting human testimony:

I never use the Word *Revelation*, for any supposed Truth or Doctrines above Reason, but for such Doctrines of moral Truth and Rectitude, as Men receive upon the real or supposed Authority of the Prophet or Teacher. Here it is the Authority and Manner of Conveyance and Teaching, that gives it the Name of *Revelation*, but its necessary Foundation in Nature and Reason makes it a *true Doctrine*, and the Authority or Manner of Conveyance cannot alter, or affect this. Nothing that is antecedently and necessarily true in Nature and Reason, can depend on Authority for the Truth of it, since the very Authority itself must depend on the same Nature and Reason of Things. The same Truths or Doctrines may be receiv'd and adher'd to, either upon original, native Evidence, as founded in Nature and Reason, or by Authority from others, without any other Reason or Ground of Truth to those who thus take them upon Trust.¹²²

According to Morgan, opinions are subjective interpretations and, as such, they should come second to the 'nature and reason of things'. This application of the *hypotheses non fingo*, however, begs the question of whether it is possible to

¹²² Thomas Morgan, *The Moral Philosopher*, 3 vols, (London, 1740), III, 126.

understand the latter (the nature of things) without the former (subjective interpretation). The parallel offered by Morgan to bring the point home is that of what he calls ‘Newtonian philosophy’.¹²³ For the many that are not proficient in mathematics, Newton’s ‘Laws of Nature’ can only be accepted on trust. Only a ‘few thinking, inquisitive Persons’, Morgan continues, ‘know something of the *Newtonian* Philosophy, and the Laws of Nature demonstrated by that great Philosopher’. The ‘Generality’, by contrast, ‘receive [them] only upon Trust’ (p. 126). Although natural theologians like Bentley, Clarke and Whiston argued that the laws of nature discovered by Newton demonstrated the benevolent existence of God, Morgan adumbrates the impossibility of directly witnessing these laws. What is demonstratively clear to Newton is not so to man, whose understanding occurs by trusting authoritative sources, such as Newton himself. In this sense, knowledge for man is always a matter of trust.

Morgan’s considerations introduce an important point about the confidence associated with Newtonianism, which can be seen as a function of the limited intervention of God in nature. Morgan’s contrast between religious ‘Revelation’ and the ‘Nature and Reason of Things’ elicits the problem of God’s active intervention in the universe. In the lengthy essay for *The Spectator* discussed above, Addison poses the problem of why, in an infinite universe where the solar system is a negligible presence, God should be concerned with, and intervene in, the actions of a single person and, more broadly, of man. The response given by the early

¹²³ As discussed in the ‘Introduction’, ‘Newtonian Philosophy’ was an expression that was often used in the eighteenth century, though not necessarily with a strong, well-defined meaning. In this thesis, this expression is avoided other than in quotations, which are preserved to offer a sense of its different usages.

Newtonians consisted in claiming that God could intervene at any time on its creation, suspending its own rules as necessary. Even gravity, whose workings remained unclear, could always be explained by saying that it was an effect of divine intervention, God's continuous miracle to overcome the unexplained lack of mechanical contact between bodies. In this view, natural matter is passive, and its forces are eventually determined by the will of God.¹²⁴

There were groups of people, such as the High-Church Anglicans, who objected on the grounds that this position downplayed revelation, putting too much emphasis on human reason, which, contrary to the commentators on Newton, they saw as fallible.¹²⁵ In particular, the theological dispute between Leibniz and Clarke mentioned earlier in this chapter produced uneasiness because it prefigured the possibility that in a universe with immutable laws of nature God does not need to intervene at all. In the metaphor proposed by John Gascoigne, the Leibniz controversy represents the realization that a universe based on Newton's ideas was one caught between 'the Scylla of continual divine intervention and the Charybdis of a form of naturalism which minimized God's activity'. Leibniz expressed the two alternatives:

If God is oblig'd to mend the course of nature from time to time, it must be done either supernaturally or naturally. If it be done supernaturally, we must have recourse to miracles, in order to explain natural things: which is reducing an hypothesis ad absurdum: for, every thing may easily be accounted for by

¹²⁴ Margaret C. Jacob, 'Newtonian Science and the Radical Enlightenment', *Vistas in Astronomy*, 22 (1979), 545–555 (p. 547).

¹²⁵ Twombly, 'Newtonian Schemes', p. 255.

miracles. But if it be done naturally, then God will not be *intelligentia supramundane*; he will be comprehended under the nature of things; that is, he will be the soul of the world.¹²⁶

If one accepts the argument made by Newton and his commentators that nature is regulated by a finite set of immutable and universally valid laws, there is no need for communication between God and mankind. The very concept of a watchmaker God endorsed by the early Newtonians entails that, while God could potentially intervene at any moment, his only intervention might have been the creation of the universe, which was then left to run in conformity with its perfect laws. This scenario makes ‘revelation’ superfluous, for there is no divine intervention which needs to be revealed in natural phenomena. That is, natural phenomena had no meaning behind them other than their being an expression of nature’s mechanisms whose regularity could be discovered by Newton’s ‘reason’. Miracles, which were traditionally considered to be the evidence that the channel of communication between man and God was active, are consequently discarded in favour of explanations that attempt to understand the regularity in natural phenomena.

An important aspect of the confidence associated with Newtonianism resides in the fact that the advocates of the argument by design found that the reason-driven detection of the regularity of natural phenomena could potentially replace all ‘supernatural’ explanations, thus making revelation virtually useless.¹²⁷ A few years after Clarke’s dispute with Leibniz, William Whiston, another prominent early Newtonian, concedes that, when analysed through reason, everything that seems to

¹²⁶ Quoted in Gascoigne, ‘Rise and Fall’, p. 227.

¹²⁷ See Peter Harrison, ‘Newtonian Science, Miracles, and the Laws of Nature’, *Journal of the History of Ideas*, 56:4 (1995), 531–553 (p. 541)

be caused by the ‘Power of Providence of God’ is actually ‘no more miraculous’ than any other natural phenomenon:

For those Events or Actions are in Holy Scripture attributed immediately to the Power of Providence of God, which yet were to all outward appearance according to the constant course of things, and would, abstracted from such Affirmation of the Holy Books, have been esteem’d no more miraculous than the other common Effects of Nature, or usual Accidents of Humane Affairs.¹²⁸

With nature conceived in terms of laws that operate with perfect regularity, there is no need for miraculous interventions.¹²⁹ Therefore, human knowledge should only consist of the detection of what Pemberton calls the ‘Universal properties’ of nature through the use of ‘reason’, rather than on the interpretation of divine signs.¹³⁰

As a result, what was traditionally interpreted by means of revelation became increasingly explained in terms of reason. In an article in the *Whitehall Evening Post* of 12 April 1750, it is argued that the space for the interpretation of divine revelation is progressively eroded by the ‘Naturalists’. With their ‘little Smattering of the Theory concerning the Motion and Gravitation of Bodies’, naturalists are fixated on ‘experiments in Natural Philosophy’. The only result they obtain, according to the author of the article, is a ‘little and imperfect Knowledge of the Works, and a much less one of the Author, of Nature’. They easily forget that it was God who ‘pleased

¹²⁸ William Whiston, *New Theory of the Earth* (London, 1696), p. 218f. On Whiston’s allegiance to Newton’s ideas and his complex religious outlook, see James E. Force, *William Whiston, Honest Newtonian* (Cambridge: Cambridge University Press, 1985).

¹²⁹ Buchdahl, *Newton*, pp. 9–10.

¹³⁰ Pemberton, *View*, pp. 24–25.

to impress' on the universe its structure, so that 'certain Effects regularly follow certain Motions and Properties of Matter, according to particular Laws'. By contrast, the naturalists claim that they 'can account for [the motions and properties of matter] from the Laws of Nature', and by doing so they, 'conscious of their immoral lives', 'deny the Operations of Providence' and 'shut God out of the World'.¹³¹ The overt reference made by the writer to Pope's satirical lines in the *Dunciad* – 'And Philosophy, which lean'd on Heav'n before, / Shrinks to her Second Cause, and is no more' – are employed to express, and contest, that the grounds had shifted and 'heaven' had become less important than 'second causes'.¹³² Pope is again cited by the anonymous author writing in the *Whitehall Evening Post*, this time with his famous lines in the *Essay on Man* on the destructive chaos in the universe ensuing from the Lucifer-like ambition of some people to climb higher in the ladder of knowledge. Pope's lines are used to offer an arresting depiction of a universe in which miraculous providence does not intervene to provide balance for the universe:

Let earth unbalanc'd from her orbit fly,
Planets and suns run lawless through the sky;
Let ruling angels from their spheres be hurl'd,
Being on being wreck'd, and world on world;

¹³¹ *Whitehall Evening Post or London Intelligencer*, April 12, 1750 – April 14, 1750; Issue 651.

¹³² Alexander Pope, *The Dunciad in Four Books* (London, 1743), vv. 644–645.

Heav'n's whole foundations to their centre nod,
 And nature tremble to the throne of God.¹³³

If the principle of God is withdrawn, the writer contends, ‘the Universe would again become a Chaos’. The ‘constant Regularity of Things we are convinced, this Principle, this universal Law of Nature, exists in all Places of this System, and at all Times’ are employed to advance the conclusion that, ‘therefore its Author, the God of Nature, is always, and every where’, and that the motion of Bodies ‘cannot otherwise happen while the present Laws of Nature obtain, without a Miracle’.¹³⁴ Clearly, however, that made by the *Whitehall Evening Post* is a speculative provocation. The use of Pope’s lines is counterfactual, for the laws of nature are in place and they guarantee the stability of the universe even without God’s intervention. Still, there was a deeply-rooted ambivalence on God’s active presence, as testified by Pope’s own proposed epitaph upon the death of Newton – ‘Nature and Nature’s Laws lay hid in Night / God said, *Let Newton be!* and All was *Light*’ – which highlights both that the universal principles of nature discovered by Newton prove the existence of a benevolent God interested in humankind *and* the possibility that in Newton’s model of the universe God was not an indispensable presence.¹³⁵ Read in one sense, Newton’s birth, and thus his discoveries, are divinely ordained (It is ‘God’ that says ‘Let Newton be’). Read in another sense, however, what gets discovered is not God and his creation but ‘Nature and Nature’s Laws’, almost as if divine

¹³³ Alexander Pope, *An Essay on Man*, ed. Tom Jones (Princeton: Princeton University Press, 2016), Epistle I, vv. 251–256.

¹³⁴ *Whitehall Evening Post or London Intelligencer*, April 12, 1750 – April 14, 1750; Issue 651.

¹³⁵ Pope, *Poetry*, p. 808.

intervention was limited to that single, exceptional spark and, afterwards, man would be left to deal with nature entirely on his own.¹³⁶

Regardless of whether commentators on Newton believed man to be equipped with reason, a new attention was given to the study of nature based on the idea that, being regular and universal, natural phenomena, and not the opinions of man, constitute the ultimate standard against which the validity of knowledge should be measured. This situation of heightened epistemic relevance of nature is dramatized by Edward Young in *A Night Address to the Deity* (1745). In Young's nightmarish vision, matter is portrayed as a self-sufficient entity that has qualities such as 'Thought', 'Judgment' and 'Genius' that traditionally had been the domain of humankind. In this extreme picture, God is not involved in revising the mechanisms of the universe because matter has its own free will and decides for itself. The result is a dramatic shift of attention from man to nature. Each 'sage Atom' mockingly reveals to the poet that a lump of earth is by far more important than a human being:

Has Matter *more* than Motion? Has it Thought,
 Judgment, and Genius? Is it deeply learn'd
 In *Mathematics*? Has it fram'd *such* Laws,
 Which, but to *guess*, a NEWTON made immortal?—
 If so, how each *sage* Atom laughs at *me*,
 Who think a *Clod* inferior to a *Man*?

¹³⁶ The latter view is foreshadowed in Gascoigne, 'Rise and Fall', p. 229. For a view that emphasises Pope's adherence to a Newton-inspired natural theology, see Claude Willan, 'The Proper Study of Mankind in Pope and Thomson', *ELH*, 84 (2017), 63–90.

If Art, to form; and Council, to conduct;

And That with greater far, than Human Skill;¹³⁷

Young conceptualises the heightened importance of nature to the absurd point that an atom may mock man for his inferiority in terms of importance in the universe. This satirical depiction serves to remind Young's readers that in the universe unfolded by Newton man would see a very limited role compared to nature. At the same time, according to Young, there is little hope of imitating Newton. As Young specifies with careful use of the adjectives, Newton is 'immortal', therefore different from everybody else.

I have argued in this chapter that, as Newton's ideas were received and processed by his commentators, knowledge based on personal authority became considered as unreliable compared to that produced by 'reason'. What was meant by this term was Newton's reason, the quality assigned to him by his commentators and which generated 'demonstrative knowledge', or knowledge almost as certain as that. Yet, as I have also claimed, there were strong objections to the claim that Newton's reason could be extended to everybody. Indeed, Newton was portrayed as an unparalleled genius who could not be emulated by anybody else. As a long-standing consequence, the relationship between man and nature underwent a change. With the mediation of God's miracles made ancillary, and with Newton's exemplary reason as the faculty that detects nature, man is faced with the question of whether his abilities are enough to make sense of a nature whose laws are universal and immutable.

¹³⁷ Edward Young, *The Consolation. Containing, Among Other Things, I. A Moral Survey of the Nocturnal Heavens. II. A Night-Address to the Deity* (London, 1745), p. 74.

This process is transformative for eighteenth-century writers, because it gives the problem of how man enquires into nature an unprecedented relevance. Diffused by the commentaries on Newton, the confidence in the certainty achieved by Newton circulated through a climate of opinion, becoming detached from Newton's name. As such, this confidence was adopted, contested or dramatized in many eighteenth-century texts. In the next four chapters, I proceed to examine different authors who were highly receptive of the epistemological questions discussed in this chapter. For none of them will it be argued that their receptivity derives from a direct reading of Newton or the commentaries on Newton. All of them, however, will be shown to have been highly responsive to the ideas diffused by the commentaries on Newton that have been discussed in this chapter. The legacy of Newton that is explored in the next chapters consists of the problematized textual manifestations of the confidence in determining natural and moral phenomena with a degree of assuredness that was claimed to be close to demonstrative certainty. To this exploration this thesis now turns.

Chapter 2

‘Impossible to Describe’.

Defoe and the Exceptionality of Nature

1. ‘The Eye to the Object’: Knowledge as Visualization in *The Consolidator*

Defoe has a reputation as one of the most attentive commentators on the impact of science in the eighteenth century. It has become somewhat of a commonplace of criticism that his activity as a novelist was influenced by the rise of empiricism.¹³⁸

The origins for this assessment link back to Ian Watt’s argument in *The Rise of the Novel* that Defoe, and early British novelists after him, were influenced by the emphasis that the empiricists – which Watt understands as a rather inclusive category consisting of thinkers as different as Bacon, Thomas Hobbes and John Locke – put on knowledge produced through first-hand experience, in contrast with knowledge based on someone else’s reports.¹³⁹ The ample use of the category of empiricism, as well as some generality in the argument that novels partake of the early-modern scientific method that sought to assign primacy to direct experience, are still evident in criticism.¹⁴⁰

¹³⁸ Jonathan Kramnick, ‘Empiricism, Cognitive Science, and the Novel’, *The Eighteenth Century*, 48 (2007), 263–285 (p. 263).

¹³⁹ Ian Watt, *The Rise of the Novel: Studies in Defoe, Richardson and Fielding* (Berkeley: University of California Press, 1957), p. 61.

¹⁴⁰ The tendency of literary studies to vaguely refer to the category of empiricism as a conflation of scientific advancements and philosophical investigation is still current today. In a recent contribution, for instance, Roger Maioli argues that empiricism informs ‘in substantial ways’ the epistemological conceptions of Defoe, Richardson and Fielding. Specifically, Maioli identifies John Locke (to be later followed by David Hume) as the direct continuator of ‘the early modern quest for an empirical science of human nature’. In Roger

This chapter will offer a fresh perspective on Defoe, arguing that *The Storm* (1704), *The Consolidator* (1705) and *A Journal of the Plague Year* (1721) display Defoe's elaboration of the confidence that man's knowledge could be made with the same certainty boasted by Newton. While probably unacquainted directly with the *Principia* and *Opticks* or even with the body of commentaries on Newton, in his texts Defoe criticizes concepts like 'demonstration' to take a position on how much can be known by man. The texts examined in this chapter enact the anxiety that the workings of nature, particularly in the case of destructive events such as the Great Plague of 1665 and the Great Storm of 1703, could not be understood by man.¹⁴¹

Making this argument requires, firstly, to debunk the assumption that the only science that was influential for Defoe as a prose writer was that of the early Royal Society in the 1660s. There is not a great deal of evidence that Defoe read works of the early Royal Society members but, thanks to Ilse Vickers, it is now known that during his formative years at the Newington Green Academy (an academy for dissenters) Defoe studied the *Compendium Physicae* by Charles Morton, one of the founders of the Royal Society. This textbook offered an overview of scientific research up to 1679, so it is reasonable to suppose that Defoe had more than cursory

Maioli, 'Empiricism and Henry Fielding's Theory of Fiction', *Eighteenth-Century Fiction*, 27:2 (2014), 201–228 (pp. 202, 204). On empiricism and, more specifically, the scientific method as a constructed mythology, see Fores, 'Constructed Science', p. 220.

¹⁴¹ According to Maximillian E. Novak, by the mid-1720s, Defoe 'had amplified his religious ideas with concepts drawn from the philosophy of Locke and the science of Newton, particularly from Newton's notion of God as the ruler of infinite space'. Indeed, Novak suggests that when Defoe in *A New Family Instructor* eulogises 'the great Author of Nature' as the one 'who has made all these glorious Bodies, and directs all their Motions', one cannot but think of Newton. In Maximillian E. Novak, *Daniel Defoe Master of Fiction: His Life and Works* (Oxford: Oxford University Press, 2011), p. 659.

knowledge of the work of Boyle, Hooke, and the other practitioners.¹⁴² However, it should also be remembered that scientific practice was not well regarded in society at the time, to the point that it could become outright risible. The obvious example is the success of Shadwell's *The Virtuoso* (1676), a play that made fun of experimenters like Hooke for their fixation on natural collections of doubtful use for society. But the irony was hardly limited to Hooke, who, not being a gentleman by birth, was an easy target. Robert Boyle, the self-styled Christian Virtuoso, was likewise accused of endeavouring in experiments, such as that of the air pump, that were useless for the rest of society.¹⁴³ That the practitioners of the early Royal Society were relatively easy targets for satire suggests that, because of the perceived uselessness of their discoveries, post-Restoration science enjoyed little social prestige.

Comparing this period with the early 1690s shows that Newton's advent had brought about a marked change in the public perception of science in England, as testified by praise heaped on Newton upon the publication of the *Principia*. The difference compared to early Royal Society practitioners is perhaps due to what

¹⁴² This is not to say that the ideas of Lord Bacon and his epigones were not an influence in Defoe's writing. Ilse Vickers convincingly links Defoe's (mostly non-fictional) works to those of the 'New Scientists' as a recognisable intellectual movement that, building on Bacon's ideas, resulted in the foundation of the Royal Society for Improving Natural Knowledge in 1662. In Ilse Vickers, *Defoe and the New Sciences* (Cambridge: Cambridge University Press, 1996), p. 39. On the fortunes of Morton's *Compendium Physicae*, see I. Bernard Cohen, 'The *Compendium Physicae* of Charles Morton (1627-1698)', *Isis*, 33 (1942), 657-671.

¹⁴³ On the satire against early Royal Society practitioners, see also the analysis of Samuel Butler's satire on the early Royal Society in Michael McKeon, *The Origins of the English Novel, 1600-1740* (Baltimore: Johns Hopkins University Press, 1987), p. 73; and Al Coppola, *The Theater of Experiment: Staging Natural Philosophy in Eighteenth-Century Britain* (Oxford: Oxford University Press, 2016), p. 43.

Mordechai Feingold calls the ‘propaganda campaign’ in favour of Newton, which portrayed him as a person devoted to the improvement of the public good.¹⁴⁴ Edmund Halley had taken great care to promote the image of Newton as a patron of the public. As his *Ode to Isaac Newton* annexed to the first preface of the *Principia* went, Newton was like Phoebus, beloved by the muses because he had ‘unlocked the hidden treasuries of Truth’.¹⁴⁵ These are the origins of Voltaire’s assessment, in 1733, that Newton was in England as important as a semi-god, ‘the Hercules of a fabulous story’ to whom ‘all the feats of the ancient heroes’ were ascribed.¹⁴⁶ The reason for this, as Voltaire himself observes in his later popularisation of Newton’s philosophy, was that Newton had been increasingly perceived as the one who had made the ‘Knowledge of Nature’ available to the many. By 1738, the time Voltaire writes his philosophical letters, knowledge of nature was believed to have left the arcane repositories of the early Royal Society to turn into collective property of the public sphere. Natural knowledge was believed to have become ‘a Good, to which all Men have an equal Right: all are for knowing their Good, which few have Time or Patience to calculate’.¹⁴⁷ Newton was depicted as the hero who had gifted mankind with the knowledge of nature by solving the difficult calculations and thus making the gist of nature available in all its simplicity for the public good.

In 1705, the same year as George Cheyne’s *Philosophical Principles of Natural Religion*, one of the texts that boasted to have followed Newton in abandoning ‘authority’ in favour of ‘demonstration’, Daniel Defoe published *The*

¹⁴⁴ Feingold, *Newtonian Moment*, pp. 30–31.

¹⁴⁵ In Newton, *Principia*, p. 201.

¹⁴⁶ Voltaire, *Letters*, p. 96.

¹⁴⁷ Voltaire, *The Elements of Sir Isaac Newton’s Philosophy*, p. 3.

Consolidator, whose subtitle reads *Memoirs of Sundry Transactions from the World in the Moon. Translated out of the Lunar Language, by the Author of The True Born English-Man*. This text tells the story of a voyage to China which is then followed by a long sojourn on the moon. Following an established tradition, Defoe uses a narrative displacement to offer a satirical portrayal of the English culture.¹⁴⁸ In this sense, *The Consolidator* is rightly understood as an allegory of political events which had occurred in the previous forty-five years, with specific reference to the political questions of the day of high import for Defoe (most importantly, a bill against the Dissenters promoted by the High Church).¹⁴⁹

The quips directed at politicians are clear – for instance, the number of feathers that allow the strange machine called ‘The Consolidator’ to fly is 513, which equals the number of members of Parliament in 1705 – but this bit of political satire is delivered through an insistence on mathematical precision that is revealing of Defoe’s concerns with epistemology. To be sure, references to knowledge produced through measurement could well apply to all philosophers within the late-seventeenth-century experimental tradition. Research has shown that Defoe had more than cursory knowledge of the works of early Royal Society practitioners such as Samuel Hartlib, William Petty, Robert Hooke and, particularly, Robert Boyle.¹⁵⁰ As discussed later in the chapter, Defoe’s references to what air consists of and broader

¹⁴⁸ John Ross, *Swift and Defoe: A Study in Relationship* (Folcroft: Folcroft Press, 1940), pp. 37–38.

¹⁴⁹ Narelle L. Shaw, ‘Ancients and Moderns in Defoe’s *Consolidator*’, *Studies in English Literature 1500-1900*, 28 (1988), 391–400 (p. 391).

¹⁵⁰ Vickers, *Defoe and the New Sciences*, pp. 18–31.

discussions about the Christian approach to the study of nature are no doubt made with Boyle's experimental philosophy in mind.

Still, what Defoe primarily raises at the very beginning of the voyage to the moon in *The Consolidator* is the problem of what the epistemic status of knowledge produced experimentally is. Experimental philosophers did not typically claim a demonstrative degree of certainty for their studies, rather privileging a softer approach that allowed for competing views to stand without enforcing their own hypotheses. But, in a virtual response to the language of demonstration Newton employed from 'New Theory' onwards in contrast with early Royal Society practitioners, Defoe charges *The Consolidator* with references to how correct measurements result in the certainty of mathematical demonstration.¹⁵¹ As part of a set of lunar engines 'squar'd by Lines and Rules', the *Consolidator* is composed by feathers all 'of a length and breadth exactly, whose accurate measurements, the narrator explains, are absolutely necessary to the *floating Figure*'.¹⁵² The use of mathematics to emphasise the exactness in the construction of the *Consolidator* prepares the terrain for Defoe's extensive use of the word 'demonstration' throughout the text. An early example is in the description of what he calls 'the Doctrines of Passive Obedience' to a monarch (that is, acknowledging the divine right of a king

¹⁵¹ As Newton wrote in 'New Theory', his analysis and the conclusions drawn from it admits 'of no Objections against the Conclusions, but such as are taken from Experiments, or other certain Truths. For Hypotheses are not to be regarded in experimental Philosophy. [...] And if no Exception occur from Phaenomena, the Conclusion may be pronounced generally', Newton, *Opticks*, p. 404. Such an assertive word choice was not approved of by practitioners like Hooke and Oldenburg, as explained by Bechler, 'Newton's 1672 Optical Controversies', pp. 116–117.

¹⁵² Daniel Defoe, *The Consolidator: or Memoirs of Sundry Transactions from the World in the Moon* (London, 1705), pp. 9, 37, 53–54.

or queen) does not admit ‘of any rational Defence; much less of Demonstration’, and in this respect it is compared to

the Copernican System of the Earths Motion among Philosophers; which, though it be contrary to all antient Knowledge, and not capable of Demonstration, yet is adher-d [*sic*] to in general, because by this they can better solve, and give a more rational Account of several dark Phaenomena in Nature, than they could before. (p. 14)

In this passage, which encapsulates the preoccupations that are at work in the whole text, ‘demonstration’ is used as a keyword to develop the problem of what the standard of knowledge required in spheres other than natural philosophy is. Defoe suggests that the question of whether a sovereign is invested with the divine right to govern is subject to the ‘rational’ benchmark of ‘demonstration’. Nature is expanded to a wider meaning, including not only physical phenomena but also questions pertaining to the society of man. Every ‘dark [Phaenomenon]’, be it the trajectory of a comet or the divine right of a sovereign, should be explained with a ‘more rational Account’.

With his oblique references to the set of words employed by the commentators on Newton, Defoe’s *The Consolidator* raises vital questions about the epistemology of man – that is, how man knows nature and himself.¹⁵³ The demonstrative standard to knowledge finds its embodiment in the famous philosopher from the moon, met by the narrator during his time in China. His description as a semi-divine creature who revealed the secrets of nature and

¹⁵³ Francis Wilson, ‘The Dark Side of Utopia: Misanthropy and the Chinese Prelude to Defoe’s Lunar Journey’, *Comparative Critical Studies*, 4 (2007), 193–207 (p. 193).

‘furnish[ed] us with such unheard-of Demonstrations’ (p. 26) is uncannily resonant of contemporary depictions of Newton, such as that in Halley’s *Ode on This Splendid Ornament of Our Time and Our Nation*, written to accompany the first edition of the *Principia* published in 1687, and discussed above. The philosopher

was no Native of this World, but was Born in the *Moon*, and coming hither to make Discoveries, by a strange Invention arrived to by the *Virtuoso* of that habitable World, the Emperor of *China* prevailed with him to stay and improve his Subjects [...]. There was abundance of vast Classes full of the Works of this wonderful Philosopher: He gave the *how*, the *modus* of all the secret Operations of Nature. (p. 17)

Pushed by his curiosity for the extraordinary philosopher, the author visits the moon on board the *Consolidator* itself, in a voyage that is described with a jargon rich in geometrical terms and references to gravity and forces (p. 55). Readers would expect a lunar world entirely different from theirs, but it is soon revealed that the moon is very much the same world as the earth – indeed, the same as England. ‘I shall not enter into the Customs, Geography, or History of the Place’, the narrator explains, because there was ‘no manner of Difference in any thing Natural’. The inhabitants of this planet, likewise, are exactly the same – ‘*Men, Women, Beasts, Birds, Fishes, and Insects*, of the same individual Species as Ours’ – and even their behaviour is the same. The ‘*Men* no wiser, better, nor bigger than here; the *Women* no handsomer or honester than Ours: There were Knaves and honest Men, honest Women and Whores of all Sorts, Countries, Nations and Kindreds, as on this side the Skies’. The reader learns that the lunar world is peopled as if it was in ‘the same Continent, but in a remote Climate’ (pp. 55–56).

Everything in the moon seems to point to a land identical to England. Evidently, this is not a trip to discover new customs, for they are the same as those of the English readers. Defoe's occasional slips betray the equivalence between terrestrial and lunar inhabitants: the relative position of the moon with respect to the solar system is referred to as that of the earth (rather than that of the moon, as it should be in the narrative setting). But the point is also that, if satire were Defoe's only goal, there would be no need for the double satirical displacement of both China and the moon. The voyage described in *The Consolidator* is one 'in the search of Knowledge and Truth' into a place where 'wiser Men than I have taken as unwarrantable Flights, and gone a great deal higher than the *Moon*, into a strange Abbyss of dark *Phaenomena*, which they neither could make other People understand, nor ever rightly understood themselves' (p. 33).

The insistence on the difficulty of shedding light on the 'dark Phaenomena' of nature suggests that the lunar journey is something of a trope for the desire of demonstrative knowledge entertained by Defoe's contemporaries. One year after the publication of Newton's *Opticks* in 1704, Defoe toys with the idea that a generational change is underway in the way knowledge is produced in the lunar society and, by parallel, in England. '[A]mong the Generality of *our* People' (italics mine) who are not much interested in divine 'Revelation', a new generation have risen who, 'to solve the Difficulties of Supernatural Systems, imagine *a mighty vast Something*' that 'has no Form' and is nevertheless there. It is possible that with this 'mighty vast something' that keeps the entire universe together Defoe refers to the universal force of gravity, whose existence Newton claimed was indubitable, notwithstanding its being invisible and thus having no form. Regardless of whether this is really the case, Defoe focuses on the habit of this 'new generation' of thinkers who treat obscure

phenomena as if they could be easily demonstrated. Reverberating the *hypotheses non fingo* – the expression used by Newton and his commentators to condemn the use of imagination to produce explanations that cannot be verified – Defoe charges the members of this new generation of ‘imagining’ things and imposing them as true even if they are unverifiable. The suspicion that Defoe refers to the climate of opinion developed by the commentators on Newton becomes stronger if we consider that the lunar ‘naturalists’ of the lunar world conceptualize God as a ‘Great Eye’, an ‘infinite Optick they imagine to be *Natura Naturans*, or Power-forming’ (p. 57).

Why is nature conceived of with a visual metaphor? This question must be addressed by considering that the main occupation in the lunar world is the grinding of lenses that improve eye-sight to the point of perfection. By the help of these Glasses, ‘strange things, which pass in our World for Non-Entitites, are to be seen, and very Perceptible’, as for example something as invisible as ‘state polity’. The lenses are designed to make plain the phenomena they observe even if they are so invisible that ‘in our World’ they do not exist. With these special glasses on, mysterious phenomena are made as non-controversial as the one considered by Newton.¹⁵⁴ With the same degree of assuredness that Newton claimed for his discoveries, the inhabitants of the moon can solve ‘all the vast Contradictions’ of state policy, making them ‘Rational, reconciled to Practice, and brought down to Demonstration’ (pp. 79–82) once they put their glasses on. Technological art in the lunar world, the narrator explains, has exceeded nature ‘and the Power of Vision was assisted to that prodigious Degree, as even to distinguish Non-Entity it self’ (p. 86), making it rational, conformed to experiment and verified by demonstration.

¹⁵⁴ Achinstein, ‘Newton’s Corpuscular Query’, p. 138.

The perfect artificial sight of the glasses crafted in the moon is Defoe's totalizing trope that stands for a rationality that reaches demonstrative knowledge even in the case of invisible phenomena and, crucially, in spheres other than natural philosophy (for example, the aforementioned 'State polity'). The artificial sight of the glasses does not simply improve human eyesight to interpret appearances correctly, but acts as a direct, unmediated apprehension of the knowledge of nature. In fact, these are two different comprehension processes. The former is interpretative and consists of bridging the gap between what is perceived on the surface (what was also called a secondary quality) and the hidden substance (or primary quality), discounting possible aberrations due to the imprecision of both human eyesight and the instruments of observation. These are two epistemological modes that in *The Consolidator* are respectively called 'the *Hieroglyphical, and Emblematical*' and 'the Demonstrative' (p. 91). The former is the one adopted by the narrator himself, who, he reports, 'had read a *certain Book* in our own Country, called, *Nature*', which concluded always with the injunction to 'look up' to God (p. 91). The demonstrative mode is the one used by the mythological lunar philosopher met in China and, following his footsteps, by all lunar inhabitants. The demonstrative mode works through a visualization that results in immediate (in the sense of both instantaneous and not mediated) apprehension of what is seen. Building an analogy with the belief that it was impossible to emulate Newton's reason, the lunar inhabitants bridge the gap in knowledge by putting 'Explicatory Optick-Glasses' on. In this way, 'the Nature and Consequences of Secret Mysteries' are 'seen' and, thus, 'plainly prov'd' (pp. 87–88). The lunar inhabitants visualize natural phenomena instantly, and as they do so they understand them. As interpretation is mistrusted as an inferior form of knowledge-making, textual authorities are in scarce demand. For this reason, the

inhabitants of the lunar world ‘do not so abound in Books’ (p. 72), as these provide additional layers of interpretations that interfere with the unadulterated apprehension of nature.

Through technological modification, the inhabitants of the moon all become like Newton, in that they are able to apprehend natural phenomena and immediately understand them. This process of self-evidence through visualization is emphasised by the narrator, who insists that, in the lunar world, one must ‘resolve all Beings to Eyes’. Seeing clearly is the only ability that counts, and everything that impedes a clear visualization of nature, like the hypotheses of Newton’s motto, must be discarded because of their being a product of the imagination. ‘Accidents [...] from within’, such as ‘*wandering Errors, wild Notions, cloudy Understandings, and empty Fancies*’, are likened to physical disturbances like ‘Vapours, Clouds, liquid Air, Exhalations’, all of which ‘darken’ and ‘prevent’ the operation of the glasses (p. 57). The physical act of putting on the lunar glasses is a technological modification of the human body. With the glasses on, the faculty of imagination is shut off. Eventually, choosing to see is the only action that the inhabitants of the moon can perform. ‘[A]s soon as they have made use of these Artificial Eyes, all they can do is but to clear the Sight’ (pp. 57–58). Their full knowledge-making potential is attained once they let themselves be entirely guided by their prosthetic eye, reaching a point where the observer is perfectly identified with the object of observation; or, as Defoe puts it, ‘the Eye’ is instantaneously brought ‘to the Object’ (p. 72).

Although Defoe seems to be delivering these arguments in a satirical way, it should be noted that the narrator of *The Consolidator* is not immune to the desire of artificially improving his sight by making use of the glasses. Since in the lunar world this ‘sort of *Eye-sight* we call *General Knowledge*’ is easily attainable, the narrator

longs to undertake the ‘earnest search after this thing call’d *Demonstration* [that] fill’d me with Desires of seeing every thing’ (pp. 59–61). In *The Consolidator*, the satire on demonstrative knowledge-making is complemented by the desire of being as penetrating as Newton – that is, to be as rationally able to produce knowledge that upholds the standard of demonstration as Newton was believed to be. The world of the moon, therefore, works not simply as satire but also as utopia. It is a fictional world that stages the utopia of the perfect knowability of all the mysteries of nature, included those that are invisible.

The question that lies as the foundation of this reading of *The Consolidator* as utopia is that of how the inhabitants of ‘our World’ compare to their lunar counterparts. According to Sara Landreth, Defoe in *The Consolidator* attacks the ‘absurd and hubristic’ position that ‘human agency could achieve a divine vision through pneumatic experiments or mechanical engines’, finally contending that ‘[t]rue visions are not subject to, nor caused by, philosophical demonstration’.¹⁵⁵ *The Consolidator*, however, is more ambivalent than Landreth contends. The lunar world is constructed as an imaginary setting in which the reader finds no clear signposting as to whether a final message needs to be taken home. Indeed, satire and utopia are almost indistinguishable: the desire of the inhabitants of the moon for a perfect sight that guarantees a total knowability of natural phenomena extends to the narrator and, arguably, to the reader who must have been familiar with the description of Newton as the model of penetration into the secrets of nature, and with the pervasiveness of

¹⁵⁵ Sara Landreth, ‘Defoe on Spiritual Communication, Action at a Distance, and the Mind in Motion’ in *Mind, Body, Motion, Matter: Eighteenth-Century British and French Literary Perspectives*, eds Mary Helen McMurrin and Alison Conway (Toronto: University of Toronto Press, 2016), pp. 139–169 (p. 144).

this model as one that needed to be imitated by everybody. Much like Newton, the inhabitants of the lunar world claim that nothing is unknowable in principle. If something is visible, it can be known, and ‘as to things Invisible, they reckon nothing so’ (p. 58). If the only difference is taken to be in the different degrees of technological advancement, which is higher in the world of the moon compared to that of Defoe’s readers, it could be entailed that, once adequate instruments are crafted to enhance the eyesight to the point of perfection, it will also be possible for the reader to see like Newton. All ‘*received Truths*’, Defoe claims with overt, yet ambiguous use of a set of keywords employed in the commentaries on Newton, ‘no doubt would be so every where else, if the Eyes of Reason were open’d to the Testimony of Nature’ (p. 89). Doing so would enable a perfect mathematical knowledge unhindered by human errors not only of nature, but of something as elusive as the human soul:

As the Being, Nature, and Scituation [sic] of humane Soul is thus Spherically and Mathematically discover’d, I could not find any Second Thoughts about it in all their Books, whether of their own Composition or by Translation; for it was a General received Notion, That there could not be a great Absurdity in humane Knowledge, than to imploy the Thoughts in Questioning, what is as plainly known by its Consequences, as if seen with the Eye (p. 94)

As it is often the case with his texts, Defoe never clarifies where fiction ends and fact begins.¹⁵⁶ Adopting an ambivalent stance between satire and utopia, Defoe does not commit to a fixed answer to the question of whether the equation between clear

¹⁵⁶ Alan McKinlay, ‘Foucault, Plague, Defoe’, *Culture and Organization*, 15:2 (2009), 167–184 (p. 172).

visualization and demonstrative knowledge of nature could extend to his readers. The structure of the para-text of *The Consolidator*, however, suggests a positive view. In the title page Defoe presents himself not as an author but as the translator from the lunar language, playing with what John Bender calls the ‘conventions of transparency, completeness, and representational reliability’.¹⁵⁷ Such para-textual strategies are designed to lure readers into believing that what they find in the book are authentic materials, and are part of a more general tendency of eighteenth-century prose texts to present themselves as a faithful accounts of human experience. As he endorses this position, Defoe problematizes it by placing his human narrator in a lunar world where everybody but him is able to produce certain knowledge effortlessly. If the reader is to identify with someone in the displaced landscape of the moon, this can only be the narrator, a human subject who is alienated by his inability to achieve the standard of knowledge that the lunar people can easily attain, but is also attracted by the possibility of achieving such standard.¹⁵⁸

The ambivalence is put under control by giving the reader the benefit of distance, producing different messages. Sight, the metaphor through which Defoe encodes demonstrative knowledge, can be used to interpret *The Consolidator* as the symbol of the quest for demonstrative knowledge. The lenses improve human eyesight to the point of perfection, enabling a clear visualization of natural phenomena that represents the achievement of reason in the sense that was attributed to Newton by his commentators. On a second level, the lens is the text itself, which the reader can look through, as if by using a telescope, to explore the moon and its Newton-like

¹⁵⁷ John Bender, *Imagining the Penitentiary: Fiction and the Architecture of Mind in Eighteenth-Century England* (Chicago: Chicago University Press, 1989), p. 72.

¹⁵⁸ In Bender, *Imagining the Penitentiary*, p. 72.

inhabitants. In this case, the moon is a distant place outside of the reach of man's potentialities – a narrative world that, while identical to that of the readers, is nevertheless a fictional abstraction, a thought experiment in which the structural tendency of man to advance hypothetical explanations is ignored to favour the attainment of Newton's penetrative reason.

The next sections explore the transposition from the abstract, fictional lunar world to empirical settings where people tried to make sense of natural catastrophes whose workings are invisible and, thus, difficult to explain, if not altogether impossible. In *The Storm* and *A Journal of the Plague Year*, Defoe re-enacts the 1703 Great Storm and the 1665 Great Plague, playing with shifting historical distances to examine the extent to which an empirical subject could bring its understanding of nature nearer to the demonstrative standard set by Newton.

2. The 'Storm Literature' and the Challenge to the Providential View

In *The Consolidator*, one of the most useful inventions that are said to have arrived in China from the moon are the 'Glasses of Hogs Eyes'. With these glasses on, one can 'see the Wind' and, through 'calculations', understand when the next storm will hit, along with its length, power, and extension. With these special glasses on, an observer can provide

Accounts both of [the wind's] regular and irregular Motions, its Compositions and Quantities; from whence, by a sort of Algebra, they can cast up its Duration, Violence, and Extent: In these Calculations, some say, those Authors have been so exact, that they can, as our Philosophers say of Comets,

state their Revolutions, and tell us how many Storms there shall happen to any Period of time, and when; and perhaps this may be with much about the same Truth. (pp. 15–16)

The reference to Boyle's enquiries on the nature of air is here evident. Building on his famous experiments with the air-pump conducted with the assistance of Hooke, Boyle sought to explore the nature of all air-related phenomena (such as winds, to which the entire chapter 15 is devoted) in *The General History of Air* (1692). Published thanks to Locke's supervision just after his death, Boyle's *General History of Air* is an attempt at compiling 'a Natural History of the Air' by interspersing his own 'loose Observations' Boyle made 'about some *Phaenomena* and *Qualities*, and especially the *Changes* in the Air' with those of 'Travellers and Navigators', as well as fellow virtuosi.¹⁵⁹

However, Boyle makes clear that his approach to the study of air does not aim at being methodical. While interested in making observations about the '*Causes and Effects*' of air-related phenomena, these are not systematised, since Boyle chooses not to 'methodize [his] incoherent Notes'. Accordingly, the chapter on the winds is made up of testimonies recording the impact of various tempests, with no attempts at offering generalisations about the nature of the wind.¹⁶⁰ Defoe's comparison with the detection of the comets, by contrast, suggests an approach to the study of winds that

¹⁵⁹ Robert Boyle, *The Works of Robert Boyle*, 14 vols, eds Michael Hunter and Edward B. Davis (London: Pickering and Chatto, 2000), XII, 70–71. On the experiments with the air pump, see Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Princeton: Princeton University Press, 1985), especially chapter 2.

¹⁶⁰ Boyle, *Works*, XII, 70.

is scientifically more methodical. The reference to comets is something of a quip directed at those philosophers who, like Halley with the 1682, would attempt to determine the course of the comets as a proof of the validity of universal gravitation. Comets were the archetype of Newton's natural phenomena: regular in their appearance, their return could be predicted with calculations based on the observations of their positions done with a telescope. In Defoe's tongue-in-cheek comparison, storms are as easily discernible as comets. It is sufficient to put the special pair of glasses on and the winds can be visualized and transposed into the objective numeric expression of 'regular and irregular motions'. From there, 'by a sort of Algebra', it becomes easy to make 'exact' calculations of when a storm would be formed.

That Defoe comes up with this idea is intriguing because of both the impossibility of technologically conceiving such an instrument and its relevance to the public debate of those years. Storms are evoked as a reference to The Great Storm of November 1703, an event powerful enough for Queen Anne to declare it 'a Calamity so Dreadful and Astonishing, that the like hath not been seen or Felt, in the Memory of any Person Living in this Our Kingdom'.¹⁶¹ Commentaries on the tempest, which killed some one hundred and twenty people on land and about eight thousand at sea, proved extensive, with no less than twenty-five publications published in 1704 only. The vast majority of this 'storm literature' was made up of sermons that interpreted the tempest as a sign of divine retribution.¹⁶² These

¹⁶¹ Richard Hamblyn, 'Introduction', in Daniel Defoe, *The Storm*, ed. Richard Hamblyn (London: Penguin, 2005), pp. x- xlv (p. x).

¹⁶² A flavour of these publications can be gained from a look at the titles of the sermons: *Ellias, or, The Trumpet Sounding to Judgement. From the Mount of God. In a Discourse upon the Late Dreadful Storm. Shewing the True Cause of it; The Voice of God, in Stormy*

publications homogeneously claimed that the storm was the manifestation of divine punishment for a country that was felt to be increasingly corrupted – so much so that several of these writers advocated the need for a national day of fasting to placate the wrath of God.

Understanding natural catastrophes as an expression of God's anger was not uncommon. This way of interpretation partook in a wider tendency to understand nature as a manifestation of the divine will. However, the Great Storm came at a particular juncture in time. Religious attitudes were rapidly changing to the point that it was not taken for granted anymore that behind any relevant event there was a message from God. As J. P. Hunter puts it,

[a]fter the deistic challenge of the nineties (and the intellectual climate which produced it), one dared not assume too easily a God who maintained an active interest in his individual creatures and who oversaw their daily activities. Advocates of 'natural', as distinguished from 'revealed', religion had put theologians on the defensive regarding God's role in human history, a role about which an earlier generation could assume agreement, and churchmen attempted to define the precise nature of God's intervention.¹⁶³

Winds. Considered, in Two Sermons, Occasioned by the Dreadful and Unparallel'd Storm, in the European Nations; A discourse occasion'd by the late dreadful storm, and accommodated to the design of the publick fast, January 19, 1703/4; A sermon preach'd in the Cathedral-Church of Norwich, on January 19th. Being the day appointed for a publick fast For the imploring of a Blessing from Almighty God; A warning from the winds. A sermon preach'd upon Wednesday, January XIX. 1703/4. being the day of publick humiliation, for the late terrible, and Awaking Storm of Wind, Sent in Great Rebuke upon this Kingdom.

¹⁶³ J. Paul Hunter, *The Reluctant Pilgrim: Defoe's Emblematic Method and Quest for Form in Robinson Crusoe* (Baltimore: Johns Hopkins University Press, 1966), p. 51.

Writing in 1966, Hunter does not make explicit mention of Newton, but the wave of studies on Newton and the ‘Newtonians’ initiated by Margaret Jacob in 1975 reconstructed that the shift Hunter refers to is a function of the relevance assumed by early commentators, who used Newton’s ideas as the foundation of their argument for natural religion. The debate of the time centred on the emergence of natural religion and its constituting a challenge to the traditionally-held view of religion as revelation. If revealed religion was based on the idea that God revealed itself through the Bible, natural religion advanced, as a complementary view, the so-called argument by design, the contention that the design of the world as a perfect system based on the laws discovered by Newton concretizes God’s purposes.¹⁶⁴ The main proponents of this view were the handful of ‘Newtonians’ who delivered the Boyle Lectures in the 1690s and early 1700s.¹⁶⁵ The analogy typically employed by divines like Bentley, Clarke and Whiston was that the universe was a clockwork based on immutable, and perfect, geometrical principles. God was the master clockmaker who had devised it.

The conjunction of a predetermined and mathematically exact order of nature with God’s absolute powerfulness resulted in a divergence of interpretations on whether divine providence intervened in human affairs. Early Newtonians like Clarke argued that nature’s set of perfect, immutable laws had demonstrated beyond all doubt the perfection of God. This view, as discussed in Chapter 1, raised the uneasy question of whether God had any active role in the particular episodes in the life of a person. More specifically, the issue was whether the prayers of the righteous were

¹⁶⁴ David Fairer, *English Poetry of the Eighteenth Century 1700-1789* (London and New York: Longman, 2003), p. 130.

¹⁶⁵ Jacob, *Newtonians*, p. 73.

responded to or if God had simply designed the universe and then ‘stayed put’, letting nature unfold following its perfect universal laws. To avoid the latter proposition, Newtonians would argue that, on top of devising the laws of nature, God still retained the power to exercise miracles at any time it wished. Gravity was the prime example of it. As there is no evidence of mechanical action between bodies at a distance, it must be the case that God continuously intervenes with miraculous interventions that make gravity work. Newtonians in this way linked back their view of nature to orthodox theists to agree, as Hunter puts it, on the belief that ‘God was not an absentee landlord, as some charged, but the incumbent governor of the universe who in his benevolence specifically intervened for his subjects’.¹⁶⁶

Notwithstanding this effort, the balance between a nature governed by mathematically necessary laws and a miraculous providence that could suspend them at will remained unstable. Leibniz clearly identified the problem in the famous correspondence with Samuel Clarke, pointing out that the God of the Newtonians made for a rather bad clockmaker if it had to constantly ‘wind up his watch from time to time’ with miracles, lest the whole universe would stop moving. The God implicit in Newton’s system of the universe

had not, it seems, sufficient foresight to make [the universe] a perpetual motion. Nay, the machine of God’s making, is so imperfect, according to these gentlemen; that he is obliged to clean it now and then by an

¹⁶⁶ Hunter, *Reluctant Pilgrim*, pp. 51–52.

extraordinary concourse, and even to mend it, as a clockmaker mends his work.¹⁶⁷

It must be self-defeating, Leibniz argues, to suggest that God is an imperfect architect of the universe that needs to amend its laws of nature all the time. By logical inference, God's very role in history is not only greatly diminished but threatened altogether. If God 'failed to exercise provident dominion in a world where good and evil still battled', Hunter puts it, 'he was far less significant than even the deists said: he was really no God at all'.¹⁶⁸

If the universe discovered by Newton does not require the active intervention of God, man is left alone in making sense of natural phenomena. This proposition is particularly dire in the case of extreme events such as the Great Storm and determines the stakes at play in Defoe's *The Storm*. The devastation the storm caused had proportions so ample and indiscriminate that it became difficult to find an explanation based solely on the workings of Providence. Was the tempest God's doing, and thus liable to the classic interpretation that it was a divine message to make man repent; or was it a natural phenomenon that, like anything else in Newton's universe, took place because of the way nature is structured, with no particular explanation attached to it? In the latter case, no difference is made between sinners and pious persons, as the storm must blindly strike without distinction of merit. So, while most sermons published in 1704 insisted on the traditional view that the storm had been a God-sent punishment for all manners of misbehaviour, in the aftermath to the Great Storm more perceptive authors like Defoe and Anne Finch wrote texts that entertained the

¹⁶⁷ In Albert Ribas, 'Leibniz' Discourse on the Natural Theology of the Chinese and the Leibniz-Clarke Controversy', *Philosophy East and West*, 53 (2003), 64–86 (p. 65).

¹⁶⁸ Hunter, *Reluctant Pilgrim*, p. 51.

possibility that the storm had to do with nature's mysterious workings rather than with God's messages. A comparison between the texts published by these two authors is useful to appreciate how the Great Storm was used to raise important questions about man's power to know nature, and where Defoe's *The Storm* is conceptually situated.

Completed some three months after the Great Storm but unpublished until 1713, Finch's 'A Pindarick Poem Upon the Hurricane' portrays the winds as controlled by the 'Righteous Will' of God. But the 'Great Disposer' is also implicitly described as unconcerned with the victims of the fury of the tempest – as Finch puts it in the very first lines, '[u]ndistinguish'd was your Prey'. As God cannot be charged with impiety, its connection with the storm is problematized, opening the possibility that there was no message in the natural disaster. This suspicion is addressed in the opening stanzas, in which Finch describes trees as anthropomorphized entities that, like humans, fight in vain for their life against the hurricane. The 'Beech' with its 'out-strech'd Arms'; the 'Oak', 'fearless of Decay, / Wait but the accomplish'd Time / Of his long-wish'd and useful Prime'; and the ambitious 'Pine' that 'thought his Fame shou'd ever last', are all felled.¹⁶⁹ Finch's choice to focus on trees builds on the implication that plants, unlike humans, cannot be said to have sinned. They are God's bountiful creations, so why are they being eradicated by the storm? If one accepts that the catastrophe was a divine expression of wrath, why should trees – and, indeed, the whole 'Mother Earth' along with them (l. 41) – be punished? Aren't these trees earth's 'beauteous Progeny' (l. 48), meant to display God's purposeful and perfect design? The question that Finch subtly poses by giving priority to the

¹⁶⁹ Anne Finch, 'Upon the Hurricane', in Anne Finch, *Miscellany Poems, on Several Occasions* (London, 1713), p. 62, ll. 13–15, 19–21, 23–25.

suffering of trees instead of man conceals the possibility that the storm is not God-sent but a blind natural phenomenon. This dilemma remains unsolved throughout the poem. Notwithstanding the ‘new Orders and Decrees, for our Chastisement issu’d forth’, Finch does not fail to remind the reader that winds like Zephyrus which had signalled the beginning of the tempest, had soon forgotten that they were ‘design’d [...] Only our Heats, when sultry, to allay’ (ll. 114–116).

Finch’s storm highlights the confusion that arises in all living beings when they entertain the idea that nature is purposeless. Disturbed by this idea, not even the ‘Holiest Man’ is able to perform the service (ll. 152–153). In *Upon the Hurricane*, Finch captures a landscape where the storm’s indiscriminate destruction has made nature illegible for man, to the point that doubts emerge about how divine providence works in God’s design. David Fairer acknowledges that Finch’s traditional ‘gestures toward reading the hurricane as a punishment for the nation’s bad faith are countered by a sense that her world has glimpsed an elemental chaos outside history’.¹⁷⁰ This should not be taken to imply that Finch, like Leibniz, suggests that in a model of nature based on Newton’s laws there is no need for the intervention of God. Rather, the point is that God’s designs are beyond the reach of human understanding, so any interpretation of nature must be bound to fail. According to Finch, the impossibility of making sense of the Great Storm derives from the misconception that, instead of blindly appealing to a whole-hearted devotion to ‘th’Omnipotent’, upon which ‘our Fate depends’ (l. 295), man could make sense of God’s messages. From this angle,

¹⁷⁰ David Fairer and Christine Gerrard, eds, *Eighteenth-Century Poetry: An Annotated Anthology* (Oxford: Wiley-Blackwell, 2014), p. 26.

Finch advocates a passive acceptance of God's powers because of their impenetrability.¹⁷¹

Defoe had made a similar point in two other occasional texts published just after the Great Storm. *The Lay-Man Sermon upon the Late Storm*, a short pamphlet published at the end of February 1704, is based on two complementary claims. Firstly, that:

The ways of God are unsearchable, the Methods of his Providence are secret and powerfull; his way is in the Whirlewind, and in the Storm, tis invisible and irresistible [*sic*], invisible as the Wind, and irresistible as the Storm.

And, secondly, that:

When the Creation is put into any Violent or Supernatural Agitation, God has always some Extraordinary thing to bring to pass, *he has a meaning in all the Remarkables of Nature*.¹⁷²

Like Finch, Defoe interprets exceptional events such as the Great Storm as instances of the 'remarkables of Nature', events that are suggestive of a divine message which, however, is 'unsearchable', 'secret' and 'invisible' for man. Defoe's insistence on the inability to understand nature as a system of second causes expressing the will of God is also the topic of the very first line of *The Storm, An Essay*, a poetic composition in rhyme of 345 lines, first advertised at mid-August 1704. It is significant that the speaker is a dead person who is told by unspecified entities

¹⁷¹ Fairer, *English Poetry*, p. 131. On Anne Finch's religious allegiances, see Deborah Kennedy, 'The Radiant Throne: Religion and The Poetry of Anne Finch, Countess of Winchilsea', *Women's Writing*, 18 (2011), 423–440.

¹⁷² Defoe, *The Storm*, p. 185.

‘among the Dead’ that ‘Heaven lately spoke’ with a storm whose ‘every Blast [...] *eccho’d thus, REFORM*’ (ll. 1–2, 16). Of living human subjects, ‘few knew’ what Heaven said (l.2).¹⁷³

3. From the Christian to the Philosopher. Explaining the Great Storm

Scientifically

The case is different in *The Storm*, the longest and the least straightforward text of the three published by Defoe on this topic. In this work, God is recognized as the first cause of the Storm but the tempest is not narrated in providential terms. In the text there is no doubt that the storm is ‘the strong Evidence God has been pleas’d to give in this terrible manner to his own Being’ (pp. 6–7). The problem lies in the frequency of divine intervention: was it only a first cause or were there other interventions? This point, which is never made explicit by Defoe, is conveyed in the text through an acrobatic balance of expressions, such as when it is argued that ‘Providence’ acts as a ‘*Continual* and Exact Guide’ of Nature’s ‘Executive Power’ (p. 11; emphasis mine). The weight of the sentence lies in the word ‘continual’: God is constantly ready to

¹⁷³ It should be added that Defoe’s attributions are famously uncertain but, since the argument of this thesis moves from the idea that Newtonianism operated as a climate of opinion, it is not absolutely relevant whether the texts on the *Storm* were really Defoe’s. For the attribution debate, see William Lee, *Daniel Defoe: His Life and Recently Discovered Writings: Extending from 1716 to 1729* (London: J.C. Hotten, 1869); P. N. Furbank and W. R. Owens, *Defoe De-Attributions: A Critique of J. R. Moore’s “Checklist”* (London and Rio Grande: Hambledon Press, 1995); Maximillian E. Novak, ‘The Defoe Canon: Attribution and De-attribution’, *Huntington Library Quarterly*, 59 (1996), 83–104; ‘Defoe De-Attributions Scrutinized under Hargevik Criteria: Applying Stylometrics to the Canon/Stylometry and the Defoe Canon: A Reply to Irving Rothman/A Response to P. N. Furbank and W. R. Owens’, *Scriblerian and the Kit-Cats*, 36 (2004), 123–124.

amend nature's ways whenever these are found faulty, but this is a scenario that seldom happens. God has 'generally confin'd his Providence to the Chain of natural Causes' (p. 48) and does not intervene directly because nature is regulated by the unfailing precision of Newton's laws – the 'clockwork' nature that early Newtonians claimed was the creation of God.

Claiming that God has full powers of intervention on natural laws, but that these are only rarely exercised, is a radical assertion that implies that providence is not essential to an explanation of the tempest. The preface of *The Storm* works cautiously in this direction. It establishes a neat division between the areas of competence of, respectively, the 'Philosopher' and the 'Christian'. The distinction between these two categories proposed by Defoe is significant because it problematises the commonly-accepted link between Christianity and Philosophy that had been theorised by Boyle. In the *Christian Virtuoso* (1690), a text published at the end of his life, Boyle had argued that there was no separation between the virtuoso engaged in experiments and the devout Christian, for it was not 'Employment improper for a Christian Virtuoso, or unworthy of him, to endeavor the Discovery of the Nature and Faculties of the Rational Mind'.¹⁷⁴ On the contrary, the temper of mind of the virtuoso is one with that of the Christian, and the two, as Victor Nuovo has argued, actually share the same intellectual pursuit. According to Boyle, the vocation of virtuoso 'is a priestly office, a divine duty, performed in the world and for the world's sake, for the virtuoso as priest is nature's discoverer of its divine origin and hence its best interpreter'.¹⁷⁵

¹⁷⁴ Boyle, *Works*, XI, 286.

¹⁷⁵ Victor Nuovo, *John Locke: The Philosopher as Christian Virtuoso* (Oxford: Oxford Scholarship Online, 2017), p. 38.

Defoe argues that it is plain that ‘in Some of the Principal Parts of Nature she is Naked to our Eye, Things appear both in their Causes and Consequences, Demonstration gives its Assistance, and finishes our further Enquiries’. The scrutiny of nature as a complex mechanism of causes and effects is the domain of the philosopher, and Defoe marks this area of competence through an insistence on ‘demonstration’ that marks some distance from the prerogatives of the Boylean Christian Virtuoso. The Christian’s intervention is deemed unnecessary to the explanation of natural phenomena because, as Defoe puts it, ‘we never enquire after God in those Works of Nature which depending upon the Course of Things are plain and demonstrative’. In those natural phenomena that are regular in their appearance, there is no need to look for further explanations. The fine line walked on by Defoe is that of the distinction between a necessary and an accessory explanation. God could always be evoked to explain nature’s workings but doing so is unnecessary other than in those cases ‘where we find Nature defective in her Discovery, where we see Effects but cannot reach their Causes’ (p. 11). In other words, God is not necessary for the philosopher when a natural explanation is available; contrariwise, providing a divine explanation of phenomena that could be made sense of by understanding how the laws of nature work is an admission of defeat. The ‘Christian’ begins ‘just where the Philosopher ends; and when the Enquirer turns his Eyes up to Heaven, Farewel Philosopher; ‘tis a Sign he can make nothing of it here’ (p. 14).

Initially, it seems as if Defoe draws a Manichean distinction between the areas of competence of the Philosopher and the Christian. The former is interested in what is explainable and the latter with what remains mysterious. Invisible phenomena are ones that cannot be explained, and as such they are the domain of the Christian because only God’s doing can be invoked to make sense of them. In this framework,

religion is confined to those cases that cannot be explained by recourse to the observation of nature. The question is whether the Great Storm belongs to the domain of the Christian or the Philosopher – that is, whether it is explainable because its workings are visible to some penetrating observer or unexplainable because they are invisible to everybody. According to what is written in the preface, the storm should lie just beyond the limits of the philosopher, for winds are invisible and, thus, unexplainable. Winds are ‘a Part of the Works of God by Nature, in which he has been pleased to communicate less of Demonstration to us than in other Cases’ (p. 17). We should therefore expect a text that understands the tempest not for its natural mechanics, but for its religious significance. This agrees with the position expressed the following year in the passage from *The Consolidator* quoted at the beginning of this section. A storm can be understood philosophically only in the imaginary world of the moon.

God Almighty, whom the Philosophers care as little as possible to have any thing to do with, seems to have reserv'd this [the working of the winds], as one of those Secrets in Nature which should more directly guide them to himself. (pp. 12–13)

Throughout his account of the Great Storm, however, Defoe works to make religious explanation entirely supplementary. He does so by playing with the separation of domains between Philosopher and Christian that he had initially established. At first impermeable, it is soon made into a porous boundary. First, it is conceded that the two domains are not mutually exclusive – as the reader is reminded, there have been several Christian philosophers who belonged to both areas. More radically, Defoe argues that those of the Philosopher and the Christian might well be overlapping

domains. After all, they discuss the same phenomena, the only difference lying in their employing different methodologies to deal with them. In searching after causes,

the Philosopher, tho' he may at the same Time be a very good Christian, cares not at all to meddle with his Maker: the Reason is plain; We may at any time resolve all things into Infinite Power, and we do allow that the Finger of Infinite is the First Mighty Cause of Nature her self: but the Treasury of Immediate Cause is generally committed to Nature; and if at any Time we are driven to look beyond her, 'tis because we are out of the way: 'tis not because it is not in her, but because we cannot find it. (p. 13)

Defoe reminds his readers that God is the 'First Mighty Cause of Nature', but then claims that the inability of the philosopher to explain that nature in cases as extreme as that of a storm does not depend on the fact that some natural phenomena are beyond the understanding of man, but on the current state of technology. The knowledge of the Philosopher who 'cannot find' the 'Treasury of Immediate Cause' is limited because the intellectual and experimental instruments at his disposal at that given moment in time are insufficient. It cannot be excluded that, in the case of technological breakthroughs (such as the glasses in *The Consolidator*), even storms will be made visually perceptible and, therefore, knowable.

The inference is that every phenomenon in nature, even the most difficult ones that cannot currently be explained, will in due time become the reserve of the Philosopher. Based on this argument, the Christian is not needed anymore. If Defoe is careful to point out that miracles are possible, he insists that these are so rare that an explanation based on them should not be expected. In the conception of nature advanced in *The Storm*, the presence of God is not erased – it could be said that the

divine is always present in the background – but this background presence is gradually eroded, its relevance to explain the Great Storm being made ancillary through the continuous intimation that, as observers, we are not supposed to ‘Trespass upon Fact, as to oblige Infinite Power to the shewing more Miracles than it intended’ (p. 6). In other words, facts and miracles stand on two different levels, and Defoe takes exception with those who use of miracles because they distort the facts of nature, a tendency shared by what he calls ‘ignorant People’. To them, Defoe opposes reasonable people, the ‘we’ that is conjured as the community of reliable observers of natural phenomena that are ‘convinced by Demonstration and Experiment, after which Argument must be silent’ (p. 62). With its emphasis on demonstration and experiment, Defoe’s sentence cannot help but evoke the beginning of Newton’s *Opticks*:

My Design in this Book is not to explain the Properties of Light by Hypotheses, but to propose and prove them by Reason and Experiments: In order to which I shall premise the following Definitions and Axioms.¹⁷⁶

To explain the storm, Defoe argues, a scientific approach made of demonstrations and experiments is more convincing because everybody can verify them. Hence the reluctance to admit into *The Storm* the relation of miraculous interventions, which can be only commented upon but not verified. Contrary to what Homer O. Brown claims with relation to Defoe’s fiction, in *The Storm* there is not a tendency to ‘suspend normal laws’.¹⁷⁷ Rather, Defoe works to establish the criteria for knowledge about the storm to be admitted as a matter of fact. These criteria are made as stringent

¹⁷⁶ Newton, *Opticks*, p. 1.

¹⁷⁷ Homer O. Brown, ‘The Displaced Self in the Novels of Daniel Defoe’, *ELH*, 38 (1971), 562–590 (p. 566, n6).

as those in Newton's *Principia* or *Opticks*, for, as he contends, there is nothing more epistemologically convincing than 'Demonstration and Experiment' (p. 62). With his assertion that 'I am not handing to Posterity any matter of Fact upon ill Evidence so I cannot transmit what has its Foundation only in the Amazements of the People' (p. 110), Defoe transposes Newton's censure on conjectures as uncontrolled products of human imagination to the investigation of the Great Storm.

This is a strong position that Defoe justifies in the name of social responsibility. As a 'book', *The Storm* is different from 'sermons', which constituted the majority of the storm literature. As the extension of the audience that can be reached increases, so does the responsibility of the author towards readers. 'Preaching of Sermons', Defoe writes, 'is Speaking to a few of Mankind: Printing of Books is Talking to the whole World' (p. 3). The 'Inference' drawn from this 'remarkable Observation' is that, if an explanation of the storm based on the comprehension of natural phenomena is found, nature could be kept under control and the effects of a future storm subdued. Yet, this claim is of a piece with a distrust towards the shortcomings of man, who is too easily convinced by unverified knowledge. Therefore, Defoe insists on the size of the audience as a relevant factor that amplifies both the positive and negative effects of knowledge. Compared to the preacher, 'he that Prints and Publishes to all the World, has a tenfold Obligation', because, if a sermon contains false information, 'the Preacher [...] trespasses on a few'. Derogating from truth in a book is a much more serious problem, because its consequences extend to the whole of humankind – 'if a Book Printed obtrudes a Falshood, if a Man tells a Lye in Print, he abuses Mankind, and imposes upon the World, he causes our Children to tell Lyes after us, and their Children after them, to the End of the World' (p. 3). When Defoe claims that it is 'the Duty of an Historian

to set every thing in its own Light, and to convey matter of fact upon its legitimate Authority, and no other' (p. 4), the meaning of the term 'historian' takes a scientific value as that of the figure who spreads knowledge only after having ensured that its accuracy is not dependent on subjective beliefs but on more objective standards. The exclusion of miracles is a logical consequence of this argument, for nothing that is based on unverified interpretations should be diffused. Miracles are not sufficiently authoritative because they do not admit of demonstration – that is, they are not unmistakably verifiable.

The problem entailed by this position is whether Defoe's own voice and the content of *The Storm* measure up to the standard of objectivity proposed. Aware of this possibility, Defoe chooses a careful textual presentation which defuses the risk carried by the point of view of the narrator, who will, by necessity, bring with it its own interpretation of the Great Storm. To avoid the risk of falsehood derived from his subjectivity, Defoe styles his narrator as an 'anonymous editor', an instance of the 'convention of transparency' that Bender contends is at work in many of Defoe's works, in which a supposed 'editor' collates the evidence and presents them as objectively given.¹⁷⁸ *The Storm* presents itself as a collection of existing texts rather than as an original composition. It reports *verbatim* some sixty-seven letters, all of which are allegedly unmodified. The 'editor' describes himself as the 'Collector of these Sheets' (p. 26) or the 'Author of this Collection' (p. 137).¹⁷⁹

¹⁷⁸ Bender, *Imagining the Penitentiary*, pp. 48–51.

¹⁷⁹ Bender suggests that a similar strategy is at work in *Robinson Crusoe* as well. See John Bender, 'Enlightenment Fiction and the Scientific Hypothesis', *Representations*, 61 (1998), 6–28 (p. 6).

To present his positions on *The Storm* as generalizations based on a de-subjectified ‘matter of fact’, Defoe presents his sources as unmodified material, grounding the objectivity of his claims on their number, as if they produced a mathematical average of the experiences of the storm. Through an example of what Michael McKeon calls the ‘dedication to the collection of records, [...] validated both the first-hand “evidence of the senses”—eye- or earwitness report—and the “objective” testimony of documentary objects’, Defoe puts himself in the position to offer his interpretation of the Great Storm as a mathematical average of the large number of testimonies on it.¹⁸⁰ Through a rudimental but ground-breaking use of statistics, Defoe plays with the notion that a large sample produces knowledge that is free from subjective prejudice. While doing so does not warrant the certainty of Newton’s mathematical demonstrations, it does at least reach a quasi-objectivity derived from the natural distribution of testimonies around averages. Extreme, unlikely accounts tend to be in isolation compared to testimonies that state the same. As a result, the agreement reached by testimonies can be reckoned as amounting to certainty by approximation. Just a few years before *The Storm*, George Hooper’s ‘A Calculation of the Credibility of Human Testimony’ appeared in the Royal Society *Philosophical Transactions*. Hooper calculated the mathematical percentage of certainty that can be assigned to a story told by multiple sources. The first step is to assign a rating to ‘The Credibility of any Reporter’,

¹⁸⁰ McKeon, *Origins*, p. 43.

(1) by his *Integrity*, or Fidelity and (2) by his *Ability*: and a double *Ability* is to be considered; both that of *Apprehending*, what is deliver'd; and also of *Retaining* it afterwards, till it be transmitted.¹⁸¹

The integrity of the observers and their ability to remember circumstantial details are crucial points, but they are insufficient on their own. The report of a single observer is estimated to reach, at best, five sixths of certainty, a percentage that is too low to consider it reliable.

What Defoe understood, perhaps because he was acquainted with Hooper's argument, is that the certainty of a testimony is compounded when there are 'concurrent *testifications*' (p. 361). When twenty testimonies agree in the general, the certainty of a given claim rises from five to one to two millions to one, which is high certainty (p. 362). Hooper's idea of the compounding of testimonies is the strategy followed by the 'editor' of *The Storm*. It rests, of course, on the validation of what Hooper called the 'integrity', and thus the sincerity, of each of the sixty-seven witnesses, which Defoe does continuously. In addition to this, the mathematization of the testimonies about the Great Storm is made stringent by a plethora of circumstantial numerical details provided throughout the text. At times the numbers given by Defoe are hardly useful (for example, the number of trees felled by the wind in Kent). At other times, they are the more compelling figures of the different instruments that appear in the text, whose annexed tables show 'the Height of the *Mercury* in the Barometer [...] before, in, and after the Storm' (p. 29), as well

¹⁸¹ George Hooper, 'A Calculation of the Credibility of Human Testimony', *Philosophical Transactions*, 21 (1699), 359–365 (p. 359).

as a comprehensive table listing all royal ships that were shored away by the tempest (pp. 146–147).

The mathematization of testimonies, supported by the use of numbers, contributes to creating the impression of objectivity in Defoe's account of the storm.¹⁸² In a post-Newton universe where, in the words of Koyré, the 'world of the more or less' of qualities and sense perception is replaced by a 'universe of precision, of exact measures, of strict determination', Defoe attempts to make the Great Storm a measurable natural phenomenon that can be determined with certainty.¹⁸³ God does not need to be evoked to explain the storm, and 'Providence' can be newly evoked, somewhat sarcastically, as a mathematically measurable mix of force, motion and matter that was calculated to make the storm crash in the strongest possible way:

Thus Providence, by whose special Direction the Quantity and Conduct of this Judgment was manag'd, seem'd to proportion things so, as that by the course of things the proportion of Matter being suited to Distance of Place, the Motion shou'd arrive at its full Force just at the Place where its Execution was to begin. (p. 49)

As this sardonic passage suggests, however, the mathematization of the Great Storm is only attainable in hindsight. The accuracy boasted by the 'editor' holds only by looking back at the event and numerical data (like that of the barometers in the days

¹⁸² The anonymous editor foreshadows Elizabeth Eisenstein's argument that the perceived objectivity of an early modern text was enhanced by the presence of printed 'equations, diagrams, tables, maps and charts' in the text. Eisenstein explicitly links this with the rise of modern science. See Elizabeth Eisenstein, *The Printing Press as an Agent of Change* (Cambridge: Cambridge University Press, 1979), p. 535.

¹⁸³ Koyré, *Newtonian Studies*, p. 5.

prior to the catastrophe) which might have predicted the breaking of the tempest is read as a mathematical hint of the storm only retrospectively.

This is the paradox that concludes *The Storm*. A historical account validated by a great number of authoritative sources might be accurate almost to the point of demonstration, but it will never be scientific for, differently from Newton's laws, it does not help in predicting the future behaviour of nature. These are the limits of man according to Defoe: a very high level of accuracy in the description of a phenomenon can be reached, but this does not help to foresee the catastrophe. While relying on the explanations of providence does very little in the way of understanding a phenomenon whose mechanics are invisible, so it is insufficient to relinquish providential explanations. To put it in Defoe's language, the historian must not simply relinquish the Christian but also become a Philosopher.

Defoe's claim on whether this is possible is explored in relation to the account of another natural disaster, the 1665 Great Plague. Defoe situates his narrator in the very historical event, experimenting with the possibility of achieving the objectivity of a natural phenomenon through a subjective experience written as it happened. This, as I explain in the next and final section, is a sophisticated textual strategy used to tackle the problem of knowing natural phenomena with certainty. Written in 1722, *A Journal of the Plague Year* is purportedly an account written during the 1665 plague outbreak. Embedded in the flow of history, the narrator H. F. unfolds his critique of then-current knowledge made about plague contagion, progressively arguing that plague challenged the confidence man had in determining invisible natural phenomena.

4. 'Rumours and Reports' or the 'Certainty of Things'? The Disruptive Potential of Nature in *A Journal of the Plague Year*

While the Great Storm was an exceptional event, in the early modern era plague struck England, and London especially, on a fairly regular basis, so much so that an aged person in 1660 could remember up to seven plague outbreaks.¹⁸⁴ Yet, repetition proved unhelpful in countering the disease, and its means of contagion remained undiscovered well until into the nineteenth century. The high mortality rate, the rapidity of the contagion, and, above all, the difficulty in detecting its marks and thus of restraining the infection, were the major factors that contributed to making plague a disease of the utmost relevance for the eighteenth-century Briton.

In 1721, the fear of a new plague outbreak coming by ship from Marseille became the most important topic of public debate for the year, with a great number of tracts about plague being published – some new, some reprints originally published following the 1665 Great Plague.¹⁸⁵ Plague was traditionally feared because of its frequency and disruptiveness – each outbreak killed people by the tens of thousands – but the 1665 Great Plague had been particularly memorable. In the eighteen months of epidemics the death count totalled an estimated 100,000 people.

¹⁸⁴ Ernest B. Gilman, *Plague Writing in Early Modern England* (Chicago and London: University of Chicago Press, 2009), p. 35; Ronald Hutton, *The Restoration: A Political and Religious History of England and Wales. 1658-1667* (Oxford: Clarendon Press, 1985), p. 225.

¹⁸⁵ Paul Slack, *The Impact of Plague in Tudor and Stuart England* (Oxford: Clarendon Press, 1985), pp. 326–327. On the spread of plague-related publications in 1721, see Robert Mayer, 'The Reception of *A Journal of the Plague Year* and the Nexus of Fiction and History in the Novel', *ELH*, 57 (1990), 529–555 (p. 531) and Louis A. Landa, 'Religion, Science, and Medicine in *A Journal of the Plague Year*', in Daniel Defoe, *A Journal of the Plague Year*, ed. Paula Backscheider (New York and London: W. W. Norton and Company, 1992), p. 273.

As the 1721 plague scare mounted, making sense of the mode of contagion became vital to restrain the infection and, potentially, save the lives of many people. But this urgency was a double-edged sword. The need to come up with an explanation for a phenomenon that was almost completely invisible all too often brought people to devise fantastical theories, putting even more people in danger by promoting ineffective ways of protecting themselves from the disease.

It is at this time characterized by plague and the need to produce accurate knowledge about it that Defoe's *A Journal of the Plague Year* was published. Defoe, as a journalist involved in at least nine periodicals, was one of the most active commentators on the feared plague outbreak in 1721, often commenting on the measures taken by the government to avoid the contagion.¹⁸⁶ So it is curious to note that the *Journal* was not directly concerned with the 1721 possible outbreak. It presents itself as the true history of the 1665 pestilence 'written by a Citizen who continued all the while in London'.¹⁸⁷ The lack of topicality is chosen on purpose and represents the reason why the *Journal* is an important case study when exploring Newtonianism. In the *Journal*, Defoe re-enacts the Great Plague from the perspective of H.F., a survivor who keeps an account of his movements in a London stricken by the disease. Plague is the disease that, because of its being invisible, brings people to produce contradictory and misleading information. It is not the prevention of plague *per se* that is strictly relevant to Defoe, but its being an extreme case to gauge how man-made knowledge rivals with an invisible, deadly but also frequent natural phenomenon. Geoffrey Payne has suggested that in the *Journal* plague is represented

¹⁸⁶ Paula Backscheider, 'Introduction', in Defoe, *Journal*, p. ix. On Defoe's commentary on the actions of the government, see Slack, *Impact of Plague*, pp. 326–327.

¹⁸⁷ Defoe, *Journal*, p. 3.

as a natural phenomenon ‘that can be subjected to the ordering structures of science’, but whether Defoe really believes so is a challenging issue explored in this section.¹⁸⁸

Could a regularity in the manifestations of plague be found similar to what Newton had done with gravity? Or is man unequipped to understand such a disease? What is the best knowledge-making strategy to make sense of the plague? If one were to follow Newton’s example and apply it to plague, conjectures should be avoided because they spread inaccurate knowledge that would lead in turn to higher rates of contagion. However, when the narrator H.F. manages to adhere to the interdiction of hypotheses, the result is that plague becomes impossible to describe. When plague is treated numerically through an analysis of the bills of mortality, H.F. cannot but observe that even such knowledge is based on assumptions. The *Journal* contests the confidence that plague, or any other invisible natural phenomenon, could be identified in the way Newton did with natural phenomena. On the contrary, plague emblemizes the anxiety for the shortcomings of man in making sense of natural phenomena. The introduction of the *Journal* encapsulates these concerns by describing how ill-grounded conjectures delayed the realization that plague had struck London.

The narrative begins before the first cases of contagion have even occurred. H.F. states that ‘it was about the Beginning of *September* 1664, that I, among the Rest of my Neighbours, heard in ordinary Discourse, that the Plague was return’d again in Holland’. Speculations arise on where the disease had arrived from: ‘some said from *Italy*, others from the *Levant* [...]; others said it was brought from *Candia*;

¹⁸⁸ Geoffrey Payne, ‘Distemper, Scourge, Invader: Discourse and Plague in Defoe’s *A Journal of the Plague Year*’, *English Studies*, 5 (2014), 620–636 (pp. 623–624).

others from *Cyprus*'. Scanty as intelligence was, 'all agreed, it was come into *Holland* again'. In those days, H.F. adds, information circulated by 'Word of Mouth', which in turn generated 'Rumours and Reports of Things' (p. 6). Not even the city administration knew better than rumours, but its lack of subsequent communication or action enables citizens to hope for the best.

Months later, the situation evolves. Two men, 'said to be French-men', are found dead just outside London at the beginning of December 1664 (p. 5–6). The bodies are concealed on supposition of their being struck by plague. The city administration then receives a report from an unspecified, and unverified, source, upon which an enquiry is made 'in order to be certain of the truth' and ascertain whether it was really plague or some other type of infection, a crucial task at a time when different diseases tended to be classified under the same type. The task is accomplished by two physicians and a surgeon, who, as outlined in the *Order of Health* issued by the London Mayor in 1665 (and annexed almost *verbatim* to the *Journal*), were the two professions designated to discern the presence of plague in dubious cases. Rather than tending the sick, their primary role is 'to join the Searchers for the view of the Body, to the end that there may be a true Report made of the Disease' – that is, to distinguish the marks of plague in suspected bodies and authenticate them, a measure made necessary by the 'great abuse in misreporting the Disease' (p. 37). Their inspection is concluded with their discovery of 'evident Tokens of the Sickness upon both the Bodies', upon which the physicians and the surgeon give 'their Opinions publickly' that the two Frenchmen had died of the plague. This piece of information is conveyed to the parish clerk, who in turn spreads it 'by Word of Mouth' to his parishioners and, eventually, publishes in the so-called 'Bills of Mortality'. The Bills, which were the weekly list of those who died in each

London parish divided by cause of demise, are then publicly affixed and diffused. Two persons have now officially died by plague.

Londoners, H.F. writes, ‘began to be allarm’d all over the Town’, and even more so after the death of ‘another Man [...] in the same House, and of the same Distemper’ at the end of December. Yet, when during the following six weeks ‘nobody died with any Marks of Infection’, and since the bills of mortality did not mention any more victims of plague, the inhabitants believe that ‘the Distemper was gone’ (p. 6). In a seemingly parenthetical way, H.F. specifies that this last piece of information came to be produced in an unreliable way – ‘It was said’ is H.F.’s word choice. That the plague subsided is therefore a supposition by an unspecified person, and its validity is soon subverted by another death in mid-February, ‘in another House, but in same Parish, and in the same manner’. This last occurrence ‘turn’d the Peoples Eyes pretty much towards that End of the Town; and the weekly Bills showing an Encrease of Burials in St. *Giles*’s Parish more than usual, it began to be suspected, that the Plague was among the People at that End of the Town’. People begin to suspect that the death toll was higher than authorities have reported, that somebody ‘had taken Care to keep it as much from the Knowledge of the Publick’. This supposition, H.F. notes, ‘possess’d the Heads of the People very much’, with many interpreting the marked increase in the overall count of burials in the parish of *St Giles* as a certain sign of pestilence. As winter arrives and the number of dead once again decreases, ‘every body began to look upon the Danger as good as over’, notwithstanding the persistently high number of burials in the parish of St. Giles and a more than suspicious number of people who ‘died of the Spotted-Feaver’ (p. 6–8).

In a few introductory pages, the *Journal* reveals the array of false assumptions that brought people to believe that there had been no plague outbreak. Three

assumptions in particular emerge as foundational for the beliefs and behaviour of the Londoners. Namely, it is supposed that the bodily marks found on the corpses were the necessary sign of pestilence, that the absence of bodily marks meant that there was no plague contagion, and that the bills of mortality accurately mapped the diffusion of the disease. Each supposition has a high probability of being true. The first supposition is plausible because it is confirmed by the physicians invested by the *Orders for Health* (the instruction issued by the city government to deal with the contagion) with the task of decoding the bodily marks on the bodies of the sick. The second is logically linked to the first. If plague is identifiable by the marks it leaves on the body, then their absence must entail that the disease has not struck. Finally, the bills of mortality were the method officially employed by the mayor of London to track the disease and, surely, information diffused by a civic authority must be trustworthy.

These conjectures might be valid in terms of probability, but they are undermined by the difficulty of interpreting unambiguously the bodily marks left by plague. From a medical perspective, plague acts inconspicuously for the first three days of contagion. Moreover, it was not unusual for the buboes, the circular signs typical of the disease, to appear only after the demise of the victim.¹⁸⁹ Thus, the suppositions that Defoe describes in the first pages of the *Journal* are based on a form of personal trust toward other people's attempt at interpreting the signs of the plague. Often, such interpretations were advanced by people who did not necessarily have

¹⁸⁹ A. Lloyd Moote and Dorothy C. Moote, *The Great Plague: The Story of London's Most Deadly Year* (Baltimore and London: Johns Hopkins University Press, 2004), pp. 62–63. See also Jayne Elizabeth Lewis, 'Spectral Currencies in the Air of Reality: A *Journal of the Plague Year* and the History of Apparitions', *Representations*, 87, (2004), 82–101 (p. 84).

medical expertise. The *Orders for Health* show that the plague was to be detected not by physicians alone but, for the most part, by examiners chosen as ‘Persons of good Sort and Credit’. These included, for instance, women-searchers of ‘honest reputation’, appointed to the task after their having sworn ‘to make due Search, and true Report’ (p. 36). As it turned out, these persons were often illiterate people whose interpretations were conveyed orally and accepted by the compilers of the bills of mortality.¹⁹⁰ This did hardly guarantee an accurate depiction of the plague outbreak, as Defoe had already noticed in an issue of the *Applebee Journal* published in November 1722, in which ‘the ignorance of the Searchers, and the slight Inquiries they make after the Fact’ is emphasised.¹⁹¹

These premises explain why H.F. is portrayed as sceptical of conjectural knowledge throughout the *Journal*. Because of the problems and dangers inherent to the attempts of making assumptions about the plague, H.F. is wary of what Manuel Schonhorn calls the ‘body of anecdotal appendages’ of plague as something that hinders an objective understanding of how the disease spreads.¹⁹² When H.F. tells the story of the old women who interpret other people’s dreams as omens of the plague, his argument is that it is precisely the interference of the imagination that distorts the senses of people, who earnestly convince themselves and each other of seeing ‘Shapes and Figures, Representations and Appearances’ where there is only air. Some women, indeed,

¹⁹⁰ Paula McDowell, ‘Defoe and the Contagion of the Oral: Modeling Media Shift in *A Journal of the Plague Year*’, *PMLA*, 121 (2006), 87–106 (p. 95).

¹⁹¹ In McDowell, ‘Defoe and the Contagion of the Oral’, p. 98.

¹⁹² Manuel Schonhorn, ‘Defoe’s *Journal of the Plague Year*. Topography and Intention’, *The Review of English Studies*, 19 (1968), 387–402 (p. 387).

Heard Voices that never spake, and saw Sights that never appear'd; but the Imagination of the people was really turn'd wayward and possess'd; And no Wonder, if they, who were poreing continually at the Clouds, saw Shapes and Figures, Representations and Appearances, which had nothing in them, but Air and Vapour. [...] just as the Imagination of the poor terrify'd People furnish'd them with Matter to work upon. (p. 22)

In the *Journal* people are recurrently portrayed as mistaking fanciful visions for the reality. During one of H.F.'s solitary explorations of the plague-stricken city, H.F. finds a group of people intent at staring up into the air, 'to see what a Woman told them appeared plain to her, which was an Angel cloth'd in white, with a fiery Sword in his Hand, waving it, or brandishing it over his Head'. Her description, complete in 'every Part of the Figure', even its motions, convinces the whole group. A man then sees 'it all plainly' and recognizes the sword 'as plain as can be'; while another sees the angel, and yet another his face. H.F., though looking 'as earnestly as the rest', cannot see anything. (p. 23).

The interference of fancy in observations on plague is not limited to laypersons but involves people with great expertise too. While it might seem that H.F. frames the problem of identifying plague as a question of literacy, this is not the case, for even physicians are unable to identify the disease unambiguously. The fictitious Dr Heath is a strong advocate of the 'opinion' that pestilence 'might be known by the smell of [people's] Breath', brings some people to imagine that 'living creatures [...] of strange monstrous and frightful Shapes, such as Dragons, Snakes,

Serpents, and Devils’ might be seen through powerful enough microscopes.¹⁹³ Defoe entertained more than occasional scepticism on the knowledge produced by physicians. In a short book titled *Due Preparations for the Plague, as Well for Soul as Body*, published three months before the *Journal*, Defoe stated his aim to ‘put ourselves in a posture not to be surprised’ if pestilence struck again. It is significant that proper preparation against a plague outbreak requires, primarily, that the misleading interpretations of plague advanced by physicians be relinquished:

¹⁹³ Defoe seems here to refer to the many physicians who, after acknowledging the risk of positing knowledge about the plague, did not refrain from doing so. A few selected examples might help to elucidate this point. In the widely read *Loimologia* (1672), Dr Nathaniel Hodges is careful not to impose his opinions, and modestly admits the impossibility of knowing plague. Nevertheless, he imagines that the cause of the plague is a change in an invisible ‘nitrous spirit’ in the human body. In his *A Discourse on Pestilence and Contagion in General* (1721), Peter Kennedy condemns those who, notwithstanding plague being ‘difficult to determine (because of Magnitude insufficient for our Senses to discover)’, seem anyway ‘to labour hard to prove, that the general Cause of Contagion is from some Insect bred in the Air’. His own theory is that the disease may ‘very reasonably’ be occasioned by ‘the Complication of such malign Atoms as will necessarily come from these Bodies’, together with ‘unnatural Warmth’ and the ‘Disposition of the Air’, of which, however, no illustration is provided. Similarly, Dr Richard Blackmore’s preface to his own *Discourse on Pestilence* (1721) rails against those ‘Enthusiasts in Physick’ who ‘conceal their notions [...] in odd Metaphors [...] and affected Obscurity’. When he discusses his theory, however, he writes rather obscurely himself, imagining the power of plague to consist in ‘the greatest Contrariety of Pestilential Vapours or Particles to the Animal Spirits, and the active Principles of the Blood, and that the first is founded in greatest Minuteness, Exaltation and Refinement’. See Nathaniel Hodges, *Loimologia: or, an Historical Account of the Plague in London in 1665* (London, 1720), p. 43; Peter Kennedy, *A Discourse on Pestilence and Contagion in General; Containing the Cause, Prevention, and Cure* (London, 1721), p. 10. Richard Blackmore, *A Discourse upon the Plague, with a Preparatory Account of Malignant Fevers* (London, 1721), pp. 3–4.

[W]e have, indeed, some physicians who have given their opinions in the matter of our managing ourselves with respect to medicine, in case of the plague breaking out among us, and unto this purpose they treat a little (though very superficially) of the nature of the disease. [...] yet they differ with, contradict, and oppose one another, and leave their readers as uncertain and dissatisfied, as far to seek, and at a loss for their conduct, as they were before.¹⁹⁴

H.F. is not accusing physicians of consciously fabricating and spreading plague-related knowledge, but points to a more general failure to capture ‘the nature of the disease’ (p. 5). His accusation is directed against the tendency, shared by both expert physicians and the general population, to make assumptions about the plague. This criticism is identical in manner to that levelled against those philosophers who, prior to Newton, had relied on the faculty of imagination to make sense of phenomena they could not visualize. The living creatures ‘of strange monstrous and frightful Shapes’ visualized by Dr Heath as the vehicles of plague are the offspring of his own imagination, rather than a verifiable phenomenon. As such, he is subject to the same charge Henry Pemberton would direct against Descartes, the man who posited that the earth and the moon influenced each other through a series of vortices spread out in space. Using one’s imagination to fill the gaps in man’s understanding of nature, Pemberton claims, is a ‘preposterous method’ that generates ‘chimeras’ and monsters’.¹⁹⁵ Similarly, H.F. questions the ‘Truth’ of Dr Heath’s opinions on the basis that ‘we had no Microscopes at that Time, as I remember, to make the

¹⁹⁴ Daniel Defoe, *Due Preparations for the Plague, as Well for Soul and Body* (London, 1722), p. 5.

¹⁹⁵ Pemberton, *View*, p. 11.

Experiment with', so that Dr Heath's claim that the plague was conveyed through living creatures 'of strange monstrous and frightful Shapes' is evidently the product of his imagination and must thus be discarded. As commentators on Newton in the course of the century suggested, unverifiable opinions, no matter the creditability of the source, cannot be trusted to produce stable knowledge. This position remained constant throughout the century, as is well summarised in a newspaper article published in 1796:

Instead of patiently carefully observing the phaenomena of Nature, and thence ascertaining her general Laws, they followed their own conjectures, and from them they framed hypotheses. Pursuing a mistaken path, the force and quickness of their genius served only to make their deviation the greater from the right road. What they dignified with the name of discoveries, were mere fictions of imagination, not legitimate conclusions of reason.¹⁹⁶

However, the suspension of judgment that would be required if one followed the *hypotheses non fingo* is hardly possible, for the epidemic continues unabated. In lack of definitive data, the urgency of finding an explanation for an elusive natural phenomenon like plague triggers the use of imagination. It thus appears why Defoe chose plague as a subject matter. Plague functions as an extreme case to test the capacities of human knowledge-making at a time when there is no choice but to come up with an explanation. The plague, as John Richetti puts it, is exceptional among natural phenomena because man is faced with 'an extended moment of total uncertainty, an exaggerated, nearly metaphysical version provided by history of the random destructiveness of an environment'. Plague does not provide any grounds to

¹⁹⁶ *Sun*, Monday, June 27, 1796; Issue 1171.

distinguish the sick from the sound, and thus can never be determined factually.¹⁹⁷ H.F. himself underlines that the temptation to conjecture on the nature of plague arises from a natural necessity to make sense of a disease that left no reference points to understand its mechanisms until it was too late – as he explains, many had ‘very little Notice of their being infected at all, till the Gangreen has spread thro’ their whole Body’ (p. 70).

H.F.’s reaction to this problem in knowledge-making – being split between the need to find explanations to survive and the awareness that conjectures are the product of the imagination and that they will thus spread more inaccurate knowledge – is to adopt a sceptical stance towards all assumptions advanced by his contemporaries. H.F. is portrayed as an intransigent proponent of the view that conjectures are to be entirely relinquished because there is no way of establishing whether they are correct. Social respectability should not play a role in the validity of a given claim. Because of this, for example, the opinion of ‘another learned Man’, who maintained that ‘the Breath of such a Person would poison, and instantly kill a Bird’, is likewise dismissed as part of a body of ‘Opinions which I never found supported by any Experiments’ (p. 157). Despite the suspension of hypotheses, H.F. shows no Newtonianist confidence in the establishment of certain knowledge. The best he can do is to avoid the diffusion of knowledge altogether, based on the idea that everything that can be said about the plague is irreparably conjectural, and defer it to a time when the truth will be established. This attitude of H.F. is manifest at numerous points of the *Journal*. When no better source than the ‘Enquiry of the Neighbours’ can be obtained, for instance, H.F. does not attempt to offer an

¹⁹⁷ John Richetti, ‘Epilogue: A *Journal of the Plague Year* as Epitome’, in Defoe, *Journal*, p. 296.

alternative interpretation, but rather leaves the matter open to discussion until future observations can unmistakably establish the truth of a story about plague:

Seeing then that we cou'd come at the certainty of Things by no Method but that of Enquiry of the Neighbours, or of the Family, and on that we cou'd not justly depend, it was not possible, but that the uncertainty of this Matter wou'd remain as above. (p. 133)

The benchmark of valid knowledge for H.F. is Newtonianist, in that he aims for nothing less than 'the certainty of Things'. But to reach it the requirement is that either one is able to attain certainty in an undoubtable way that can be verified by everybody, or judgment must be suspended. The plague is exceptional in this respect, representing an extreme case among natural phenomena for the 'uncertainty of this Matter' inherent to it, as H.F. often makes clear:

It is impossible in a Visitation to prevent the spreading of the Plague by the utmost human Vigilance, (viz.), [...] it is impossible to know the infected People from the sound, or that the infected People should perfectly know themselves. [...] for none knows when, or where, or how they have received the Infection, or from whom. (pp. 151–52)

H.F. actively avoids imposing his own views in order not to contribute to the diffusion of ungrounded knowledge. However, as he does so he clashes with his natural drive to understand the plague. It is correct to claim, as W.L. Wainwright does, that H.F. has 'no particular angle or pet theory to push', because his purpose is instead to 'carefully assess all sorts of evidence, bear testimony to acts of virtue and

vice, apparently presenting as objective a picture as possible'.¹⁹⁸ Yet, he too is unable to refrain from finding an explanation. Unlike others portrayed in the *Journal*, H.F.'s awareness of the problems of conjectures leads him to look for numerical elaborations of the plague. That is why he so often makes use of the Bills of Mortality.

Established in 1592, the Bills of Mortality catalogued the weekly dead by area and cause of death. The bills were helpful because, amidst many unfounded conjectures, it was felt that they provided knowledge that was numerical, and thus measurable and verifiable by everybody. By 'dividing up and quantifying the effects of epidemic disease', as Erin Sullivan explains, the bills helped Londoners 'mentally track, contain, and make sense of the threat they were facing'.¹⁹⁹ Although the bills made plague tangible and imposed a numerical control, it does not follow that the numbers were objectively accurate.²⁰⁰ Their numerical values relied on the interpretation of the eye witnesses in charge of establishing the cause of death of a person. In the case of plague, the searchers tried to make sense of the marks of the plague but, since the disease was virtually undetectable during the first days of infection, establishing the cause of death was especially difficult.²⁰¹ The interpretations of the searchers were not typically questioned, and they were transformed into the data that appeared in the bills.

¹⁹⁸ W. L. Wainwright, 'Lending to the Lord: Defoe's Rhetorical Design in *A Journal of the Plague Year*', *British Journal for Eighteenth-Century Studies*, 13 (1990), 59–72 (p. 61).

¹⁹⁹ Erin Sullivan, 'Physical and Spiritual Illness. Narrative Appropriations of the Bills of Mortality', in *Representing the Plague in Early Modern England*, eds Rebecca Totaro and Ernest B. Gilman (London: Routledge, 2011), pp. 76–94 (p. 76).

²⁰⁰ Richelle Munkhoff, 'Searchers of the Dead: Authority, Marginality, and the Interpretation of Plague in England, 1674–1665', *Gender and History*, 11 (1999), 1–29 (p. 8).

²⁰¹ Munkhoff, 'Searchers of the Dead', pp. 8–9, 12.

Defoe had serious reservations about the reliability of the bills. As he would claim in the *Applebee Journal* in 1722, ‘nothing can be depended on from our Bills of Mortality’ because of the unsatisfactory enquiries made by the searchers.²⁰² This perspective challenges H.F.’s more ambivalent position in the *Journal*. While firm in his exclusion of opinions based on conjectures, H.F. is split between the awareness of the imprecision of the bills and the fact that their measurability seems to offer a mathematical way of mapping the spread of the plague. As a result, he uses the bills extensively even as he discredits their truth-value by signalling the imaginative grounds that support them. After nine weeks of pestilence, for example, he denounces that ‘there died near a thousand a-Day, one Day with another, even by the Account of the weekly Bills, which yet I have Reason to be assur’d never gave a full Account’, and he specifies that this mistake of ‘many thousands’ was caused by a lack of lucidity (‘the Confusion being such’) and imperfect sensorial conditions, for the carts usually worked at night and in the dark nobody could see exactly how many people were buried (p. 82). When he discusses the number of new-born babies who died by plague, H.F. deems necessary to clarify that though ‘something of it will appear in the unusual Numbers which are put into the Weekly Bills’, he is ‘far from allowing them to be able to give any Thing of a full Account’ (p. 96). His judgment becomes even more trenchant when he criticises not solely the weekly bills themselves, which ‘could never come at any just Account of Numbers’, but also the grounds upon which their veracity depended. Specifically, H.F. claims that not only the searchers but even

²⁰² In McDowell, ‘Defoe and the Contagion of the Oral’, p. 98. There has been some debate on whether Defoe really wrote in the *Applebee*. Cfr. Lee, *Daniel Defoe*; P.N. Furbank and W. R. Owens, ‘The Myth of Defoe as *Applebee*’s Man’, *The Review of English Studies*, 48:190 (1997) 198–204; Maximillian Novak, ‘Daniel Defoe and *Applebee*’s Original Weekly Journal: An Attempt at Re-Attribution’, *Eighteenth-Century Studies*, 45:4 (2012), 585–608.

those physicians unanimously considered as authoritative should not be trusted as sources for the bills.²⁰³ Relying upon their judgment solely because of their credit was an incorrect strategy, for not even physicians are exempt from conjecture-making. As those finished in the bills, the error was objectified and propagated, with dire consequences:

Nay one of the most eminent Physicians [Hodges], who has since publish'd in Latin an Account of those Times, and of his Observations, says, that in one Week there died twelve Thousand People, and that particularly there died four Thousand in one Night; tho' I do not remember that there ever was any such particular Night, so remarkably fatal, as that such a Number died in it: However, all this confirms what I have said above of the Uncertainty of the Bills of Mortality, &c. (p. 150)

Plague was part of a group of natural calamities – such as storms, comets, fires – whose extraordinary destructive power raised questions about man's ability to understand nature.²⁰⁴ Yet, compared to these disasters, plague was exceptional because it deeply questioned the abilities of man to make knowledge at all. As René Girard contends, plague traditionally held a symbolic power that went beyond the disease to signify the invalidation of the knowledge of man and the capacity for informed judgment.²⁰⁵ This, linked to the fact that the *Journal* was published 57 years after the Great Plague, challenges the view that topicality was Defoe's only

²⁰³ McDowell, 'Defoe and the Contagion of the Oral', p. 88.

²⁰⁴ Landa, 'Religion, Science, and Medicine', p. 270.

²⁰⁵ René Girard, 'The Plague in Literature and Myth', *Texas Studies in Literature and Language*, 15 (1974), 833–850 (p. 835).

preoccupation.²⁰⁶ Writing in 1721, Defoe was greatly concerned that London-bound ships from Marseille, where plague had first struck, could lead to an outbreak in Britain as deadly as that of 1665. This assiduity is confirmed by Paula Backscheider, who stresses that Defoe, as a journalist ‘controlling or writing for nine newspaper and periodicals’, was ‘amongst the most active in covering the possible plague outbreak as a news event’.²⁰⁷ Still, there is something in the *Journal*’s self-presentation as the true history of the spreading of the 1665 pestilence ‘written by a Citizen who continued all the while in London’.²⁰⁸ The re-enactment of the 1665 outbreak is a choice that not only exploits historical fiction to think through a contemporary concern, but also highlights the potential of plague as a symbol of the struggle of a human subject to make certain knowledge in prohibitive conditions. The subject is split between the Newtonianist awareness that knowledge is valid only insofar as the observer does not impinge on it with conjectures is accepted, and the need to survive which demands an explanation to at least try to survive. This tension

²⁰⁶ The *Journal* was initially received as a work of history, as its presence as a source for the ninth edition of the *Discourse on the Plague* (1744) by the physician Richard Mead proves. But the point should not be to determine that the *Journal* was historically accurate, for the relationship between the *Journal* and the history it tells goes beyond the historical account of the 1665 plague to expand into a more ample enquiry into knowledge-making. See Mayer, ‘Reception of *A Journal of the Plague Year*’, p. 532; Frank Bastian, ‘Defoe’s *Journal of the Plague Year* Reconsidered’, *The Review of English Studies*, 16 (1965), 151–173 (p. 152); Schonhorn, ‘Topography and Intention’, p. 393.

²⁰⁷ Paula Backscheider, ‘Introduction’, p. ix.

²⁰⁸ Defoe, *Journal*, p. 3.

explains the energy H.F. devotes in the complex elaborations of the bills of mortality, notwithstanding his being aware that they are based on conjectures.²⁰⁹

Overall, H.F. can be said to embody the *hypotheses non fingo*, although this does not lead to the establishment of new certain knowledge but only to undermining existing conjectural knowledge. When faced with a choice between assumption and silence, H.F. typically selects the latter.²¹⁰ This is particularly evident in his attention to figurative language, where words are constantly challenged for their lack of accuracy.²¹¹ H.F. specifies that he cannot accept some of the stories he heard because of their linguistic imprecisions – they were not ‘really true, that is to say, in the Colours they were describ’d in’ (p. 124). Specifically, H.F. is suspicious of metaphorical language because he perceives it to be a ‘technology’ that employs the faculty of imagination to carry objects that are invisible to the human eye across what Gilman calls ‘the gap of visibility’.²¹² In H.F.’s distrust of metaphorical language there is a clear echo of Thomas Sprat’s programme for the reformation of language.

²⁰⁹ As many as seventy-two single occurrences of the term ‘bill’ and seventeen in-text graphic renditions can be counted in the *Journal*. The number does not include those occurrences that are related to the bills of the doctors (data collected with the software *Antconc*).

²¹⁰ For example, on the issue of the wickedness of the buriers, who were accused of contributing to spreading the disease, H.F. takes a neutral position. ‘I can only relate it and leave it undetermined’ (p. 55), he states, avoiding taking any stance for lack of evidence. While some physicians speculate on the reason for this behaviour lies in the nature of the disease, and others place it ‘to the Account of the Corruption of humane nature’, H.F. chooses to give ‘this grave Debate a quite different turn, and answer it or resolve it all by saying, that I do not grant the Fact’ (p. 124).

²¹¹ James Cruise, ‘A *Journal of the Plague Year*: Defoe’s Grammatology and the Secrets of Belonging’, *The Eighteenth Century*, 54 (2013), 479–495 (p. 482).

²¹² Ernest B. Gilman, ‘Afterword. Plague and Metaphor’, in *Representing the Plague*, eds Totaro and Gilman, pp. 219–236 (p. 225).

In the ‘Manner of Discourse’ chapter of his *History of the Royal Society* (1667), Sprat had expressed distrust towards all forms of rhetorical ‘swellings of style’, advocating a sustained use of language ‘plainness’ that translates into a voluntary relinquishment of figures of speech.²¹³ Then again, as noted by Ryan J. Stark, figurative language was never altogether made absent from scientific writings by early Royal Society practitioners because the imagination was considered to play an essential role in the making of scientific knowledge.²¹⁴ While Defoe’s general writing style was no doubt inspired by the insistence on plain style of early scientists, in this case H.F. seems to specifically tackle the problem of using one’s imagination to know what cannot be directly perceived. As imaginative replacements of real objects, metaphors hinder H.F.’s goal to provide an objective, ‘more perfect idea of a complicated distress’. That is why he typically chooses to stop short at the threshold of the metaphorical expression, once again preferring silence over conjecture:

I could dwell a great while upon the calamities of this dreadful time, and go on to describe the objects that appeared among us every day, [...] after I have mentioned these things, what can be added more? What can be said to represent the misery of these times more lively to the reader, or to give him a more perfect idea of a complicated distress? (p. 140)

²¹³ Thomas Sprat, *History of the Royal Society* (London, 1667), p. 113. See also Richard Nate, “‘Plain and Vulgarly Express’d’: Margaret Cavendish and the Discourse of the New Science’, *Rhetorica: A Journal of the History of Rhetoric*, 19:4 (2001), 403–417 (pp. 405–408).

²¹⁴ Ryan J. Stark, *Rhetoric, Science, and Magic in Seventeenth-Century England* (Washington: The Catholic University of America Press, 2009), especially the introduction and chapter 1.

In the exceptional scenario of a plague-infected city, there are sights that challenge the observer's ability to describe them. H.F.'s use of language acknowledges this challenge and reacts by choosing not to give an interpretation to what he sees. His application of the *hypotheses non fingo* is a self-imposed limitation put on its expressions, a continuous declaration that it is 'impossible to describe' (pp. 69, 141). Like the Newton described by Fontenelle in the *Éloge*, H.F. attempts to limit himself to 'prying into Nature [...] in as accurate and importunate a manner'.²¹⁵

As a result, in the *Journal* human intervention is entirely supplementary in the face of nature. At best, man can watch as plague takes its course, fully embracing the role of the passive observer and avoiding deforming the object of observation by trying to make sense of it. When plague is seen as a symbol rather than as a topical question, it looks as if H.F. advocates a relinquishment of human interpretation. In a significant episode, during his visit to the mass grave H.F. counters the invitation of the sexton to make sense of what he sees – 'twill be a Sermon to you, it may be, the best that ever you heard in your Life. 'Tis a speaking Sight [...] and has a Voice with it, and a loud one, to call us all to Repentance' – with an aphasic comment that refuses all manner of interpretation: 'it is impossible to say any Thing that is able to give a true Idea of it to those who did not see it'. H.F. opts for expressing the intensity of this frightening view not by means of a metaphor but by the numerical accumulation of 'very': 'it was indeed *very, very, very* dreadful, and such as no Tongue can express' (p. 54). The plague, understood as an inescapable manifestation of nature, teaches man that human interpretation can only convey inaccurate ideas, appropriately resulting in more casualties.

²¹⁵ Fontenelle, *Life and Writings of Sir Isaac Newton*, p. 21.

It was often asserted at the end of the century that Newton, thanks to his supernatural intelligence, could make perfect sense of nature. For everybody else, ‘[a]ll that is left to human ability, is to deform, not to mend her’.²¹⁶ In the face of the discovery made by Newton of the ‘art by which art by which all things were made’ in nature, as Colin MacLaurin wrote in his account of Newton’s discoveries, we ‘ought to be afraid to intermix with it our own extravagant conceits’.²¹⁷ The confidence that the powers of reason that allowed Newton to uncover the secrets of nature would extend to other people, a position that as discussed in Chapter 1 was common among commentators in the first half of the century, finds no place in the *Journal*. Accordingly, at the end of H.F.’s account of the Great Plague there is no trace of a *dénouement*. Everybody tried to make sense of a disease that, like gravity, was impossible to see but, without the abilities of a Newton, it was impossible to understand its mechanisms. At the end of the text no advancement has been made. Nobody has understood how the disease worked and how to limit its contagion in case of a new epidemic.

²¹⁶ *World and Fashionable Adviser*, Monday, February 5, 1787; Issue 31.

²¹⁷ MacLaurin, *Sir Isaac Newton’s Philosophical Discoveries*, p. 13.

Chapter 3

Sagacious Doubt.

Fielding's Ambivalence to the Powers of Man

1. Towards an Epistemological Outlook of Fielding's Interest in Truth

Building on criticism that emphasises his lifelong interest in distinguishing truth from falsehood, it is contended in this chapter that Fielding's philosophical essays and prose fiction works critically respond to the idea, developed in the body of commentaries on Newton, that universal principles in the behaviour of man can be established with the same degree of assuredness with which Newton was said to have discovered the laws of nature. Making use of the liberty provided by fiction, in *Jonathan Wild* (1743) and *Tom Jones* (1749) Fielding investigates whether one could, like Newton, avoid hypotheses and determine the universal principles of human behaviour. The answer is both affirmative and negative according to different narrative levels. Characters in the novels are structurally prone to be deceived because they are governed by their imagination, while the omniscient narrator, who knows how the story ends, engages in conversation with the readers with the aim of educating them to a scientific analysis of the behaviour of his characters. Fielding's goal is the improvement of the 'sagacity' of readers, a key term in commentaries on Newton because the penetrating sight was one of the most important ways in which Newton's reason was conceptualized. This aim, I argue, can only be achieved in fiction. In his later texts produced as a magistrate, Fielding is unable to exercise the sagacity he predicates. He takes erroneous decisions based on the trust in appearances he condemned as a novel writer. His late position on the uselessness of natural philosophy in *Covent-Garden Journal* (1752) suggests that the ideal of a sagacious

observer unaffected by prejudices and able to behold nature without disturbances is one that can paradoxically only be achieved in the imaginary domain of fiction.

The first question to discuss is Fielding's exposure to the commentaries on Newton. He owned Pemberton's *A View of Sir Isaac Newton* and MacLaurin's *An Account of Sir Isaac Newton's Philosophical Discoveries* (1748). It is unclear whether Fielding ever possessed a copy or read the *Principia* and the *Opticks*, but the presence of Pemberton and MacLaurin indicates at least some level of interest in the commentaries on Newton's ideas. This interest perhaps extended to the field of natural philosophy. Works by Bacon, Boyle and Locke are all present, along with related works such as Ralph Cudworth's *The True Intellectual System* (1678), Richard Cumberland's *A Treatise of the Laws of Nature* (1672), the third Earl of Shaftesbury's *Characteristics* (1711), George Berkeley's *Siris* (1744), and David Hume's *Enquiry Concerning Human Understanding* (1748). The collection was complemented by a sample of important philosophical works written by continental philosophers like Montaigne, Pascal, Spinoza and Malebranche.²¹⁸

Drawing conclusions from the books found in the library of a writer is risky. Having owned a book does not entail that it was read, having read it does not entail that it was understood and appreciated, and having understood it does not entail that it was made use of in writing. In this thesis I have argued for an alternative approach to Newton's influence in the eighteenth century. Looking for the traces of a dissemination rather than attempting to demonstrate a direct reading of Newton means concentrating on the indirect influences that his ideas had throughout the

²¹⁸ Frederick G. Ribble and Anne G. Ribble, *Fielding's Library: An Annotated Catalogue*, (Charlottesville: University Press of Virginia, 1996), pp. xxvii, xxxi.

century. Fielding begun his activity as a writer at a crucial juncture in the diffusion of the body of commentaries on Newton. Newton had died in 1727 and from that moment commentators promoted him in the image of a supernatural demi-God, ‘the Hercules of a fabulous story, to whom the ignorant ascribed all the feats of the ancient heroes’, as Voltaire puts it.²¹⁹ As argued in the introduction, this image became progressively detached from the real person, making Newton’s figure and ideas more appealing for people not immediately interested in them and uninterested in the technicalities of the *Principia* or the *Opticks*. Typically, exposure to Newton’s ideas was second- or third-hand, to the point where it is no longer easily traceable historically – it might well have happened through simple conversations at a coffee house, perhaps starting from one of the many newspaper articles published about Newton decades after his death.²²⁰

As a writer of occasional forms Fielding was highly receptive of public discussions. Fielding’s plays, essays and novels are rich in references to present-day matters, and the many newspaper articles he wrote in his life commented on the topics of the day.²²¹ So, regardless of whether he read the *Principia* or the *Opticks*, Fielding must have had a clear perception of what has been called ‘the public science at the age of Newton’.²²² His writing activity, spanning from 1728 (with the play *Love in Several Masques*) to 1754 (with the travelogue *Journey of a Voyage to Lisbon*), occurs in decades of acute public interest in all things scientific, a process that Larry

²¹⁹ Voltaire, *Letters*, p. 96.

²²⁰ See Thomas Broman, ‘The Habermasian Public Sphere and Science in the Enlightenment’, *History of Science*, 36 (1998), 123–49.

²²¹ J. Paul Hunter, *Occasional Form: Henry Fielding and the Chains of Circumstance* (Baltimore: Johns Hopkins University Press, 1975).

²²² Coppola, *The Theater of Experiment*, p. 4.

Stewart famously called ‘the rise of public science’.²²³ Therefore, it is essential to establish Fielding’s rapport with the scientific activity of his time. Many of the references that can be found in his works are plainly satirical. In line with a tradition that goes back to Aphra Behn, Lord Buckingham and Thomas Shadwell, Fielding lampoons the stereotypical science practitioner exclusively interested in wonderful, astonishing discoveries. When the fictitious bookseller in *A Journey from This World to the Next* (1743) shows his text to some of the members of the Royal Society, their reactions consists of shaking their heads in disappointment, for not even a reportage of a journey to the netherworld was ‘wonderful enough for them’.²²⁴

It must be considered that these attacks are reserved for members of the Royal Society, a favourite subject for the witty remarks of satirical writers after the Restoration. When it comes to what he believed to be more serious science, Fielding readily recognizes, and even praises, its importance. The epilogue of the play *Pasquin* (1737) evokes patriotic tones when asking: ‘Can the whole world in science match our soil? / Have they a LOCKE, a NEWTON, or a BOYLE?’. Here Fielding cannot be sardonic, for the couplet that follows, a devout reference to William Shakespeare and Ben Jonson, is used to construct a virtual pantheon of British greats that replicates the Temple of British Worthies in Stowe designed by William Kent in 1734. Therefore, it is critical to set Fielding’s activity within the timeframe of the commentaries on Newton. After settling back to London from the University of Leyden, Fielding started his successful career as a playwright with the comedy *Love*

²²³ Stewart, *The Rise of Public Science*. See also Coppola, *The Theater of Experiment*, pp. 180–186.

²²⁴ Henry Fielding, *Miscellanies*, 3 vols, ed. Bertrand A. Goldgar (Oxford: Clarendon Press, 1997), II, 87.

in *Several Masques*, published in 1728. This was the year just after Newton's death, which started a period that Mordechai Feingold, following Fontenelle, called 'apotheosis': two decades of heightened cultural re-elaboration of both the ideas and the figure of Newton.²²⁵ At this time, Fontenelle explains,

[Newton's] Philosophy hath been adopted throughout England, it prevails in the Royal Society, and in all the excellent performances which have come from thence; as if it had been already made sacred by the respect of a long series of ages. In short He was referenced to so great a degree that death could not procure him new honours, and he himself saw his own *Apotheosis*.²²⁶

A panoply of publications aimed at popularising the complexities of *Principia* and *Opticks* proved instrumental in creating the image of a genius whose preternatural abilities allowed him to observe nature like nobody had done before. Praising Newton's sagacity was somewhat of a commonplace in the decades following his death, and Fielding was particularly perceptive of Newton's importance. In a passage of *Jonathan Wild* that seems to reference Algarotti's *Newtonianism for the Ladies* (published in London a few months before), Fielding wonders at those ladies who prefer a *beau* to Isaac Newton:

For my own part, let any man chuse to himself two beaus, let them be captains or colonels, as well-dressed men as ever lived, I would venture to oppose a single Sir Isaac Newton, a Shakespear, a Milton, or perhaps some few others, to both these beaus; nay, and I very much doubt whether it had not been better for the world in general that neither of these beaus had ever been born than

²²⁵ Feingold, *Newtonian Moment*, p. 170.

²²⁶ Fontenelle, *Life and Writings of Sir Isaac Newton*, pp. 25–26.

that it should have wanted the benefit arising to it from the labour of any one of those persons.

If this be true, how melancholy must be the consideration that any single beau, especially if he have but half a yard of ribbon in his hat, shall weigh heavier in the scale of female affection than twenty Sir Isaac Newtons!²²⁷

The juxtaposition with Shakespeare and Milton suggests that Fielding recognized Newton as an important reference point for the culture of his age, one that could be praised regardless of whether one had specialist knowledge of his works. Uninterested in a science that dabbles in the discovery of curiosities, Fielding is instead attracted to the potential for what Henry Knight Miller calls the ‘rational and enlarging discourse’ of science.²²⁸ As argued at length in Chapter 1, the ‘reason’ that was said to animate Newton’s efforts in natural philosophy was conceptualized as the faculty that effaces conjectures, the interferences of the imagination. By excluding conjectures, it became possible to observe nature accurately. Reason was conceptualized as the ability of seeing clearly and penetratingly, and Newton, being the person most equipped with reason, was praised for his ‘wonderful Sagacity’.²²⁹ Newton’s sagacity was believed to have been extended to the whole of humankind.

²²⁷ Fielding, *Miscellanies*, eds Bertrand A. Goldgar and Hugh Amory (Oxford: Clarendon Press, 1997), III, 101.

²²⁸ Henry Knight Miller, ‘Henry Fielding’s Satire on the Royal Society’, *Studies in Philology*, 57:1 (1960), 72–86 (pp. 79–81).

²²⁹ Derham, *Astro-Theology*, p. 154. As Newton’s figure became increasingly mythicized, his mind and eyes are conflated into the same faculty that boasted ‘piercing Pow’rs’. In Moses Browne, *Poems on Various Subjects. Many Never Printed Before* (London, 1739), p. 365.

‘I could never concur’, wrote James Jurin in response to the criticism of Newton advanced by George Berkeley in his treatise *The Analyst* (1734), that

the Great Inventor of this method, and the Author or [*sic*] so many other wonderful discoveries, never knew or thought of what to us appears so plain and manifest; that he who gave us so much Light, was in the dark himself; that he who opened our Eyes, had no sight of his own. For my part I can never concur with you in thinking that I see farther, or go beyond Sir Isaac Newton.²³⁰

When Fielding begins his career as a writer, the most relevant of the commentaries on Newton was Henry Pemberton’s *A View of Sir Isaac Newton’s Philosophy* (1728), in which Newton is described with unprecedented grandeur as ‘the boast of this nation’. While Newton was often described as a genius in his late years, it is after his death that his figure starts to be increasingly referred to as that of a benefactor, not simply of the English people but of humankind as a whole. According to Pemberton, Newton had done ‘honour to human nature’ by extending ‘the greatest and most noble of our faculties, reason, to subjects, which, till he attempted them, appeared to be wholly beyond of our limited capacities’.²³¹

At a time when reason was conceived of as a ‘Newtonian Sun’ that clears the sight and allows a penetrating observation of nature’s secrets, Fielding shows a keen interest in the ability to distinguish truth from falsehood.²³² As Everett Zimmerman

²³⁰ James Jurin, *Geometry No Friend to Infidelity: or, A Defence of Sir Isaac Newton and the British Mathematicians, in a Letter to the Author of the Analyst* (London, 1734), p. 70.

²³¹ Pemberton, *View*, ‘Dedication’.

²³² Walter Harte, *An Essay on Reason* (London, 1735), p. 13.

contends, a common characteristic shared by Fielding's fictional narrators is that they constantly comment, overtly or covertly, on the process whereby facts are established.²³³ But, as I argue in this next section, the concern with fiction should be replaced with a broader view of Fielding's works and their concern with the problem of how man knows nature with the same certainty boasted by Newtonians of their leader.

The determination of truth from falsehood is a pervasive concern across many of the texts written by Fielding, before, during and after his career as a novelist. The plot of one of his first plays, *Rape upon Rape* (1730), is based on the representations made by a corrupt judge. In the famous *An Apology for the Life of Mrs. Shamela Andrews* (1741), Fielding declares that his goal is to correct the 'many notorious FALSEHOODS and MISREPRESENTATIONS' [sic] of Samuel Richardson's *Pamela*. Examples abound in the fictional prose works. *Jonathan Wild* (1743) is the story of a rogue who successfully becomes rich by manipulating his appearances, escaping justice by taking advantage of loopholes in the law of evidence and enjoying the favour of the crowd during his execution. In *Tom Jones* (1749), the plot is set in motion by a vicious representation of the behaviour of the main character to Allworthy, who is both squire and Justice of the Peace. *Amelia* (1751) famously opens with a description of a string of unjust condemnations by a judge emblematically named Mr. Thrasher. This interest in the mechanics of truth-making,

²³³ Everett Zimmerman, *The Boundaries of Fiction* (Ithaca and London: Cornell University Press, 1996), p. 4. The third-person narrators in *Joseph Andrews*, *Tom Jones* and *Amelia*, Roger Maioli adds, always try to 'authenticate their narratives', either by claiming that a given event really happened or by emphasizing the probability that it could have happened. Maioli, 'Empiricism and Henry Fielding's Theory of Fiction', p. 217.

however, extended to Fielding's legal experiences too, first as a lawyer and then as a Justice of the Peace in Westminster, London. Because of his legal roles, Fielding was acutely aware of the challenges of passing judgment, especially when erroneous assessments resulted in decisions costing the life or reputation of innocent people. This is what happened in 1749 with Bosavern Penlez, a twenty-three-year-old who was hanged because of a false testimony that Fielding had accepted as genuine, and with Elizabeth Canning, a maidservant whose pretended abduction Fielding mistakenly believed in. In both cases, Fielding would write texts defending his decisions (examined in the last section of this chapter) which reveal the complexity of determining truth in the legal system.

Thus, as a man of the law and a writer by profession, Fielding enjoyed an uncommon position that allowed him to ponder at length on the problems of establishing truth.²³⁴ This position is embraced by Martin C. Battestin in the influential Wesleyan edition of Fielding's three major novels, with the specification that Fielding did so because he wanted to promote social reform in favour of the destitute. In the biography written with Ruthe R. Battestin, Fielding is portrayed as he 'toil[s] in Covent Garden to dispense justice and help the poor', very much like the Allworthy of *Tom Jones*. Errors of judgment are, like those of Allworthy, 'the consequence of an overweening confidence in his own perspicacity and the benevolence of his motives' which do not stain a magistracy defined as 'the story of an exemplary, even a sacrificial dedication to the public welfare'.²³⁵ The Fielding described by the Battestins has his primary aim in educating fellow members of

²³⁴ Martin C. Battestin and Ruthe R. Battestin, *Henry Fielding: A Life* (London and New York: Routledge, 1989), p. 462.

²³⁵ Battestin and Battestin, *Henry Fielding: A Life*, pp. 463, 468.

society to distinguish what is good and what is evil. According to the Battestins, this goal is achieved by carefully weighing testimonies in the criminal court as well as by promoting examples of virtuous behaviours in the fiction. The final evaluation is that the promotion of good nature and charity define the ethical orientation of Fielding's entire work.²³⁶

This is a generous interpretation that ignores Fielding's well-documented habit of lambasting the mob of the London poor in his newspaper, as well as his distinctly brutal record as a trial judge.²³⁷ The problem is one of focus, as Robert D. Hume has contended in his commentary on the completion of the Wesleyan edition of Fielding's works. Interpretations like that of Battestin build mainly, if not exclusively, on the novels, without paying sufficient attention to the rest of the material published by Fielding as a social commentator and as a magistrate.²³⁸ The

²³⁶ Martin C. Battestin, ed., *Twentieth Century Interpretations of Tom Jones* (Englewood Cliffs: Prentice-Hall, Inc., 1968), p. 10. See also Morris Golden, *Fielding's Moral Psychology* (Boston: The University of Massachusetts Press, 1966).

²³⁷ For Fielding's opinion on the 'fourth estate', see the leader of the 47th issue of *Covent-Garden Journal* in Henry Fielding, *The Covent-Garden Journal and A Plan of the Universal Register-Office*, ed. Bertrand A. Goldgar (Oxford: Clarendon Press, 1988), pp. 259–264; Henry Fielding, *An Enquiry into the Causes of the Late Increase of Robbers and Related Writings*, ed. Malvin R. Zirker (Oxford: Clarendon Press, 1988), pp. xxii. Some scholars have convincingly argued that the textual apparatus of Battestin's Wesleyan edition of Fielding's novels shows a marked preference for quotations from, or of, English divines, as well as an unjustified focus on the values of prudence and providence. See Ronald Paulson, 'The Jacobite's Journal and Related Writings by Henry Fielding, W. B. Coley; The History of Tom Jones: A Foundling by Henry Fielding', *Modern Language Review*, 71:4 (1976), 888–891 (p. 891); Arthur Sherbo, 'Henry Fielding. *Joseph Andrews* by Martin C. Battestin', *Journal of English and Germanic Philology*, 67:3 (1968), 520–522 (p. 521).

²³⁸ Robert D. Hume, 'Fielding's *Plays* and the Completion of the Wesleyan Edition', *Huntington Library Quarterly*, 75:3 (2012), 447–463 (p. 452).

problem of clearly identifying truth and falsehood is developed by Fielding across a variety of situations, showing a sustained, complex engagement with the modality of knowledge-making that challenges J. P. Hunter's claim that, for Fielding, ethical practice was more relevant than epistemological abstractions.²³⁹ Across essays, fictional works and writings published during his tenure as a magistrate, Fielding tackles from different perspectives the question of whether it was possible for man to know with certainty. He does that as an exercise in what Battestin calls his 'overweening confidence': Fielding advocates sagacity as the ability to detect the principles that regulated the behaviour of human nature with the assuredness that was associated with Newton's discovery of the principles of nature. To this position, first elaborated in the *Essay on the Knowledge of the Characters of Men* (1743), I now turn.

2. The Ability of the Few: Sagacity in *An Essay on the Knowledge of Character*

Included in the first volume of the *Miscellanies*, the *Essay on the Knowledge of the Characters of Men* is a text animated by the argument that an attentive observer can discover a set of principles that define the behaviour of man regardless of the context. The foundations for this claim are laid through an attack against those writers who, according to Fielding, would 'invent systems' to discover the principles that govern the behaviour on 'man in general'. The critique of the invention of systems is a classical locus of the body of commentaries on Newton. The favourite target was Descartes, who, as a newspaper article would put it years later, 'had recourse to

²³⁹ Hunter, *Occasional Form*, pp. 3, 78, 80.

constructing systems, which are merely the offspring of invention, and, like bubbles, vanish into air, when examined by the touchstone of true philosophy' – that is, Newton's ideas.²⁴⁰

At the beginning of the *Essay* Fielding seems to direct his attack to all of those who attempt to find uniformity in human nature. Such people, Fielding claims, seem 'not sufficiently to have studied human nature', and thus fail to notice the 'immense variety of characters' that make persons different from one another.²⁴¹ It is thus surprising to see, in the space of a few pages, Fielding engaged in explaining to his readers that man has a universal tendency to seek the society of other people. Fielding's claim is reminiscent of an argument made with clear allusion to Newton's universal principles, this time by George Berkeley, who in one of the essays he wrote for the *Guardian* (a periodical ran by Richard Steele for six months in 1713) maintained that a 'like principle of attraction operates in the Spirits or Minds of men [...] whereby they are drawn together in communities, clubs, families, friendships, and all the various species of society'.²⁴² This argument, based on the traditional Aristotelian dictum that man is a social animal, is elevated by Berkeley to the rank of a law of nature that has the same certainty of the gravitational force in the solar system identified by Newton. As Harry Elmer Barnes explains:

²⁴⁰ *Lloyd's Evening Post and British Chronicle*, April 17, 1761 – April 20, 1761; Issue 578.

²⁴¹ Henry Fielding, *The Journal of a Voyage to Lisbon, Shamela, and Occasional Writings*, ed. Martin C. Battestin (Oxford: Clarendon Press, 2008), pp. 156–157.

²⁴² George Berkeley, *Works*, 9 vols, eds A. A. Luce and T. E. Jessop (London: T. Nelson, 1948–57), VII, 225–228. See also A. A. Luce, 'Berkeley's Essays in the *Guardian*', *Mind*, 52:207 (1943), 247–263.

As the attractive principle of the universe is the key to the natural phenomenon, so is the social instinct the source and explanation of all the various actions of man in society which may be called moral.²⁴³

Regardless of his familiarity with Berkeley's argument, Fielding also maintains that human sociability is one of the 'general rules of morality' that holds universally because it is constitutive of human nature.²⁴⁴

Fielding was not alien to universal claims about human nature. The *Essay on Conversation* (1743) argues that there is indeed a 'general rule of man's being a social animal' and uses it to construct an argument that will be found valid by 'whoever is well read in the book of nature'.²⁴⁵ These definitions of universal properties of human nature are in stark contrast with the claim made at the beginning of the *Essay on Characters* that human nature displays an immense variety in its manifestations. While this could be a typical instance of what Empson calls 'double irony' – Fielding's peculiar ability to hold two positions at odds with each other – the use of 'character' as the title of the text hints that Fielding aims at reducing the various manifestations of human behaviour to the identification of common principles that hold universally.²⁴⁶ As Deidre Lynch contends, the concept of character in eighteenth-century England rests on the assumption that new experiences that had no precedent for readers could still be interpreted with the assuredness reserved for the discovery of a new scientific fact. Literate Britons like Fielding believed themselves

²⁴³ Harry Elmer Barnes, 'Bishop Berkeley's Essay on Moral Attraction: An Illustration of the Influence of Seventeenth Century Natural Science on Social Philosophy', *The Open Court*, 4 (1922), 251–256 (p. 253)

²⁴⁴ Fielding, *Essay on Characters*, p. 247.

²⁴⁵ Henry Fielding, 'An Essay on Conversation', p. 249.

²⁴⁶ William Empson, 'Tom Jones', *Kenyon Review*, 20 (1958), 27–49 (p. 32).

to be ‘the beneficiaries of a symbolic environment that was founded on principles of perspicuity and accessibility and in which truths could be self-evident’.²⁴⁷ As Pemberton had put it in his commentary on Newton’s ideas, principles, if they are to be determined once and for all, must not be a ‘fanciful simplicity and regularity’ but a direct discovery from nature.²⁴⁸ In a passage that resonates with the description made in commentaries on Newton of his ‘deep penetration and perspicuity’, Fielding advocates that the contradiction between the infinite variety of human character and the determination of principles depends on being an accurate observer.²⁴⁹ Fielding’s argument runs parallel to that of Pemberton. The variety of man is a consequence of the ‘masquerade’ worn, but to the eye of the ‘accurate observer’, nature is ‘ever endeavouring to peep forth and show herself’:

[H]owever cunning the disguise be which a masquerade wears; however foreign to his age, degree, or circumstance, yet if closely attended to, he very rarely escapes the discovery of an accurate observer; for Nature, which unwillingly submits to the imposture, is ever endeavouring to peep forth and show herself; [...] In the same manner will those disguises, which are worn on the greater stage, generally vanish, or prove ineffectual to impose the assumed for the real character upon us, if we employ sufficient diligence and attention in the scrutiny. (p. 283)

²⁴⁷ Deidre Lynch, *The Economy of Character: Novels, Market Culture, and the Business of Inner Meaning* (Chicago and London: Chicago University Press, 1998), p. 5.

²⁴⁸ Pemberton, *View*, p. 9.

²⁴⁹ *Lloyd’s Evening Post and British Chronicle*, October 18, 1758 – October 20, 1758; Issue 196.

Differently from Pemberton's belief that the ability to reason was gifted by Newton to the rest of humankind, for Fielding the 'diligence and attention in the scrutiny' is limited to the few who recognize that man is prone to distort what he sees. In this sense, Fielding is closer to the less optimistic view held by MacLaurin. What Fielding calls 'imposture' and 'disguise', MacLaurin, the author of *An Account of Sir Isaac Newton's Philosophy* (1749), would call, a few years later, 'fictions':

The processes of nature lie so deep, that, after all the pains we can take, much, perhaps will remain undiscovered beyond the reach of human art of skill. But this is no reason why we should give ourselves up to the belief of fictions, be they ever so ingenious, instead of hearkening to the unerring voice of nature; for she alone can guide us in her own labyrinths.²⁵⁰

MacLaurin builds on Newton's motto *hypotheses non fingo* to delineate a clash between unreliable man-made knowledge and certain knowledge obtained by observing nature. To be 'secure that truth and nature' are on our side, MacLaurin argues, it is necessary to adhere to 'the genuine method of treating natural philosophy' described by Newton consisting of laying aside all 'prejudices'.²⁵¹ Like MacLaurin, in the *Essay* Fielding establishes an opposition between the 'unerring voice of nature' against knowledge produced by people. Fielding is especially sceptical of relying on personal testimony as the gauge of the real character of a person, to the point that he claims that 'the Few Rules which generally prevail [...] are utterly false, and the very Reverse of Truth', and our want of habit in observation brings us to 'almost universally mistake the Symptoms which Nature kindly holds

²⁵⁰ MacLaurin, *Sir Isaac Newton's Philosophical Discoveries*, p. 12.

²⁵¹ MacLaurin, *Sir Isaac Newton's Philosophical Discoveries*, p. 14.

forth to us' (pp. 156–157). But this straightforward position is complicated by the complementary argument that man is systematically deceived by appearances. To make this point, Fielding argues that there is no 'more simple, unjust, and insufficient Method of judging Mankind, than by public estimation'.²⁵² The *Essay* is in fact directed to the few who, like Fielding himself, have the gift to be sceptical of the claims made by other people and look at the 'Actions of Men', which for Fielding are the 'surest Evidence of their Character', rather than to appearances. The ability to produce knowledge about the character of people, he argues, depends on making use of 'an accurate and discerning Eye', which is 'the Property of the few', while 'the Generality of Mankind mistake the Affectation for the Reality' (p. 162).²⁵³

For those few gifted individuals who are able to annul their prejudices at will, Fielding enumerates 'the principal Methods by which Deceit works its Ends on easy, credulous, and open Disposition'. In this final part, the *Essay* is re-configured as a 'Guide to direct us to the Knowledge of Men' – a guide on the efficiency with which 'we may with the greatest Certainty rely' based on Fielding's own discerning observation (p. 174). While 'certainty' in knowledge about men and their characters should not be likened to that of mathematics – the concept is qualified by the adjective 'greatest', a linguistic choice that suggests that the ideal of absolutely demonstrative knowledge is unattainable – evaluating the actions of men rather than their speech results in an increase of the degree of probability so high that it amounts

²⁵² Fielding, *Miscellanies*, I, 156–157.

²⁵³ In *Occasional Form*, Hunter makes a similar point but about Fielding's novels. Hunter argues that Fielding 'moves quickly from tone to tone and posture to posture' because of an unwillingness 'to settle for the easy trusts and distrusts of majority taste'. This definition of Fielding's irony of the author is however related to a 'persistent concern' with 'modes of moral laxity' (p. 3).

to high certainty. In response to the question of ‘how shall we then distinguish with any Certainty the true from the fictitious?’, Fielding proposes that a fact is established through a ratio of ‘Ninety Nine Times in a Hundred’ (p. 168). This statistical way of ascertaining truth eludes subjective evaluations and approximates the mathematical certainty advocated by Roger Cotes in the preface to the second edition of *Principia Mathematica* (1713) to counter those who ‘patch[ed] up a most absurd figment of their imagination’ instead of detecting ‘the nature of things’.²⁵⁴ Once the imagination is shut off and conjectures are not fabricated, it is possible to glance at the nature of man concealed behind appearances and see its true nature. This ability, which in *Tom Jones* Fielding will call ‘sagacity’, is reserved to a few. For the benefit of those few, Fielding uses his fiction to portray the problems resulting from a lack of sagacity, as I now examine.

3. Unavoidable Conjectures: The Problem of Sagacity in *Jonathan Wild* and *Tom Jones*

The plot of *The History of the Life of the Late Mr. Jonathan Wild the Great* (1743) revolves around the vicissitudes of the famous rogue and thief-taker Jonathan Wild.²⁵⁵ Wild prospered in the first half of the century by exploiting the pitfalls of the English legal system, eventually acquiring a public celebrity that made Defoe write *A True and Genuine Account of the Life and Actions of the Late Jonathan Wild* (1725). Defoe portrays Wild as a negative example whose story could edify the readers on the nature, and practical manifestation, of sin. There’s little doubt that

²⁵⁴ Cotes, ‘Editor’s Preface to the Second Edition’, p. 393.

²⁵⁵ According to Robert D. Hume, *Jonathan Wild* is also a satire on Walpole the Prime Minister. See ‘Completion of the Wesleyan Edition’, p. 454.

according to Defoe Wild's actions 'merited the Gallows'.²⁵⁶ In Fielding's *Jonathan Wild*, instead, the narrator portrays the highwayman as a socially successful figure. Fielding constantly describes Wild in the act of forging his own reputation, while the society surrounding him is portrayed as blindly buying into his deceptions.

Specifically, Wild prospers because he can modify his language and his appearance to emulate those of a gentleman:

Wild now made a considerable Figure and passed for a Gentleman of great Fortune in the Funds. Women of Quality treated him with great Familiarity, young Ladies began to spread their Charms for him.²⁵⁷

Disguised as what people would typically call a man of honour – a person whose high ranking vouches for the truth of his statements – Wild is described by Fielding as wearing a 'masquerade', to use the language of the *Essay on Characters*, that enables him not only to talk on par with other gentlemen, but also to question their testimony, deny accusations and even challenge his accusers to 'find a Witness to prove' their allegations (p. 54).²⁵⁸

To the reader of Fielding's *Essay*, Wild's statements and behaviours should clearly appear those of an impostor. Given the universal truth that man is prone to lie for deception, it would be enough to observe his actions and mark their discrepancies

²⁵⁶ Daniel Defoe, *The True and Genuine Account of the Life and Actions of the Late Jonathan Wild* (London, 1725), p. vi.

²⁵⁷ Fielding, *Miscellanies*, III, 23.

²⁵⁸ The argument to support a reading of Fielding's fictional works in light of his essays is compellingly made by Robert Alter, who claims that 'the moral and social commentator, Fielding the so-called essayist, is *always* present' in the novels. Robert Alter, *Fielding and the Nature of the Novel* (Cambridge, MA: Harvard University Press, 1968), p. 99.

with his words and disguises. As Fielding had put it in the *Essay*, as long as ‘sufficient diligence and attention in the scrutiny’ is employed, a person in disguise ‘rarely escapes the discovery of an accurate observer; for Nature, which unwillingly submits to the imposture, is ever endeavouring to peep forth and show herself’ (p. 283). Yet, as Fielding also argued in the *Essay*, this form of accurate observation was reserved to the few. Most people fall short of the accuracy required to perceive human nature clearly, and the characters in *Jonathan Wild* are all unable to see through the travesties of Wild and his accomplices. The Count represents a case in point. An accomplice of Wild’s, he disguises himself as a gentleman to acquire a precious gem from the jeweller Heartfree. He promises to pay the money back and the jeweller mistakenly trusts him. The mistake does not specifically depend on the credulousness of Heartfree for, as Fielding clarifies, the Count’s ‘House, his Equipage, his Appearance, but, above all, a certain Plausibility in his Voice and Behaviour would have deceived’ anybody. On these grounds, the jeweller does not ‘in the least scruple giving him Credit’ because anybody else would have done the same (p. 92).

This reading is reinforced, in an apparent paradox, by the fact that even Wild’s accomplices, who are supposed to know him and even adopt the same strategy of forging their own reputation, acknowledge the protagonist as a man of honour. During an altercation between Wild and one of his men called Bagshot, the latter accuses the ‘hero’ of having taken money from him. Wild reverses the situation by appealing to his status as a man of honour to the point that, like a well-respected gentleman, he asks for a duel to receive satisfaction:

‘What Satisfaction would you have?’ (answered the other.) ‘Your Money or the Sword,’ said *Wild*. ‘Why lookye, Mr. *Wild* (said *Bagshot*) if you want to

borrow a little of my Part, since I know you to be a Man of Honour, I don't care if I lend you'. (p. 28)

While even Wild's accomplices are unable to see through his deception, Wild himself is, like Fielding, an accurate observer of human nature. In a passage that seems lifted from Fielding's *Essay on Character*, Wild argues that his prosperity depends on the fact that almost nobody can detect when they are deceived. Wild is one of the few who can detect imposture, and that is the reason why he thrives. 'Is Honour Truth? No', Wild answers to his own ponderation: honour is just a linguistic construction that, since it can be easily counterfeited, should never be taken at face value:

In what then doth the Word Honour consist? Why in itself alone. A Man of Honour is he that is called a Man of Honour; and while he is so called, he so remains, and no longer. Think not any Thing a Man commits can forfeit his Honour. Look abroad into the World, the Prig while he flourishes is a Man of Honour; when in Gaol, at the Bar, or the Tree, he is so no longer. And why is this Distinction? Not from his Actions [...]; but because Men call him a Man of Honour in the former, and cease to call him so in the latter Condition. (pp. 39–40)

A man of honour, Wild argues, is considered so 'not from his actions, but because Men call him [so]'. Therefore, Wild is one of 'the Few' who in the *Essay on Characters* were claimed to be able to distinguish truth from falsehood. Indeed, in *Jonathan Wild* the protagonist is the only one who has the ability to accurately observe the discrepancy between how things really are in nature and how they deceitfully appear to be. This has two important consequences for the argument made in this chapter. First, differently from what Battestin and Douglas Lane Patey argue,

there is no necessary link in Fielding between penetrating sight and moral improvement.²⁵⁹ It follows that, for Fielding, modes of knowing are unrelated to ethical stances. The problem is exclusively epistemological. In *Jonathan Wild*, the protagonist is part of the few who have the accuracy to see the nature of man that hides beneath the deceitful appearances, whereas everybody else is part of the multitude who, for all their good intentions, are constantly deceived. In terms of principles of human nature, this distribution of accuracy provides an exemplification of Fielding's argument made in the *Essay on Characters* that 'the Generality of Mankind mistake the Affectation for the Reality' (pp. 156–157). Even if a few are blessed with uncommon discernment, these are just exceptions in large groups of people with different ethical positions, spanning from Heartfree to Wild's accomplices, who all assess other people based on appearances that are commonly believed to be true (p. 168). The result is that an accurate observer like Wild can take notice of the innate tendency of human nature to trust appearances and take advantage of it.

Fielding's use of the words like 'man', 'mankind' and 'humankind' suggests that *Jonathan Wild* is not to be read as a localized story on the iniquities of a criminal person. Rather, Fielding elevates Wild's biography to the level of an emblematic experiment to prove his claim that the 'Rules which generally prevail' among people 'are utterly false, and the very Reverse of Truth' (p. 156). The inability to tell deceitfulness is systematic in man, a principle that in *Tom Jones* (1749) is given the same validity as Newton's claim that gravitation was universal. In *Tom Jones*,

²⁵⁹ Douglas Lane Patey, *Probability and the Literary Form: Philosophic Theory and Literary Practice in the Augustan Age* (Cambridge: Cambridge University Press, 1984), p. 19.

however, this principle is given an even more extreme formulation compared to *Jonathan Wild*. Everybody is deceived even though everybody is convinced that they are accurate observers of human nature. From the very start, Fielding instates a tension between the knowledge available to the characters within the novel and that which is reserved to the narrator only. This is achieved by beginning the text with a wrong assumption about the future of Tom Jones, which Fielding ironically renders through a vocabulary of ‘universal Opinion’, ‘Conjecture’ and ‘Reason’ which is similar in kind to contemporary polarisations of the Newtonianist distinction between truth and conjectures – as, for instance, in the assessment given in *The Adventurer* (1754) that Newton’s account of the universe was ‘founded upon the most indubitable principles of Reason, Science, and Observation’ in opposition to ‘the intricate mazes of hypothesis and conjecture’ in which man wandered before the publication of the *Principia*.²⁶⁰ In a pledge to follow the ‘Directions of Truth’, the narrator of *Tom Jones* opens the text by claiming that

we are obliged to declare honestly, even at his first Appearance, that it was the universal Opinion of all Mr. Allworthy’s Family, that he was certainly born to be hanged.

Indeed, I am sorry to say, there was too much Reason for this Conjecture.²⁶¹

The ‘universal Opinion’ is that Jones was born to be hanged, a conjecture grounded on its appearing reasonable. But Jones, eventually, is not hanged, and the reader is to discover that all characters were wrong. The question underpinning this complex

²⁶⁰ *Adventurer*, Tuesday, March 5, 1754; Issue 139.

²⁶¹ Henry Fielding, *Tom Jones*, eds Fredson Bowers and Martin C. Battestin (Oxford: Clarendon Press, 1974), p. 109.

beginning is whether a conjecture deemed reasonable by everybody can be said to amount to a truth. In the *Essay*, Fielding's answer would have been that the few endowed with penetration, being able to see the discrepancy between the 'actions of men' and words, could have revealed that the approval of the multitude is not relevant to the establishment of certainty. In fact, the multitude is inclined to deception. But *Jonathan Wild* had struck a negative note, suggesting that it might well be the case that nobody is able to see the nature of man.

In *Tom Jones*, this suspicion is further problematized because even people described as highly reasonable remain unable to see things as they are. Throughout the novel, Allworthy is constructed as the epitome of rationality. He has a keen sense of 'the first Principles of natural Justice' (p. 76) and an instinctive respect of the dictates of the 'Law of Nature' (p. 88). Although familiar with the laws and principles of nature, not even he is able to avoid being deceived. As Jones states at the end of the book, when he eventually forgives Allworthy for the mistaken judgment passed on him, even the wisest person 'might be deceived as you were, and, under such Deception, the best must have acted as you did' (p. 853).²⁶² We can trust the innocence of Allworthy when he promises that 'it was upon the fullest and plainest Evidence that I resolved to take the Measures I have taken' (p. 799) and, though the shortcomings of his interpretation of the evidence available (and thus of his role as a magistrate) are not forgotten, Fielding intimates that the problem was not in his intentions but in a more structural impossibility of doing better. Rather than Allworthy's particular fault, it is a general flaw in human nature that generates the error. Allworthy would have needed super-human knowledge, 'the Insight of the

²⁶² See Homer Obed Brown, 'Tom Jones: The 'Bastard' of History', *boundary2*, 7:1 (1979), 201–33.

Devil', as Fielding calls it, to have 'entertained the least Suspicion of what was going forward' (p. 66).

Truth, Fielding intimates, is beyond the reach of even the most reasonable of humans. This claim is substantiated through general statements on human behaviour uttered by different characters in the occasional moments when they can look back at the events with lucidity. As Sophia puts it at the very end of the novel with an accent that is reminiscent of the *Essay*, the 'human Mind may be imposed on; nor is there any infallible Method to prevent it' (p. 866). And, on the other hand, it is in the nature of man not to tell the whole truth, or to tell it in such a way as to receive some kind of advantage. Jones, regardless of his being wrongly condemned, tells his story as partially as every other person would do. Jones is philosophically aware that 'Appearances [...] are often deceitful', because 'Men sometimes look like what they are not' (p. 394). Nevertheless, Jones is unable to evaluate the veracity of other people. His characteristic, Fielding notes with irony, is, paradoxically, a 'blameable Want of Caution and Diffidence in the Veracity of others' (p. 376). At the same time, Jones is described as having 'the most deceitful Countenance' (p. 381) that leads him, like everyone else, to seek advantage from the stories he tells. As Fielding explains to the reader in one of the meta-textual commentaries that punctuate the text,

let a Man be never so honest, the Account of his own Conduct will, in Spite of himself, be so very favourable, that his Vices will come purified through his Lips [...] so different will be the Motives, Circumstances, and Consequences, when a Man tells his own Story, and when his Enemy tells it, that we scarce can recognize the Facts to be one and the same. (p. 370)

The universal principle stating that human nature connives with, and is a victim of, deceitfulness regulates the events in *Tom Jones*, with the plot unfolding because nobody is able to understand what lies behind the appearances. Notwithstanding the conjectures made by his family, Jones will not be hanged, but this conclusion is only due to a set of random discoveries that free Jones from an unjust accusation. Significantly, there is no improvement in the ability of the characters to see clearly – the truth they learn about Jones being the heir to Allworthy does not depend on their abilities to question their own assumptions. This is exemplified by an overtly sarcastic comment on Mrs Western’s ‘wonderful sagacity’. Sophia’s aunt conceives of herself as a scientific observer but has no direct experience of the workings of nature: ‘she had considered the Matter scientifically’, Fielding writes, ‘but as to the plain simple Workings of honest Nature, as she had never seen any such, she could know but little of them’ (p. 901).

While characters are beyond improvement, the reader is in a privileged, distanced position from which the actions of the characters may be observed. Fielding periodically freezes the narrative to engage directly in a conversation with the reader and deliver maxims in the present tense that are presented as general truths about human behaviour – as, for example, that ‘[i]t is possible for Man to convey a lie in the words of truth’ (p. 844). This is a strategy that, as Peter Dear reminds us, was typical of mathematical texts. Being always true irrespective of changed circumstances, mathematical demonstrations can be expressed in the present tense.²⁶³ The implication of this textual strategy is that Fielding can present himself as the accurate observer of human nature he had described in the *Essay*, in that he is able to

²⁶³ Peter Dear, *Discipline and Experience: The Mathematical Way in the Scientific Revolution* (Chicago: Chicago University Press, 1995), p. 201.

identify the universal principles that regulate the behaviour of humankind. Like the Newton described in newspapers in these years, the Fielding of *Tom Jones* presents himself as able to guide the reader through ‘the intricate mazes of hypothesis and conjecture’, making ‘Nature appears again, in all her primitive simplicity’.²⁶⁴ Like Newton, Fielding claims to ‘draw his Materials from Nature only’ (p. 931) rather than from accepted authorities, a tendency exemplified in a sustained scepticism towards knowledge obtained through textual sources as opposed to that gathered directly from nature:

For however exquisitely human Nature may have been described by Writers, the true practical System can be learnt only in the World. Indeed the like happens in every other Kind of Knowledge. Neither Physic, nor Law, are to be practically known from Books. (p. 997)

While none of the characters in *Tom Jones* are endowed with the sagacity that would allow them to see through deception, the readers are asked to make use of it. The sagacity that Fielding advocates for his readers is not meant as the skill consisting in ‘finding out and using signs; as such, it is for instance the virtue of skilled physician’, which, according to Douglas Lane Patey, provides Fielding ‘with a paradigm of the processes of judgment by which we come to know [a] character and penetrate the meaning of events’.²⁶⁵ The reader is prompted to make use of another type of sagacity, more in line with the confidence exhibited by the commentators on Newton. Consisting of the ability to detect universal truths, this sagacity is defined by William

²⁶⁴ *Adventurer*, Tuesday, March 5, 1754; Issue 139.

²⁶⁵ Patey, *Probability and the Literary Form*, pp. 62, 208.

Sharpe in 1755 as ‘a quicksightedness into men and things’ and a ‘penetration into moral or scientific truth’.²⁶⁶

As Sandra Sherman contends, what Fielding demands from readers is to interest themselves in the epistemology of how the plot unravels, rather than the plot.²⁶⁷ This type of textual enlightenment, however, is not used to judge what happens in the plot. Even though Allworthy is wrong in his judgments on Jones, yet, as the author warns:

Of Readers who from such Conceits as these, condemn the Wisdom or Penetration of Mr. Allworthy, I shall not scruple to say, that they make a very bad and ungrateful Use of that Knowledge which we have communicated to them. (p. 123)

What the reader should do is reflect on the deep reasons that underlie the mistakes in judgment of as reasonable a person as Allworthy. Fielding provides an important clue when he states that

it is our Business to relate Facts as they are; which when we have done, it is the Part of the learned and sagacious Reader to consult that original Book of

²⁶⁶ William Sharpe, *A Dissertation upon Genius; Or, an Attempt to Shew, That the Several Instances of Distinction, and Degrees of Superiority in the Human Genius are not, fundamentally, the Result of Nature, but the Effect of Acquisition* (London, 1755) p. 56. It might also be noted that in *Tom Jones* a good dose of scepticism is reserved for surgeons and doctors, who are constantly described as either unable to perform interpretation or as misinterpreting the symptoms of the bodies they analyse. The climax is reached with the surgeon who exaggerates the condition of Fitzpatrick, thus making Jones condemnable for manslaughter.

²⁶⁷ Sandra Sherman, ‘Reading at Arm’s Length: Fielding’s Contract with the Reader in *Tom Jones*’, *Studies in the Novel*, 30:2 (1998), 232–245 (p. 238).

Nature, whence every Passage in our Work is transcribed, tho' we quote not always the particular Page for its Authority. (p. 335)

With the distance provided by the book, the duty of the 'learned and sagacious Reader' is not to evaluate the particulars of the plot, but to 'consult that original Book of Nature' to verify, and confirm, the principles that cause even somebody as reasonable as Allworthy to be mistaken. As man is universally prone to be deceived, and Allworthy is a person, hence he is bound to be deceived.

However, it is not clear if the reader should trust the author's voice, who, being a person, is subject to deceive and being deceived as much as anybody else. Fielding himself is conscious of this, and strategically disclaims that, notwithstanding his universal claims scattered throughout the text, he is not 'writing a System, but a History, and I am not obliged to reconcile every Matter to the received Notions concerning Truth and Nature' (p. 573). In retrospect, the conclusion of *Jonathan Wild* plays on precisely the tension between Fielding's claim that he can sagaciously detect, and enunciate, the principles of human nature with the possibility that he too, like everybody else, might be either deceiving or deceived. In a final digression in which Fielding reflects on the paradox of Wild, a highwayman who was admired despite his use of the credulousness of people to take advantage of them, it is concluded that Wild 'must appear admirable' precisely for his defiance of 'common sense'. This contradiction constitutes a 'challenge not only the Truth of History, but almost the Latitude of Fiction to equal it'.²⁶⁸ Except that Wild was a real character who, for all of Fielding's satirical depiction, was to an important extent publicly

²⁶⁸ Fielding, *Miscellanies*, III, 179.

admired notwithstanding his dubious actions.²⁶⁹ Wild, Fielding writes at the beginning of the text, is not ‘a perfect or consummate pattern of human excellence’ because of ‘some little imperfections which shadowed over the lustre of [the] great qualities’. The question is whether such imperfections make him different from other people. If we take seriously the initial claim that the life of Wild is told in order to ‘lament the frailty of human nature’ and convince the reader that ‘no mortal, after a thorough scrutiny, can be a proper object of our adoration’, then Wild’s inclination to lie for advantage is not the real subject of the story. The real subject is, instead, the systematic inability of people to detect deception, their confusion between a received conception of human nature and the real thing.²⁷⁰ By the same token, *Tom Jones* reads as a story that, notwithstanding its successful conclusion, reveals a universal inability to distinguish human lies from truth.

Readers are trained to be sagacious, but, like Fielding, they can only do so with the privilege of distance, and with the proviso that the truths they believe to have glanced are just deceptions. Moreover, the question remains open as to whether the sagacity predicated by Fielding could be exercised as events unfolded, rather than with hindsight only. While in the *Essay* Fielding claims that a few sagacious beholders can carefully observe the actions of men and thus understand their real motives, in *Jonathan Wild* and *Tom Jones* there is less optimism. At a time when

²⁶⁹ On the life of Jonathan Wild, see Frederick J. Lyons, *Jonathan Wild, Prince of Robbers* (London: M. Joseph Ltd, 1936); John Van der Kiste, *Jonathan Wild: Conman and Cutpurse* (The Hill, Stroud: Amberley Publishing, 2013). On the rise of ‘Celebrity Criminal’ in the eighteenth century, see Aaron Skirboll, *The Thief-Taker Hangings: How Daniel Defoe, Jonathan Wild and Jack Sheppard Captivated London and Created the Celebrity Criminal* (Guilford: Lyons Press, 2014).

²⁷⁰ Fielding, *Miscellanies*, III, 4.

commentators enthusiastically held that, after Newton, the ‘most indubitable principles of Reason, Science, and Observation’ have made us able to see nature ‘appear[ing] again, in all her primitive simplicity’, Fielding’s rejoinder is that ‘Reason, however we flatter ourselves, hath not such despotic empire in our minds’.²⁷¹ This sceptical position was to become an essential proposition in his texts written as a magistrate, which will now be investigated.

4. Lacking Sagacity. The Problem of Evidence in Fielding’s Legal Writings

In his role as the Westminster Justice of the Peace, a task undertaken from 1749 until his death in 1754, Fielding experienced in first person that sagacity was a faculty of difficult practical application. Evidence in legal matters traditionally depended on the judge’s ability to tell whether the testimonies of the witnesses were sincere or not, and to do so in a short amount of time. This practice was far from the definition of sagacity as ‘quicksightedness into men and things’ and a ‘penetration into moral or scientific truth’ that Fielding endorses in *Jonathan Wild* and *Tom Jones*.²⁷² That of appraising legal evidence was an act of interpretation which was couched, at best, on probability. Fielding’s advocacy of sagacity was challenged by his involvement in two legal episodes, that of Bosavern Penlez and that of Elizabeth Canning, in which his assessments proved erroneous because of a misplaced trust on appearances and testimony.

The first episode is that of Bosavern Penlez. In July 1749, a riot started by a group of sailors greatly damaged two bawdy-houses, among which there was one

²⁷¹ *Adventurer*, Tuesday, March 5, 1754; Issue 139.

²⁷² Sharpe, *A Dissertation upon Genius*, p. 56.

called 'the Star'. The episode would come to be known as the Strand riots. Peter Wood, the owner of the Star, pressed Fielding's fellow-magistrate Saunders Welch to summon more soldiers to prevent an attack of the angry mob on Wood's bawdy house. Bosavern Penlez, a 23-year-old peruke-maker, was caught running with a bundle of stolen clothes in the whereabouts of the Star. Fielding heard the testimonies of the prisoners, among which was Bosavern Penlez, and committed Penlez and three other persons to be tried at the Old Bailey after hearing the testimony of Peter Wood. Penlez was eventually found guilty under the Riot Act (1714) as one of the promoters of the riots and was eventually punished with the death penalty. Although royal mercy was recommended in the verdict, this was not resorted to and Penlez was hanged on the 18th of October 1749.²⁷³

Public opinion considered Fielding responsible for the verdict. The reasons for these attacks, and for Fielding's following defence, tell us something important about the mechanics of judgment in legal cases, and the difficulty of exercising the sagacity that Fielding advocated in the *Essay*. The main argument advanced in the anonymously published (but usually assigned to John Cleland) *The Case of the Unfortunate Bosavern Penlez* (1749) is that the reputations of Penlez and Wood were not fairly investigated. Penlez's honesty, Cleland argues, is 'supported by a Cloud of Attestations'. By contrast, Wood is 'a Wretch' full of 'Rage and Malice' who 'misd judges by a pathetic Picture of himself and family'.²⁷⁴ Passing judgment based on the reputation of a person, as given by the persons themselves as well as anybody who knew them, was longstanding practice in the legal courts of Britain. As Geoffrey

²⁷³ Tim Hitchcock, Robert Shoemaker, Clive Emsley, Sharon Howard, Jamie McLaughlin, et al., *The Old Bailey Proceedings Online, 1674-1913* (www.oldbaileyonline.org).

²⁷⁴ Fielding, *An Enquiry into the Causes*, p. 28.

Gilbert puts it in the famous treatise *The Law of Evidence* (1756), since judges ‘can’t see or hear anything’ but are nevertheless ‘obliged to make a Judgment of it’, they must of necessity ‘see and hear by Report of others’.²⁷⁵ This deferred sensorial perception through testimony coming from the past, though obscure, was often the best evidence available and, according to Gilbert, more than enough not only for the legal court but for the human mind as well. In a rather circular way, Gilbert acknowledges that the ‘Mind does not acquiesce in any thing lower than the utmost Evidence the Fact is capable of’ (p. 5) but argues that, since testimonies are often the only evidence available, these amount to the ‘utmost Evidence, the Nature of the Fact is capable of’ (p. 4).

Gilbert’s comment highlights a discrepancy between the domain of natural philosophy and that of the law in terms of the expectations about the certainty that could be achieved in knowledge. In the former, commentators on Newton insisted that the observer should avoid trusting personal assertions because these could be based upon conjectures. ‘Causes assumed upon conjecture’, Pemberton explains, ‘must be so loose and undefined, that nothing particular can be collected from them’, whereas ‘those causes, which are brought to light by a strict examination of things, will be more distinct’.²⁷⁶ If this is done, the result will be indisputable demonstrative knowledge. In the domain of the law, however, conjectures are indispensable. According to Gilbert, the scope of the legal is defined by opposition with demonstrative knowledge. Gilbert does not claim that demonstrative knowledge exceeds the capacity of man – on the contrary, he shows an example of Newtonianist confidence in his argument that demonstration is ‘certainly the highest and clearest

²⁷⁵ Geoffrey Gilbert, *The Law of Evidence. By a Late Learned Judge* (London, 1756), p. 4.

²⁷⁶ Pemberton, *View*, pp. 14–15.

knowledge that Mankind is capable of'. But demonstrative knowledge has to do with 'permanent Things' (such as mathematics) that are 'constantly obvious to our Senses' (p. 3), which is the reason why Gilbert calls the product of demonstrative knowledge *self-evidence*, rather than just *evidence*, with the suffix indicating a difference between that which is evidence regardless of what particular men might think – i.e., that which is universally evident – and that which is made evident by specific human acts of interpretation.

Self-evidence, Gilbert argues, cannot be achieved in the legal domain because it deals with the actions of men, which are 'transient things' that, rather than occurring systematically, happened only once. Actions observed in first person but not communicated immediately 'must be retrieved by Memory and Recollection', a faculty which is fallible (p. 3), and, because of this, they are obscure and can be evaluated not in terms of certainty but in terms of probability. Establishing legal evidence, the argument goes, depends on the careful establishing of the verisimilitude of the statements delivered by a witness in a tribunal court – statements which refer to events happened in the past and are inaccessible to the senses of the jury.²⁷⁷

This specification is necessary to appreciate that the dispute between Fielding and Cleland on the Penlez case was not based on a question of method. Both believe that testimony is the best evidence available, and their disagreement lies only in determining which witness is more credible. The 'Measure of the Veracity and

²⁷⁷ As such, in the words of Giles Ducombe, author of another much-reprinted treatise on the law of evidence, legal evidence is never self-evident but always 'made evident to the Jury' by a convincing witness. Giles Duncombe, *Trials per Pais, Or The Law of England Concerning Juries by Nisi Prius, &c. With a Compleat Treatise of the Law of Evidence* (London, 1718), p. 308.

Credibility on both Sides’, Cleland argues, could be ascertained by putting side by side the testimony of a man who ‘hang’d one, and was near hanging more’ with ‘the dying Declarations of two Men of unblemish’d Characters’.²⁷⁸ While Cleland accuses the jurors of being unable to detect that Wood was lying, he is unable to make explicit how the jury could have decided differently. While he attempts to explain ‘the Circumstance of this miserable Bundle’ of clothes as a salient point that needs to be clarified, the criteria he employs for defending Penlez are essentially the same as those he uses to attack Wood – that is, that Wood’s reputation was not as good as that of Penlez (p. 27).

Fielding’s response to this treatise was published a few months later in the form of a pamphlet titled *A True State of the Case of Bosavern Penlez* (1749). The apology of his decision to send Penlez to the Old Bailey builds on the same criteria for establishing evidence that Cleland used to make his point. Fielding stresses that he trusted those depositions that came from ‘Persons entirely disinterested and of undoubted Credit’.²⁷⁹ From both Cleland’s accusation and Fielding’s rejoinder, it seems that in legal cases the only way of discovering what happened is by assessing the reliability of a testimony, a position that is the polar opposite of Fielding’s contention in the *Essay* that words are not to be trusted because man is prone to lying.

Theoretically, this was one of the points discussed in the legal literature of the time, and the lexis employed shows that the standard of certainty offered by the commentators on Newton played a role in this discussion. People, Gilbert writes in his treatise on the law of evidence, ‘are generally so short-sighted as to look at their

²⁷⁸ John Cleland, *The Case of the Unfortunate Bosavern Penlez* (London, 1749), p. 26.

²⁷⁹ Fielding, *An Enquiry into the Causes*, p. 56.

private Benefit which is near to them rather than to the Good of the World, that is more remote'. If 'the Nature of human Passions and Actions' is considered, there is rather 'more Reason to distrust such a biased Testimony, than to believe it'.²⁸⁰ This position works only in theory though, and in practice must be abandoned because the justice system needs to pass judgment quickly, and must thus rely on the evaluation of testimony. In extreme cases, such as those when not enough witnesses are available, even the testimony of an accomplice in a crime must be admitted because, otherwise, 'in many Cases there would not possibly be any proof at all' (pp. 136–137).

Fielding's approach to legal judgment partook of the traditional approach described by Gilbert, but his legal texts display the uneasiness that, in passing legal judgment, he did not show the sagacity needed to see through deceptive appearances and misleading testimonies that he had advocated in the *Essay on Characters* as necessary to determine truth. This tension is instanced in *An Enquiry over the Causes of the Late Increase of Robbers* (1751), a treatise devoted to the condemnation of highwaymen at a time of frequent robberies in the roads that led to London. A section of the treatise is devoted to the law of evidence, in which Fielding claims that, 'as it stands', evidence is a field 'full of Confusion and Contradiction', when not straightforward 'Absurdity'.²⁸¹ Given his role as a magistrate with great public exposition, criticizing the law of evidence is an astute move that allows Fielding to construe the problem of determining truth as a question of perceived honesty. Since the law of evidence is confused to the point of absurdity, it is enough that the judge be well intentioned in attempting to understand whether a given witness was telling

²⁸⁰ Gilbert, *Law of Evidence*, p. 129.

²⁸¹ Fielding, *An Enquiry into the Causes*, p. 75.

the truth. Mistakes in judgment, such as that which Fielding made in the Penlez case, are not to be berated, for the judge attempts to make the best possible choice knowing that he too, like everybody else, could be deceived by appearances.

Because of this, once a witness is ‘examined with the utmost Care and Strictness’, we should rest contented that risks of injustice are reduced at a minimum. Truth, Fielding proclaims, will ‘generally be found out’ based on appearances. ‘A vagabond of the vilest character’, for whose good reputation no witnesses can be summoned, will reasonably be disbelieved regardless of the truth of the testimonies that accuse him:

Now if the Evidence of a supposed Accomplice should convict a Man of fair and honest Character: It would, I confess, be hard; and it is a Hardship of which, I believe, no Experience can produce any Instance. But if on the other Hand, the Testimony of an Accomplice with every Circumstance of Probability attending it against a Vagabond of the vilest Character, and who can produce no single Person to his Reputation, is to be absolutely rejected, because there is no positive Proof to support it, this I think, is in the highest Degree hard [...] to the Society (p. 160).

It is of ‘the highest Improbability that any Man should be wrongfully convicted; and utterly impossible to convict an honest Man’, Fielding continues, in a remark that barely conceals its self-apologetical purpose (pp. 161–163). Fielding bases this claim on his sagacity – if a witness is honest, it will be visible by his reputation – but no mention is made of the principles of human nature, identified in the *Essay on Characters* and enacted in *Jonathan Wild* and *Tom Jones*, that man is universally deceived and universally inclined to lie for advantage. On the contrary, Fielding

suggests that, given the difficult conditions in which judgement is passed, the judge is always to be trusted because of his reputation as a person of probity. Yet, this amounts to confessing a problematic reliance on testimony, a method that in the *Essay on Characters*, *Jonathan Wild* and *Tom Jones* was clearly marked as incorrect in principle. Testimony, Fielding argues in the *Enquiry*, becomes corroborated in proportion to its being told ‘with every Circumstance of Probability’, but what matters primarily is the determination of the reputation of the witnesses involved, and the possibility of being deceived by an accomplice lying for advantage (pp. 129–130). Since it is almost impossible to judge when ‘there be more Witnesses than one to the pretended Fact’ and, conversely, when there are not enough, ‘for even one Witness, as I have found by Experience, is very difficult to be procured’, it should be enough that the true culprit is found most of the times (pp. 87, 96). Ultimately, Fielding intimates, the magistrate should be granted latitude to operate at his personal discretion, without being evaluated according to the same criteria he established in the *Essay on Characters* and dramatized in *Jonathan Wild* and *Tom Jones*.

The sagacity that Fielding had advocated in the *Essay on Characters* and exercised through the narrators of *Jonathan Wild* and *Tom Jones* does not translate to real life. Legal judgment is an exemplary domain in this respect. A decision must be taken at once based on appearances – what other people claim to be true, their demeanour and their reputation as reported by other people – and knowing the general principle that human nature is inclined to deceive and be deceived is of little use, because it does not affect the judgment. Fielding’s experience as a magistrate proves that the ‘accurate and discerning Eye’ through which the sagacious observer could detect what ‘the Generality of Mankind mistake [for] the Affectation for the Reality’ (p. 162) was not ‘the Property of the few’, as he had argued in the *Essay on*

Characters, but an ability that was precluded to man. Only a Newton, with his allegedly supernatural mind, could have observed human nature and determined its principles without falling for what Fielding calls ‘Affectation’.²⁸² The sagacity preached by Fielding, by contrast, works only in the theory presented in the *Essay* and in situations of fictional omniscience, such as those occurring in *Jonathan Wild* and *Tom Jones*.

I wish to conclude this chapter by analysing another important case in which Fielding was involved as a magistrate, and use it to make some final considerations. The case is that of Elizabeth Canning, a London maidservant who claimed that she was kidnapped for a month in January 1753 in the house of one Susannah Wells, with the supposed abduction allegedly being orchestrated by a gipsy named Mary Squires. Eventually, Canning managed to escape, and the case was brought to Fielding’s attention. Fielding proceeded to examine all the witnesses available and the testimony of Canning proved crucial, leading to the conviction of Wells and Squires even though other witnesses offered the alibi that the two women were in another place on the day of Canning’s abduction.²⁸³ Many people started to doubt Canning’s story to the point where the case became public controversy. Fielding’s *A Clear State of the Case of Elizabeth Canning* (1753) was written to address the doubts about the story of the maidservant. The trial was then repeated and the judgment reversed, with Canning eventually condemned to deportation for perjury.

Fielding’s belief in the testimony of Elizabeth Canning, notwithstanding the improbability of her testimony denounced by other pamphleteers, is based on the

²⁸² In Brewster, *Life, Writings, and Discoveries*, I, 305.

²⁸³ Zirker, ‘Introduction’, Fielding, *An Enquiry into the Causes*, p. xxxix.

maidservant being ‘a young Girl, hardly 18 years old, who hath the unanimous Testimony of all who ever knew her from her Infancy, to support the Character of a virtuous, modest, sober, well-disposed Girl’.²⁸⁴ Fielding’s choice was not isolated. Daniel Cox, a member of the Royal College of Physicians, defends Canning in a short pamphlet on the basis of her ‘remarkable simplicity in her answers to questions’ and the fact that she ‘appears to have no intention of guile or deceit in any thing she speaks’. These are two marks that, according to Cox, unambiguously proved that Canning was honest, and thus unable to lie.²⁸⁵ Canning’s case was an important moment in the legal history of the eighteenth century because it made visible the problems in the accepted practice of how evidence was interpreted in the court. An anonymous pamphlet, one of the several published after the final trial that condemned Canning for perjury, points to the ‘absurd Improbabilities of her most amazing Tale, and the more amazing Credulity with which it was believed’.²⁸⁶ In an argument that indirectly answers to Fielding’s appeal, made in the *Enquiry*, to the conscience of the judge as a sufficient criterion for a fair trial, the pamphleteer points to that set of ‘honest, humane, and somewhat credulous’ people who,

having taken the Girl’s Part from worthy Motives, cannot easily get over strong Prepossessions—Gypsies, Bawds, and Whores, they know are Parties on one Side, and these they not only think capable of any Villainy, but believe they must be guilty of every one they are charged with. *Canning*, on the other

²⁸⁴ Fielding, *An Enquiry into the Causes*, p. 291.

²⁸⁵ Daniel Cox, *An Appeal to the Public, in Behalf of Elizabeth Canning* (London, 1759), p. 12.

²⁸⁶ *Some Account of the Case between Elizabeth Canning, and Mary Squires* (London, 1754), p. 1.

Hand, is a poor young Girl, of whom they never heard any Harm, and therefore suppose it is impossible she should ever do any. (p. 3)

Fielding's *Clear State*, published just before the repetition of the trial, feebly attempts to defend his decision while, at the same time, pointing to alternative solutions that would have been philosophically sounder from the perspective of the sagacity advocated in the *Essay on Characters*. To avoid similar mistakes in the future, Fielding proposes to focus less on testimony than on circumstances arisen 'from the Nature of the Fact itself', which are 'stronger [evidence] than the positive Testimony of any Witnesses' (pp. 291–292). Doing so brings Fielding back to his initial argument in the *Essay on Characters* that human testimony should not be trusted and that a more objective method of evaluation should be found. This is not enough to make Fielding a staunch proponent of evidence based on objective elements rather than personal evaluations, as Alexander Welsh proposes, since in *Clear State* Fielding claims that Canning's testimony was substantiated by her figure and immaculate reputation.²⁸⁷

Still, it is significant that Fielding, in this context, raises again the problem of mistrusting human testimony. Having fallen short of the sagacity he had predicated in the *Essay on Characters* and invited the readers of *Jonathan Wild* and *Tom Jones* to develop, Fielding now seems to suggest that the best way of proceeding is to openly acknowledge this shortcoming. This realization is at the core of a piece on natural philosophy that appeared in *The Covent-Garden Journal* in 1752. Having read a fictional *Account of English Ants* by Mr. Gould (a made-up author), Fielding

²⁸⁷ Alexander Welsh, *Strong Representations: Narrative and Circumstantial Evidence in England* (Baltimore and London: Johns Hopkins University Press, 1992), p. 16.

claims that from this surprising species of insects ‘some moral lessons for the use of mankind’ could be drawn.²⁸⁸ One of the qualities of the ants is their ‘sagacity’, and Fielding speculates that ‘these little insects may possibly resemble the human species’, specifically in their having developed sciences that, like ours, ‘end in nothing, and produce no effect at all’. Perhaps building on Fontenelle’s famous advice that ‘[w]hen we are for prying into Nature we ought to examine her like Sir Isaac’, Fielding mounts a satirical attack against the whole of mankind because of the tendency to be ‘always prying into the secrets of nature’:

Such for instance among us are the higher branches of natural philosophy; that philosophy, I mean, which is always prying into the secrets of nature, and lying in wait as it were to peep into her dressing-room to view her naked, and before she is drest in any kind of form. A bold attempt, and for which the philosophers have been often deprived of that little share of sense which they before possessed. Indeed, I am apt to think, that if a superior being was to examine into the ways of man [...] he would not be able to make any thing of this philosopher, nor to discover what he was about when he was employed in his lucubrations.

It is impossible to tell whether the philosopher in question (made singular at the end of the passage) is Newton. As the article continues, however, Fielding satirises the confidence in the ability to clearly see nature that he himself had advocated, less than ten years before in the *Essay on Characters*, as the only way to mistake the ‘Affectation for the Reality’. In the *Covent-Garden Journal* article, Fielding suggests the very reverse of his initial claim: only in fictional worlds, where humankind is

²⁸⁸ *The Covent-Garden Journal*, Saturday, November 11, 1752: Issue 70.

symbolically rendered as a minuscule 'ant-kind', is it possible to carry on 'that investigation of nature, that search into the first causes of things' which, is 'the noblest and most useful of all studies'. At the end of his life, the 'degree of certainty and perfection' that commentators on Newton argued was within human grasp if only a Newton-like sagacity was exercised is eventually considered by Fielding as an absurd, chimerical enterprise beyond the ability of man.

Chapter 4

'In Moral as in Natural Disquisition'.

Hume's Project of a Scientific History

1. Re-Assessing the Importance of Hume's *History*

In this chapter, I contend that in the volumes on the Saxons and the Middle Ages of *The History of England* (1754-61) David Hume presents history as a set of experiments that verify the validity of his universal principles about man. Differently from the Tudor and the Stuart ages, treated by Hume in the initial four volumes of the *History*, in the volumes on the Saxons and the Middle Ages the historical sources available are discarded because allegedly adulterated by the imagination of past historians. Hume contests the veracity of the accounts of ancient historians, who he accuses of intermingling the historical narrative with their own subjective interpretations in a way similar to that adopted by commentators on Newton in their attempts to curb the use of conjectures in enquiries on nature. The result is a shift of focus of the historian's craft from the study of influential men to the study of societies. Hume attempts to develop a scientific approach to historiography that excludes personal interpretation to focus on the universal laws that govern human behaviour in society, claiming a degree of certainty equal to that of mathematics-based sciences.

Based on the current Hume scholarship, the arguments that I am advancing are strong claims on two important counts. Firstly, the question of whether Newton's influence is at work in Hume's works has found little agreement in the scholarly community. Following a typical pattern in the appraisal of Newton's ideas in the eighteenth century, commentators have looked for direct traces of Newton in Hume,

a task that did not yield definitive results. As discussed in the Introduction, Newton's influence in the eighteenth century is more fruitfully explained in terms of a dissemination of ideas from the body of commentaries on Newton, what in this thesis has been called Newtonianism. When Hume started his philosophical career in 1739 with the publication of the *Treatise on Human Nature*, up until its conclusion in 1761 with the publication of the final volume of the *History of England*, Newton's contemporaries increasingly felt that they were 'bestowed with the certainty of mathematics upon man's knowledge of physical phenomena', as Gerd Buchdahl puts it.²⁸⁹ Its main effect, in the words of Adam Smith, was an increasingly instinctive adherence to the belief that everything in nature could be reconducted to a limited set of universal laws. This was

the greatest discovery that ever was made by man, the discovery of an immense chain of the most important and sublime truths, all closely connected together, by one capital fact, of the reality of which we have daily experience.²⁹⁰

Over the decades, the resulting 'new sense of power over nature' morphed into a more general assumption that was not immediately conducive to Newton anymore.²⁹¹ As examined in the Introduction, the question was never how much even erudite people knew of Newton, but how the dissemination of Newton's ideas came to influence their thinking.

²⁸⁹ Buchdahl, *Newton*, p. 5

²⁹⁰ Adam Smith, *Essays on Philosophical Subjects*, eds W. P. D. Wightman and J. C. Bryce (Indianapolis: Liberty Press, 1982), 104–105.

²⁹¹ Buchdahl, *Newton*, p. 5

In Hume's case too, it is then sensible not to draw conclusions from the eleven direct references to Newton that James E. Force identifies in Hume's *oeuvre*.²⁹² But no argument should be drawn from Hume's lack of concern with conic sections either, since, apart from mathematicians by profession, people directly or indirectly interested in Newton's ideas did not delve into technicalities anyway.²⁹³ It is historically sounder to propose with Peter Jones that Hume's familiarity with Newton might have extended 'at most', with

the Prefaces, Definitions and Axioms of *Principia*, together with the General Scholium, the Rules of Reasoning in Book III and Cotes's famous Preface in the second edition. In addition, Hume would have been familiar with parts of the *Opticks*, but especially with the Queries appended to Book III.²⁹⁴

Therefore, even if Newton's name does not appear in *A Treatise of Human Nature* (1739-40), Hume was receptive of the knowledge-making possibilities offered by Newtonianism, to the point that the title page of the *Treatise* reads 'BEING AN ATTEMPT to introduce the experimental Method of Reasoning INTO MORAL SUBJECTS'.²⁹⁵ This does not warrant strong statements like that made by Norman

²⁹² James E. Force, 'Hume's Interest in Newton and Science', *Hume Studies*, 13:2 (1987), 166-216 (pp. 169-177).

²⁹³ That this inspiration did not require expertise in mathematics or astronomy is a point made by James Noxon and Nicholas Capaldi as well. See James Noxon, *Hume's Philosophical Development: A Study of his Methods* (Oxford: Clarendon Press, 1973), p. 28. Nicholas Capaldi, *David Hume: The Newtonian Philosopher* (Boston: Twayne, 1975), ch. 3.

²⁹⁴ Jones, *Hume's Sentiments*, p. 12.

²⁹⁵ David Hume, *A Treatise of Human Nature*, ed. L. A. Selby-Bigge (Oxford: Clarendon Press, 1981), p. xi. Henceforth 'T'. On the absence of Newton's name in the *Treatise*, see James A. Harris, *Hume: An Intellectual Biography* (Cambridge: Cambridge University Press, 2015), p. 85.

Kemp Smith, according to whom Newton's method is 'precisely' that 'which Hume claims to be following in his own thinking' in the *Treatise*.²⁹⁶ But Hume was aware that Newton's method could be adapted from natural philosophy to the domain of the moral – that is, to the study of man.²⁹⁷

The introduction to the *Treatise* reveals Hume's belief in 'human nature' as a constant factor from which mathematics, natural philosophy and natural religion all derive:

'Tis evident, that all the sciences have a relation, greater or less, to human nature; and that however wide any of them may seem to run from it, they still return back by one passage or another. Even *Mathematics, Natural Philosophy, and Natural Religion*, are in some measure dependent on the Science of MAN; since they lie under the cognizance of men, and are judged of by their powers and faculties. (T, xv)

This contention underpins Hume's aim to treat of moral philosophy as a science and confirms Jane McEntyre's argument that Hume's philosophical works attempt to extend Newton's model to the moral sciences.²⁹⁸ As a moral philosopher, Hume firmly believed that he could claim the same amount of certainty that animated Newton's endeavours:

²⁹⁶ Norman Kemp Smith, *The Philosophy of David Hume* (London: MacMillan, 1941), p. 57.

²⁹⁷ V. C. Chappell, *The Philosophy of David Hume* (New York: Random House, 1963), p. xv. According to Eugene Spain, in eighteenth-century usage, experimental method is 'identified with Newtonianism, and vice versa'. Eugene Sapadin, 'A Note on Newton, Boyle, and Hume's "Experimental Method"', *Hume Studies*, 23:2 (1997), 337–344 (p. 339).

²⁹⁸ Jane L. McEntyre, 'Hume: Second Newton of the Moral Sciences', *Hume Studies*, 20:1 (1994) 3–18 (p. 15).

Why do philosophers infer, with the greatest certainty, that the moon is kept in orbit by the same force of gravity, that makes bodies fall near the surface of the earth, but because these effects are, upon computation, found similar and equal? And must not this argument bring as strong conviction, in moral as in natural disquisition?²⁹⁹

Hume's assuredness in extending Newton's certainty to the moral sphere raises the question of how Enlightenment thinkers appropriated the image of Newton across Europe.³⁰⁰ This is a complex issue since, as Paolo Casini argues, it is hard to disentangle Newton's influences on the Enlightenment from those of Locke.³⁰¹ It is scholarly accepted, however, that from the 1740s onwards a number of thinkers across Europe applied Newton-inspired methodologies to moral and political questions, to the point that 'the search for general axioms or the adoption of attraction as a magic word became common features of Enlightenment thought' (p. 45). Some caution must be exercised in the use of 'Enlightenment' as an umbrella term: what it meant in Britain was less connected to continental materialism than to the primacy of reason as the belief that 'we best understand ourselves and the world of nature through the use of our natural faculties', as Gascoigne puts it.³⁰² Jacob has compellingly shown that investigations of the British Enlightenment must take into account that many thinkers championed Newton's name and natural philosophy in

²⁹⁹ David Hume, *An Enquiry Concerning the Principles of Morals*, ed. J.B. Scheenewind (Cambridge and Indianapolis: Hackett Publishing Company, 1983), p. 53. Henceforth EPM.

³⁰⁰ See John Henry, 'Introduction' in *Newtonianism in Eighteenth-Century Britain*, ed. William Sweet (Bristol: Thoemmes Continuum, 2004), pp. v-xxxii.

³⁰¹ Paolo Casini, 'Newton's "Principia" and the Philosophers of the Enlightenment', *Notes and Records of the Royal Society of London*, 42:1 (1988), 35–52 (p. 41).

³⁰² Gascoigne, *Joseph Banks*, p. 32.

the name of an Enlightenment that, in its original propositions, was meant as an antidote for freethinking and rationalist positions.³⁰³ Still, Hume's philosophical approach and his lack of interest in religious dynamics make him less related to the British Enlightenment than the continental variety, which, in Ernst Cassirer's famous definition, 'construct[ed] its ideal according to the model and pattern of contemporary natural science'.³⁰⁴

It is claimed in this chapter that Hume's confidence in establishing the principles of human nature with certainty is not limited to his philosophical works but extends to the volumes on Anglo-Saxon and Medieval England of the *History of England*. This argument uncovers a major problem in the Humean scholarship that is essential to consider beforehand. Hume's thought is typically discussed with reference to the *Treatise* and, albeit more occasionally, to other philosophical texts such as the two *Enquiries*. The *Essays* and especially the *History of England* are often overlooked because they are grouped within the miscellaneous, less important production of a thinker rich in interests.

There is a point in the need to catalogue Hume's production, which covers subjects as diverse as epistemology, metaphysics, religion, politics, economy, literature and history. Such a diversified output poses a classificatory challenge and the standard solution has been to consider the *Essays* and particularly the *History* as non-congruent, alien items in a philosophical project centred on 'epistemology and metaphysics' (as the title of an introduction to Hume's thought edited by Georges

³⁰³ Margaret C. Jacob, 'Newtonianism and the Origins of the Enlightenment: A Reassessment', *Eighteenth-Century Studies*, 11:1 (1977), 1–25 (pp. 3–4).

³⁰⁴ Ernst Cassirer, *The Philosophy of the Enlightenment*, trans. by Fritz C. A. Koelln and James P. Pettegrove (Princeton: Princeton University Press, 1951), p. 7.

Dicker goes).³⁰⁵ Doing so, however, offers an unbalanced view of Hume's activity. As recently as, respectively, 2008 and 2009, two important reference books for students in need of an overview of Hume's thought offered a very limited sense of the importance of the *History*. In both the first edition of *A Companion to Hume* edited by Elizabeth S. Radcliffe and the second edition of *The Cambridge Companion to David Hume* edited by David Fate Norton and Jacqueline Taylor, the lion's share of the contributions is given to discussing epistemology in the *Treatise of Human Nature* (1739-40), with the *History of England* relegated to something of an afterthought. In Norton and Taylor's *Companion*, the *History* is reserved one chapter out of almost thirty, as part of a conclusive group of five contributions designed to represent the *miscellanea* of Hume's thought (political theories and economic theory, mostly) that do not fit neatly with his philosophical production.³⁰⁶ Radcliffe is even more radical in confining the *History* to a corner of the intellectual outlook of the Scottish thinker. Her *Companion* is 'an attempt to represent the range of Hume's ideas' but the emphasis of the collection lies in philosophy, and on the *Treatise* specifically. While Radcliffe is careful to add that Hume's historiographical

³⁰⁵ Georges Dicker, *Hume's Epistemology and Metaphysics* (London and New York: Routledge, 1998).

³⁰⁶ David Fate Norton, 'An Introduction to Hume's Thought', in *The Cambridge Companion to Hume*, eds David Fate Norton and Jacqueline Taylor (Cambridge: Cambridge University Press, 2009), pp. 1–39 (p. 1). This is a choice made explicit by the editors in the initial discussion to the companion titled 'Introduction to Hume's Thought'. Hume's intellectual contributions in works other than the *Treatise* are presented as a welcomed but, one suspects, hardly essential addition. After the *Treatise*, according to Norton, Hume 'also made substantial contributions to our understanding of political theory, aesthetics, economics, and philosophy of religion. In addition, he wrote an influential, six-volume History of England, a work published in over 175 editions in the eighteenth and nineteenth centuries, and still in print' (p. 1).

view 'is represented as well', this is done in the proportion of one article out of twenty-eight and as part of a miscellaneous final section titled 'Economics, Politics, and History'.³⁰⁷

Scholars have recently taken exception to this approach, and with good reason. Taken as a whole, half of Hume's writing is about history and a large portion of the remaining half is essayistic. Therefore, a group of commentators started to focus on determining the function of the *Essay* and the *History* in the Humean corpus.³⁰⁸ The *History* has rightly been a favourite subject for this reappraisal once it was recognized that Hume, differently from our modern perception, was mainly known as a writer of history.³⁰⁹ During the last two decades of his life and for a long time after his death, Hume was known in Britain as an historian – indeed, *the* historian, if we trust William Godwin's words in 1818 that '[w]hoever reads English history must take Hume for his text'.³¹⁰ In a national landscape that, by the mid-eighteenth century, had its most important historian in the Frenchman Paul de Rapin-Thoyras, Hume's *History of England* emerged as the most authoritative national history, at least before Thomas Babington Macaulay's *The History of England from*

³⁰⁷ Elizabeth S. Radcliffe, ed., *A Companion to Hume* (Oxford: Wiley-Blackwell, 2011), p. 1.

³⁰⁸ Donald Livingstone, 'Introduction', in *Hume as Philosopher of Society, Politics and History*, eds Donald Livingstone and Marie Mantin (Rochester: University of Rochester Press), pp. viii-xvi (p. x).

³⁰⁹ Mark Salber Phillips and Dale R. Smith, 'Canonization and Critique: Hume's Reputation as a Historian', in *The Reception of David Hume in Europe*, ed. Peter Jones (London and New York: Thoemmes Continuum, 2005), pp. 299–313 (p. 299). See also Victor G. Wexler, *David Hume and the History of England* (Philadelphia: The American Philosophical Society, 1979), pp. 90–93.

³¹⁰ In Salber Phillips and Smith, 'Canonization and Critique', p. 301.

the Accession of James the Second (1848). The dismissal of Hume's historical work by Macaulay himself and, before him, by the historians involved in what Mark Salber Phillips calls the 'Romantic polemic', shows that the following historiographical projects needed to legitimate themselves by clearing the ground from Hume's imposing presence.³¹¹ As late as 1848, William Smyth could still write that 'Hume is the historian, whose views and opinions insensibly become our own'.³¹²

While scholars such as Philip Hicks, J. C. Hilson and Noelle Gallagher have devoted an increasing attention to Hume's *History*, they have mostly done so by emphasizing its connections to traditional eighteenth-century historiography.³¹³ This attention has reinforced the prejudice, well phrased by Haskell Fain, that Hume is 'a philosopher and a historian but not both at once'. The common scholarly vulgate is that Hume's main ideas in philosophy are unrelated with his history.³¹⁴ However, if one considers Hume's intellectual biography carefully, a unifying outlook emerges where philosophical works, essays and historiography are the interlinked expressions of the same thought. Such an outlook is particularly useful to investigate Hume's search for general principles in the *History*. As James Harris observes, Hume,

³¹¹ Mark Salber Phillips, *On Historical Distance* (New Haven and London: Yale University Press, 2013), p. 80.

³¹² In Salber Phillips and Smith, 'Canonization and Critique', p. 301.

³¹³ Philip Hicks, *Neoclassical History and English Culture* (London: Macmillan, 1996), especially pp. 170–202. J. C. Hilson, 'Hume: The Historian as Man of Feeling', in *Augustan Worlds*, eds J. C. Hilson and others (Leicester: Leicester University Press, 1978), pp. 205–222. Noelle Gallagher, *Historical Literatures: Writing About the Past in England, 1660-1740* (Manchester: Manchester University Press, 2012).

³¹⁴ Haskell Fain, *Between Philosophy and History: The Resurrection of Speculative Philosophy of History within the Analytic Tradition* (Princeton: Princeton University Press, 1970), p. 9.

approaches ‘a subject, any subject, in a careful, analytical, and inductive manner’ with the aim ‘to derive from one’s inquiries maximally generally explanatory principles’.³¹⁵ Building on these grounds, in this chapter the *History* is considered as Hume’s last major philosophical project, the one in which, as Hume himself explains, the ‘philosophical spirit, which I have so much indulg’d in all my writings, finds here ample materials to work upon’.³¹⁶

The meeting point between philosophy and historiography in the *History* lies in Hume’s constant appeal to the unchanging universality of human nature. Across his multifarious output, human nature always figures as a constant across different ages and countries. Far from being an exception, the *History* is a salient item in Hume’s corpus because it provides the experimental terrain, similar in purpose but different in practice to the inert laboratory of the natural philosopher, in which the moral philosopher could verify the principles of human nature through an observation of what Hume calls ‘the phenomena of human life’ (EPM, 57). In this sense, history is like a rich dataset on human life that can be used to see if the generalisations on man are valid. A ‘cautious observation of human life’, in the words used in the *Treatise*, furnishes the moral philosopher with an extensive collection of ‘effects’ (T, xix).

Hume’s striking contention is that moral effects – an adjective by which Hume means human – can be treated of as scientifically as the natural phenomena Newton analysed in the *Principia* or in the *Opticks*. This uniformity is at the basis of Hume’s claim that the principles of mankind might be determined with the same

³¹⁵ James Harris, *Hume*, pp. 19, 25.

³¹⁶ David Hume, *The Letters of David Hume*, ed. G. Y. T. Greig (Oxford: Oxford University Press, 2011), p. 193.

certainty claimed by Newton with natural phenomena.³¹⁷ Once established that the science of human nature has the same precision as natural philosophy, history can be understood as a kind of fieldwork through which Hume verifies his principles of moral science. In order to proceed to an analysis of Hume's moral science, and to examine how it is used as a standard for historical knowledge in the volumes of the *History* on Anglo-Saxon and Medieval England, it is first necessary to look at these volumes in the context of their scholarship to appreciate their specificity compared to the other four volumes of Hume's *History*.

2. History Universalized. The Constancy of Human Nature in the *History*

According to Duncan Forbes, the *History* is philosophical in that it gives practical application to the concept of 'philosophical politics' developed by Hume in the *Political Discourses* (1752), a group of essays of which 'That Politics May Be Reduced to a Science' Forbes understands to be the most important.³¹⁸ The question posed at the beginning of this essay is whether governments are comparable to each other. Fuelled by a discontent with the received view that 'human affairs admit of no greater stability, than what they receive from the casual humours and characters of particular men', the essay seeks to determine the principles of each type of government by abandoning the view that individual intervention determines political outcomes. Not that individual intervention holds no force but, according to Hume, this is only the case in absolute governments, which he understands to be the most

³¹⁷ Stephen K. Wertz, 'Moral Judgments in History: Hume's Position', *Hume Studies*, 22:2 (1996), 339–367 (p. 351).

³¹⁸ Duncan Forbes, *Hume's Philosophical Politics* (Cambridge: Cambridge University Press, 1975), p. 263.

elementary type of government. Once a state evolves into a republic, governments are administered not through individual decisions but through constitutions, which are devised to promote ‘the interests of the whole body’ (E, 17). This occurs through the implementation of laws, which are to be considered as natural forces that apply independently from the specific ‘humours and tempers’ of people.³¹⁹ The effectiveness of the laws lies in their working irrespective of individual situations. According to Hume, their universal validity allows conclusions that are almost as valid as those of mathematics. Hume’s ambition to treat of the behaviour of man in the manner of a science passes through ignoring individual differences, focusing on ‘men’ as a collective entity and mapping the ‘common course of the world’ as a system of laws:

So great is the force of the laws [...] and so little dependence have they on the humours and tempers of men that consequences almost as general and certain may sometimes be deduced from them, as any which the mathematical sciences afford us. (E, 16)

With the use of the language of deduction, Hume builds on Newton’s invitation at the end of *Opticks* to apply his mathematics-based method of enquiry to the moral sphere.³²⁰ Newton’s suggestion was that phenomena in both the natural and the moral spheres could be determined with the demonstrative certainty of mathematics, as long as individual circumstances are disregarded in favour of an approach that seeks to determine universal principles. Hume follows the same path, aiming at determining ‘general truths’ as the ‘principles of this science’ that remain valid, ‘invariable by the

³¹⁹ David Hume, *Essays Moral, Political, and Literary*, ed. Eugene F. Miller (Indianapolis: Liberty Fund, 1994), p. 15. Henceforth, ‘E’.

³²⁰ Newton, *Opticks*, p. 405.

humour and education either of subject or sovereign' (E, 18). What is necessary is thus to have a set of experiments that are 'judiciously collected and compared' and 'establish on them a science, which will not be inferior in certainty, and will be much superior in utility to any other of human comprehension' (T, xix).

The transition, however, cannot be straightforward because of moral philosophy's 'peculiar disadvantage, which is not found in nature'. As Hume had observed in the *Treatise*, when compared to another science (and here Hume's example is optics), the observer of human behaviour cannot collect its experiments 'purposely, with premeditation, and after such a manner as to satisfy itself concerning every particular difficulty which may arise':

We must therefore glean up our experiments in this science from a cautious observation of human life, and take them as they appear in the common course of the world, by men's behaviour in company, in affairs, and in their pleasures. (T, xix)

History responded to Hume's need for a laboratory that collects the 'common course of the world, by men's behaviour in company, in affairs, and in their pleasures', and where these occurrences could be repeated a great number of times (T, xix). Therefore, Hume's historiography acts as the complementary piece enabling the verification of scientific principles of human behaviour that animates 'That Politics May Be Reduced to a Science'. While politics is the science whose principles are determined by deduction, history is the body of experiments upon which said principles are tested.

The central figure of Hume's historiographical project is what Forbes calls the 'scientific or "philosophical" historian'.³²¹ The word choice is telling. The historian is a scientist in that his method of enquiry aims at establishing laws that have a degree of certainty akin to those of other sciences. The scientific historian observes human nature carefully to detect patterns homogeneous enough to draw generalizations. Homogeneity can be found only if the data is commensurable, and this is a point that Hume had explored in the *Enquiry Concerning Human Understanding* (1748). 'Mankind', Hume argues, 'are so much the same, in all times and places'.³²² The flow of history is thus a collection of experiments with human nature in different situations. This is how history is defined in a footnote to the *Enquiry*: histories (in the plural) are 'collections of experiments' that allow the moral philosopher to draw scientific principles, in the same way as a natural philosopher would do (ECHU, pp. 83–84).

I will return later to the principles of human behaviour that allow Hume to confidently claim that history is a science. Before doing so, however, it is crucial to observe how this claim problematizes the long-held proposition that the *History* belongs to the tradition of eighteenth-century neo-classical histories. By this term, as Joseph Addison explains in *The Freeholder*, is meant a compilation of matters of fact

with that Purity and elegance of Stile, that Nicety and Strength of Reflection, that Subtilty and Discernment in the Unravelling of a Character, and that

³²¹ Forbes, *Hume's Philosophical Politics*, pp. 285–286.

³²² David Hume, *An Enquiry concerning Human Understanding*, ed. Peter Millican (Oxford: Oxford University Press, 2007), p. 60. Henceforth, ECHU.

Choice of Circumstances for enlivening the whole Narration, which we so justly admire in the antient Historians of Greece and Rome.³²³

Philip Hicks argues that Hume belonged to the tradition of eighteenth-century neo-classical historians concerned with making their historical narrative instructing and entertaining by focusing on particular events that would stimulate the imagination of the reader in the way a good novel would do.³²⁴ If one focuses on the Tudor and especially on the Stuart volumes of the *History*, Hicks is right. In the two Stuart volumes (the fifth and sixth in the final order but the first two to be published in 1754), Hume is keen on narrating historical particulars that his readers would find interesting. The famous examples are the depictions of Charles I, with the infamous ‘generous tear’ that Hume hoped even adverse readers would shed (and that made him victim of attacks by both Tory and Whig readers) and the description of the execution of Queen Anne. The Tudor and Stuart volumes are replete with episodes that owe much to the sentimental literature of the 1740s and 1750s, in that they actively try to have the reader empathize with historical characters, so much so that similarities have been found between them and eighteenth-century novels like Richardson’s *Pamela*.³²⁵

These volumes are different from those on Anglo-Saxon and Medieval England, and the reason for this is that Hume’s project of a scientific history is not homogeneously pursued in the entire *History*, and not always with the same intensity.

³²³ In Hicks, *Neoclassical History*, p. 23.

³²⁴ Noelle Gallagher has drawn attention to the importance of understanding the histories of the age not as belonging to a strictly codified genre but rather as belonging to a porous, wide cluster of forms concerned with historiographical representation. See Gallagher, *Historical Literatures*, especially the introduction.

³²⁵ J. C. Hilson, ‘Hume: The Historian as Man of Feeling’, p. 217.

As Hume himself explains, the criteria of instructiveness and entertainment apply very well to recent history, for the ‘convulsions of a civilized state usually compose the most instructive and most interesting part of its history’ (H, I: 3). Paired with ‘instructive’, the quality of being ‘interesting’ constitutes the usual reference to the two Horatian poles of *utile* and *dulce*, a *topos* in eighteenth-century neo-classical history writing. As Hicks explains, eighteenth-century historians looked back to Thucydides and Tacitus as the historians who taught moral lessons by ‘interesting’ (that is, captivating) episodes, even if historical accuracy was marred by some degree of invention.³²⁶

This sentimental framework, according to Salber Phillips, is complemented by that of philosophical distance. These two ‘large and seemingly antithetical frameworks’ interact to convey Hume’s political vision of moderation between Tory and Whig positions.³²⁷ According to Salber Phillips, the *History* is ‘a successful narrative’ because it encompasses ‘all of British history from the Roman conquest to the Glorious Revolution’ by cultivating ‘a variety of ways of relating to the past, incorporating sympathy as well as philosophic elevation, actuality and vivacity as well as irony’ (p. 37). The goal of these volumes of the *History* was the ‘intelligibility and instruction’ of readers, who could be informed about divisive questions in the recent history of the country, such as that of the historical importance of the Commons.³²⁸ The group of *Essays* written on topical matters, such as ‘Whether the British Government Inclines More to Absolute Monarchy, or to a Republic’,

³²⁶ See Hicks, *Neoclassical History*, ch. 1.

³²⁷ Mark Salber Phillips, *Society and Sentiment: Genres of Historical Writing in Britain, 1740-1820* (Princeton: Princeton University Press, 2000), p. 47.

³²⁸ Salber Phillips, *Historical Distance*, p. 69.

accompany the recent history, corroborating Hume's project to instruct his readers to the value of moderation, so as to avoid political controversies (E, 53) and overcome strife between party-factions.³²⁹

In their analysis, and notwithstanding their differences, Hicks and Salber Phillips focus on the Tudor and, particularly, on the Stuart volumes. Very little attention is given to the Saxon and Medieval volumes, probably because these ages tend to be much more refractory to the interplay of sentiment and philosophy. In fact, in Hume's description of Saxon and Medieval England, sentiment seems to be all but absent. It is significant, for example, that Hume refrains from telling the story of the execution of Joan d'Arc, burned alive in Rouen, other than for a brief final quip that the Maid d'Orleans 'expiated by that dreadful punishment the signal services which she had rendered to her prince and to her native country'.³³⁰ The reason for the discrepancy between the Stuart and Tudor volumes and the Saxon and Medieval ones is that in the latter readers are not sentimentally involved. From the perspective of Hume's readers, too much time has elapsed, and all the relevant historical actors have been long dead.

This is the ideal situation for the scientific historian to intervene without fear of discontending readers. The differences between the volumes on Anglo-Saxon and Norman England compared to the other four of the set are presented from the very start. Volume I on the Saxons begins with Hume regretting that 'the history of remote ages should always be so much involved in obscurity, uncertainty, and contradiction' (H, I: 3). This is due to the untrustworthiness of the historians of the past, 'monk

³²⁹ Wexler, *David Hume and the History of England*, ch. 1 and 2.

³³⁰ Hume, *History of England*: I pp. 397, 410. Henceforth 'H, I' and H, II'.

annalists' driven by superstition in an age when 'the sudden, violent, and unprepared revolutions, incident to Barbarians, are so much guided by caprice, and terminate so often in cruelty that they disgust us by the uniformity of their appearance' (H, I: 3–4). Hume's phrasing, with his aside on the 'unprepared revolutions [...] incident to Barbarians', betrays the search for a regularity in the transactions of the ancient civilizations. He calls this regularity 'uniformity'. Uniformity will replace instruction and entertainment as the criterion that determines his historiography. Thus, even though there is no instruction and entertainment to be found in these volumes, we can still 'indulge [our] curiosity' about this age, but in a different way compared to the other ages. Crucially, curiosity about Anglo-Saxon England can be indulged with 'certain means':

The only *certain* means, by which nations can indulge their curiosity in researches concerning their remote origin, is to consider the language, manners, and customs of their ancestors, and to compare them with those of the neighbouring nations. (H, I: 4)

This passage suggests that the curiosity of the reader will be stimulated by a different means than that of sentimental proximity adopted in the previous volumes on the Stuart and Tudor ages. That the Stuart volumes were printed as a separate text titled *History of Great Britain* and published in 1754-55, as Karen O'Brien points out, should caution us against the assumption that the whole of the *History of England* follows the same historiographical method.³³¹ While in the earlier Stuart volumes, as well as in those on the Tudor age, Hume could utter his historical voice 'by

³³¹ Karen O'Brien, *Narratives of Enlightenment: Cosmopolitan History from Voltaire to Gibbon* (Cambridge: Cambridge University Press, 1997), pp. 58–59.

appropriating the detached yet feeling voice of the sentimental novelist or tragedian’, in the Saxon and Medieval volumes the absence of the sentimental strand is a function of the freedom from what O’Brien calls the ‘contingencies of character and action’ (p. 60) – that is, the need to proceed in chronological order by describing in detail what each historical actor did at relevant historical junctures – to which the Stuart and Tudor volumes were more bound because the transactions reported were still fairly recent for the readers.

Differently from the rest of the *History*, the volumes on ancient England generate a mode of historical enquiry of their own.³³² Once again, the declaration emphatically placed at the beginning to Volume II on the way the writing of history is carried out signals that a special methodology is employed. The author contends that it is the act of discarding particulars that makes history analogous to ‘most sciences’. History can be conceived of scientifically if it abridges the ‘collection of facts’ through the deduction of ‘general theorems’ and ‘a few propositions’:

Most sciences, in proportion as they increase and improve, invent methods by which they facilitate their reasonings; and employing general theorems, are enabled to comprehend in a few propositions a great number of inferences and conclusions. History also, being a collection of facts which are multiplying without end, is obliged to adopt such arts of abridgment, to retain the more material events, and to drop all the minute circumstances, which are only interesting during the time, or to the persons engaged in the transactions.

(H, II: 4)

³³² See O’ Brien, *Narratives of Enlightenment*, p. 88.

The very expressions chosen to formulate the method of the *History* is significant. When readers are chronologically close to the events, ‘minute circumstances’ are clearly interesting. But when enough time has passed, they only amount to a ‘tedious narrative’ that should be discarded:

This truth is no where more evident than with regard to the reign, upon which we are going to enter. What mortal could have the patience to write or read a long detail of such frivolous events as those with which it is filled, or attend to a tedious narrative which would follow, through a series of fifty-six years, the caprices and weaknesses of so mean a prince as Henry? (H, II: 4)

In this way, Hume distinguishes between two different historians. One is what might be called the neo-classical historian, who reports recent historical matters for his contemporaries, with the goal of keeping the narrative instructive and entertaining. The other is the scientific historian, who avoids commenting on specific historical episodes that involve particular persons, in favour of a more sweeping observation of human societies. The difference between the two types lies in the fact that the stack of ‘vagaries’ that, as William B. Todd put it in his introduction to the *History*, were ‘previously recorded simply as odd phenomena’, are by Hume fit into a ‘more coherent view’ based on the belief that history constitutes the ‘varied range of “materials” documenting the “science of man”’.³³³ What this science of man consists of is explored in the next section, in which it will also be seen how, building on an interpretation of the dictum upheld by commentators on Newton that hypotheses are never to be produced to explain natural phenomena, Hume decides to use ancient

³³³ William B. Todd, ‘Foreword’, in Hume, *History*, p. xi.

history to substantiate a set of generalisations on mankind that do not depend strictly on historical contingencies.

3. Social Passions and Hume's Shift from the Individual to the Collective.

As argued in the previous section, the *History* must be seen in intellectual continuity with Hume's philosophical productions. The scientific analysis of the behaviour of man that is advanced in the Anglo-Saxon and Medieval volumes has its foundation in the claims about the universality of human sentiments (or passions, the two terms being used interchangeably by Hume) made in the *Enquiry Concerning Human Understanding* (1748) and, later, in *An Enquiry on the Principles of Morals* (1751). A passage of the second *Enquiry* is particularly helpful to frame his view on the universality of human passions:

the sentiments which arise from humanity are not only the same in all human creatures and produce the same approbation or censure, but they also comprehend all human creatures; nor is there anyone whose conduct or character is not, by their means, an object, to everyone, of censure or approbation. (EPM, 75)

Hume advances the two-fold claim that sentiments are universal in all 'human creatures' and, second, that they are all categorised according to whether they generate approbation or censure. 'Approbation' and 'censure' are employed as two polarised, and indisputable, reference points for men because deciding whether something is beneficial or detrimental is a value judgment that, Hume claims, is shared by all men. Not only are sentiments universal but so are their positive or negative values.

In this search for universal passions and their properties, men are declaredly studied by Hume as if they were ‘plants, minerals, and other external objects’ on the grounds that an attentive observer can identify the properties that are universal to the category of man. Passions are such universal properties and, Hume claims, they are as such identifiable discretely.³³⁴ It is this commensurability of the passions that makes men comparable across different times and places:

Ambition, avarice, self-love, vanity, friendship, generosity, public spirit: these passions, mixed in various degrees, and distributed through society, have been, from the beginning of the world and still are, the source of all the actions and enterprizes which have ever been observed among mankind. Would you know the sentiments, inclinations, and course of life of the Greeks and Romans? Study well the temper and actions of the French and English. You cannot be much mistaken in transferring to the former most of the observations which you have made with regard to the latter. (ECHU, p. 60)

Since the passions of man remain constant even when the age and place are different, it is thus methodologically possible to apply observations initially made on one group of people to another group in a different time and place. This is a conclusion that, according to Hume, clearly appears both through deduction and induction. He defines these two approaches as respectively driven by ‘reason’ and ‘experience’, two different ‘species of argumentation’ that must be mastered by the writers in ‘*moral, political, or physical subjects*’ (p. 60).

³³⁴ See Mark Salber Phillips, ‘Distance and Historical Representation’, *History Workshop Journal*, 57 (2004) 123–141 (p. 131).

The reason Hume describes is the reason advocated by the commentators on Newton as the property that allows man to consider the nature of things *a priori* to ‘establish particular principles of science and philosophy’. Experience is the reverse faculty that produces knowledge ‘entirely from sense and observation, by which we learn what has actually resulted from the operation of particular objects, and are thence able to infer, what will, for the future, result from them’ (ECHU, p. 121nB). The two methods of enquiry are the two sides of the same coin, as Hume explains with an example that equates experience with history:

Thus, for instance, the limitations and restraints of civil government, and a legal constitution, may be defended, either from *reason*, which reflecting on the great frailty and corruption of human nature, teaches, that no man can safely be trusted with unlimited authority; or from *experience* and history, which inform us of the enormous abuses, that ambition, in every age and country, has been found to make of so imprudent a confidence. (ECHU, p. 121nB)

Crucially, if there is a conflict between the deductions of reason and the data offered by experience, reason must always be preferred. This is because experience might show ‘seeming irregularities’ which derive from the fact that the ‘internal principles and motives’ of nature are not always easily discerned by ‘human sagacity’:

The internal principles and motives may operate in a uniform manner, notwithstanding these seeming irregularities; in the same manner as the winds, rains, clouds, and other variations of the weather are supposed to be governed by steady principles; though not easily discoverable by human sagacity and inquiry. (ECHU, p. 64)

Emphasising the shortcomings in human sagacity allows Hume to present himself as an exception, a Newton of the moral sciences who is able to reason deductively and correct the imperfect perception of ‘experience’ hindering other observers from identifying the uniformity in human nature. Like Newton, Hume presents himself as sagacious. He too like Newton is guided by the ‘internal light’ of reason to see ‘the principles of physics, and the laws of things’, and he is therefore able to look at man as a ‘thing’ governed, like all other things, by laws that, although perhaps unknown, explain in a predictable way all its behaviours.³³⁵ For Hume, humankind is regulated by internal principles that operate ‘in a uniform manner’ – that is, with perfect regularity – in the same way as natural phenomena do even when man is unable to understand them. A human observer might not know from experience how winds, rains or clouds work. Yet, reason should intervene to dictate that there are principles that regulate their work. Since man is understood as partaking in the regularity of nature, the same deductive logic applied by Newton on natural phenomena must be applied to human nature.

It is on these foundations of commensurability that Hume challenges ancient historians to reassess the history of Anglo-Saxon and Medieval England. History is a collection of ‘wars, intrigues, factions and revolutions’, a disordered collection of experiments that shows the behaviour of man in different situations, only insofar as reason does not intervene to select the materials and offer deductive generalisation. Hume’s volumes on ancient England are tantamount to a ‘natural history of the mind’, in J. G. A. Pocock’s expression, but not in the Baconian sense of a collection

³³⁵ Cotes, ‘Editor’s Preface to the Second Edition’, pp. 43–44.

of inert data.³³⁶ Hume's constant scepticism towards the accounts of the 'Monkish historians' takes the form of a challenge to their 'experience'. Since they did not conceive of human nature as having fixed universal principles, they tended to invent historical particulars, as in the case of an alleged conspiracy against King Athelstan of which Hume comments that

[t]his incident is related by historians with circumstances, which the reader, according to the degree of credit he is disposed to give them, may impute either to the invention of monks, who forged them, or to their artifice, who found means of making them real. (H, I: 84–85)

Hume discredits past historians whenever he has the opportunity to measure their claims against general arguments that are independent of personal testimonies. For instance, the question of which population lived in Scotland during the heptarchy is addressed by considering the language '[now] spoken in those countries, which is purely Saxon' as a 'stronger proof' than 'the imperfect, or rather fabulous annals, which are obtruded on us by the Scottish historians' (H, I: 23). Hume's aim is not to detect historical falsehood *per se* – in the example just mentioned, he eventually agrees with the historians he has criticised – but to carry out a sustained attack against the use of imagination in historiography to make up for unknown circumstances. In doing so, Hume seems to build on Cotes' contention, in the preface to the second edition of the *Principia*, that the 'true constitutions of things is obviously to be sought in vain from false conjectures, when it can scarcely be found out even by the most certain observations'. Feigning conjectures equals 'merely putting together a

³³⁶ John G. A. Pocock, *Barbarism and Religion*, 6 vols (Cambridge: Cambridge University Press, 2009-2015), II, 176.

romance, elegant perhaps and charming, but nevertheless a romance'.³³⁷ So Hume, in his attack on past historians, accuses them of being poets who 'disfigure the most certain history by their fictions, and use strange liberties with truth' (H, I: 22). What these historians lack, Hume implies, is 'reason', the ability to perceive that human sentiments, although invisible, are universal entities with recognizable, and foreseeable, effects.³³⁸ Therefore, even in cases when the historians fail to mention a given episode, it is still possible to deduce conclusions on the claim that they are 'founded on the nature of things' (H, I: 170)

This is why it is erroneous to maintain, as Wertz does, that Hume's historiographical goal is 'to convey ultimately the feelings of the historical personage' (p. 357). In the volumes on ancient England, Hume craftily presents his findings as the simple act of unveiling the workings of human nature as they would emerge from the laboratory of a scientist. History, when scientific, does not display anything 'new or strange' but a simple set of logical consequences derived from the interplay of sentiments:

Mankind are so much the same, in all times and places, that history informs us of nothing new or strange in this particular. Its chief use is only to discover the constant and universal principles of human nature, by showing men in all varieties of circumstances and situations, and furnishing us with materials from which we may form our observations and become acquainted with the regular springs of human action and behaviour. These records or wars,

³³⁷ Newton, *Principia*, p. 386.

³³⁸ On Hume's application of his moral principles in the *History*, see Wertz, 'Moral Judgments in History', p. 351.

intrigues, factions, and revolutions, are so many collections of experiments, by which the politician or moral philosopher fixes the principles of his science, in the same manner as the physician or natural philosopher becomes acquainted with the nature of plants, minerals, and other external objects, by the experiments which he forms concerning them. Nor are the earth, water, and other elements, examined by Aristotle, and Hippocrates, more like to those which at present lie under our observation than the men described by Polybius and Tacitus are to those who now govern the world. (ECHU, 60)

A clear division between sentiments exists in terms of whether they bring positive or negative consequences to society, and individuals should only be evaluated in terms of what their actions achieve for society, so that, as Hume puts it, we should pronounce ‘no judgment concerning the character and conduct of man, without considering the tendencies of their actions, and the happiness or misery which thence arises from society’ (EPM, 46). It follows that historical actors are to be evaluated not in terms of their sentiments strictly speaking, but in terms of what Hume calls the ‘intercourse of sentiments’ – that is, the growth of sentiments into a social dimension. Since sentiments are universal in humankind, and these can be distinguished between those that are beneficial to society and those that are detrimental, the intercourse of sentiment is for Hume like a mathematical operation whose components are the single sentiments that make up the personality of man. The discrete value and commensurability of sentiments enables Hume to adopt the intercourse of sentiment as the ‘general unalterable standard, by which we may approve or disapprove of characters and manners’ (EPM, 49).

The evaluation of sentiments in society assumes a vital function in the ancient England volumes of the *History* because it homogenises the heterogeneous material of history by reducing every event to a choice of whether sentiments are positive or negative. Irrespective of their peculiarities, historical personages are evaluated positively whenever they make the ‘interest of the body’ and negatively when they do not. By this expression, Hume means all situations when a person ignores their private interest in favour of public good. This opposition is again presented as a universal principle: as we read in the political essay ‘Of the Independency of Parliament’, public interest is always ‘restrained by that of the individuals’ (E, 45). Historical characters are considered positively if they solve the tension between self-interest and public good by renouncing to the former and devoting their life to the latter. This appears clearly in those sections of the *History* with the sub-heading ‘character of the king’, in which Hume offers a final evaluation on the social achievements of each sovereign. Kings like Alfred the Great are evaluated positively because their personal virtues proved beneficial to society. His ‘prudence and justice’ (H, I: 74) are what generated ‘his institutions for the execution of justice’, and his knowledge stands at the basis of ‘the encouragement of arts and sciences’ (H, I: 79). The overall judgment is that

this great prince preserved the most sacred regard to the liberty of his people; and it is a memorable sentiment preserved in his will, that it was just the English should for ever remain as free as their own thoughts. (H, I: 79)

When Hume writes that in Alfred’s character ‘happily were all his virtues tempered together’, he means ‘virtues’ as all those passions that are positive because directed to the good of the population in general (H, I: 79). By contrast, Richard I, the monarch beloved by the English for the ‘personal courage’ and ‘intrepidity’ that gained him

‘the appellation of the lion-hearted’, is judged negatively precisely because of these passions that, Hume argues, were expressions of private interest and ultimately led him to become the sovereign of a reign ‘very oppressive, and somewhat arbitrary’ (H, I: 403–404).

As examined above, the most important aspect of Hume’s ‘general unalterable standard’ of judgment is that it holds the same regardless across different times and places. Hume’s Newtonianist confidence in identifying universal principles of moral behaviour means that the same criteria of approbation, or censure, apply across different reigns and ages. This is originally claimed in the first *Enquiry*, where Hume intimates that a historian who wants to understand ‘the sentiments, inclinations, and course of life of the Greeks and Romans’ should do so not by trusting ancient historians but by studying ‘the temper and actions of the French and English’. Since human nature is regarded as universal, one ‘cannot be much mistaken in transferring to the former most of the observations which you have made with regard to the latter’ (ECHU, p. 60). This is why, interspersed throughout the first two volumes of the *History*, there is an abundance of statements on the behaviour of ‘mankind’ that are employed to evaluate specific political situations in the past. These are easily noticeable because they are expressed in the present tense, a sign that Hume means them as universally-valid maxims that should apply regardless of time and place. For instance, the fraught relationship between King Edgar and the Christian monks who encountered the favours of the population is explained by Hume as a consequence of the way mankind is structured: ‘[s]uch is the ascendant which may be attained, by hypocrisy and cabal, over mankind!’ (H, I: 100). Similarly, commenting on the frequency of civil disorders in the reign of Edward II, Hume refrains from pointing to causes that are specific to the historical context but finds an

explanation in the proposition that ‘turbulence of the great, and madness of the people’ are ‘evils incident to human society’, which need to be carefully guarded against ‘in every well regulated constitution’ (H, II: 174).

With the same purpose of conveying Hume’s search for a historical causation based on his conception of human passion as universal and commensurable, the voice of the scientific historian appears through carefully selected adjectives. These adjectives stand for the qualities that are attributed to sovereigns, of whose actions Hume always specifies the consequences for society at large. Canute is thus ‘a *wise* prince’ because he ‘made no distinction between Danes and English in the distribution of justice’ (H, I: 123; italics mine), and Watheof is ‘a man of *generous* principles’ because he rebels against tyranny for the love of the country (H, I: 212; italics mine).

As history moves toward more modern times, the influence of passions starts working in the reverse direction, from society to the individual. The case of the actions of the earl of Gloucester is emblematic. His having stirred a popular uproar in 1267 during the reign of Henry III was the offspring of the ‘*dangerous* independence of the barons in those ages’ (H, II: 63; italics mine). As Europe transitions to the Middle Ages, collective political entities become personified by Hume as being ruled by passions – as, for example, when he writes of ‘Europe, imperilled by its two ruling passions’ (H, I: 237), or of ‘the interests and passions of the nation’ (H, II: 156) – or reacting to passions, as in the case of a civil war under Henry III that was triggered by the ‘insolence’ of the barons, who provoked ‘the hatred and jealousy of all orders of men in the kingdom’ (H, II: 9).

The argument that passions operate in groups of people is developed by Hume to bring his historical analysis at the level of societies, rather than at that of the individual. This serves the important function of reading the behaviours of particular people as determined by the passions of the group and, at a higher level still, of the age. The corruption of the catholic priests, for example, is seen generally as a defining aspect of the Anglo-Saxon and Medieval ages, a consequence that ‘follows indeed, by an evident necessity’ from a general European framework. It was the ‘very situation, in which that church was placed with regard to the rest of Europe’ (H, II: 4), Hume maintains, that triggered the corruption. Similarly, in the discussion on the large number of slaves in the age that is included in the first appendix on ‘The Anglo-Saxon Government and Manners’, Hume suggests that to a given political situation some effects will ‘naturally’ and ‘always’ follow:

Great property in the nobles, especially if joined to an irregular administration of justice, *naturally* favours the power of the aristocracy; but still more so if the practice of slavery be admitted, and has become very common. The nobility not only possess the influence which *always* attends the riches, but also the power which the laws give them over their slaves and villains. It then becomes difficult, *and almost impossible*, for a private man to remain altogether free and independent. (H, I: 171; italics mine)

This is not to say, as Hume concedes with careful use of adverbs, that passions always determine the outcome of a single person, but that it is ‘almost impossible’ for the contrary to happen. That is, the rule proposed by Hume is said to be generally true apart from exceptions that are considered as negligible. Passages like this are all written in the present tense, presenting a discernible cause-effect concatenation that, because of its generality, invites the reader to apply the rule to different ages and

countries. In this case, the rule would read something like this: whenever and wherever power is in the hand of a rank of rich nobles, with the influence that is *always* derived from their possessing large amounts of money, freedom and independence are almost impossible.

This type of syllogistic statement, usually composed of a consequence presented as logically deriving from one or two general premises, ‘sits awkwardly at times with his routine accounts elsewhere in the volumes of kings and great ones’, as O’Brien rightly contends.³³⁹ In the volumes of the *History* on Anglo-Saxon and Medieval England, Hume punctuates the account of the reigns of English kings with asides, digressions and frequent adjectivisation and adverbialization, with the aim of providing a de-historicized commentary that deconstructs the particularity intrinsic to a chronological narrative. What Hume is interested in is the promulgation of general statements such as ‘good morals and knowledge are almost inseparable, in every age, though not in every individual’ (H, I: 79). Individuals are valuable in the scientific history only insofar as the sum of their passions reveals a dominating pattern in a group in society and, in the best cases, in a whole age. This is an interest grounded on the claim that human nature exists only insofar as man is in society. ‘Human nature cannot, by any means, subsist, without the association of individuals’ (EPM, 35). The historian who focuses on human nature must seek to determine human passions that are as common as to be typical of societies universally.

³³⁹ O’ Brien, *Narratives of Enlightenment*, p. 88.

4. The ‘Strange Contradictions’ of Human Nature: Handling the Anomalies of Man in the *History*

In the previous sections it was discussed how Hume conceives of history in a way that could be called Newtonianist, meaning by this term that it displays a strong level of confidence in the possibility of making universal claims about man. Specifically, history is conceived of by Hume as a collection of phenomena that inductively confirm the passions (or sentiments) of man, which are the universal principles he claims are at work in every person. Passions, mixed in ‘various degrees’ and distributed through society, ‘have been, from the beginning of the world and still are, the source of all the actions and enterprizes which have ever been observed among mankind’ (ECHU, p. 60), and can be divided into passions that benefit society and passions that damage it.

Notwithstanding Hume’s neat organisation, the transactions dealt with in the volumes of the *History* on Anglo-Saxon and Medieval England are at times contradictory because men behave in ways that are not readily explained by the categorisation of passions as universal and either beneficial or detrimental to society. From Hume’s perspective of a scientific history, it is especially problematic when the exceptions to his universal claims are historical characters in a position of power. In fact, the flow of history is heavily affected by sovereigns and important aristocrats with eccentric personality traits about which Hume struggles to offer an explanation in terms of sentiments. The influential French prince Louis IX is an example of a character who affects the course of history with passions that are unaccountable in Hume’s model. Louis IX is

a prince of the most singular character that is to be met with in all the records of history. This monarch united, to the mean and abject superstition of a

monk, all the courage and magnanimity of the greatest hero; and, what may be deemed more extraordinary, the justice and integrity of a disinterested patriot, the mildness and humanity of an accomplished philosopher. (H, II: 40)

Here the scientific historian has a hard time to explain the presence of a person whose character mingles superstition and patriotism. Louis IX is at the same time a champion of liberty *and* of religion even if, in Hume's categorisation, these two passions are not compatible. Louis IX has in himself something of the monk, which is defined by *mean* and *abject* superstition; the hero, defined by *courage and magnanimity*; the patriot, defined by *justice and integrity*; and the philosopher, defined by *mildness and humanity*. How these passions add up is left unexplained, with Hume simply passing over the incongruences of his character. But the problem is critical. In the history of ancient times, presented at the beginning of the first volume as subject to revolutions that are 'sudden, violent, and unprepared' (H, I: 3), the idiosyncrasies of kings and powerful nobles can determine the outcome of many historical junctures.

According to Hume, the disruptive presence of historical anomalies is due to self-interest, which always produces 'arbitrary' decisions. In this sense, historical progress is the clash between powerful individuals and the bodies of people. As discussed in the previous section, Hume gives it as a rule of human nature that the 'interest of the body' is 'restrained by that of the individuals' (E, 45). This rule is explored more in detail in the essay 'On the Rise and Progress of the Arts and Sciences', where he contends that

the domestic and gradual revolutions of a state must be a more proper subject of reasoning and observation; than the foreign and violent, which are commonly produced by single persons, and are more influenced by whim, folly, or caprice, than by general passions and interests. (E, 112)

More than the division between national and international transactions, it is Hume's concern with unpredictability that is crucial. The actions performed by individuals are assessed as unreliable because dependent on 'whim, folly, or caprice', an evaluation that reveals Hume's uneasiness with any historical material that cannot be scientifically systematised. The Anglo-Saxon and Medieval volumes of the *History* are situated at the beginnings of history, at the time when '[e]very man was thrown loose and independent of his fellows' (H, II: 255). In these ages 'Violence universally prevailed, instead of general and equitable maxims', and the 'pretended liberty of the times, was only an incapacity of submitting to government: And men [were] not protected by law in their lives and properties' (H, II: 518–522). Ancient England is described as dominated by the will of the barons, characters in whom 'so little national or public spirit prevailed', being 'so wholly bent [...] on the aggrandizement each of himself and his own family' (H, I: 353).

In order to make it fit the principles he elaborated, Hume is ready to manipulate the heterogeneous historical material to minimize the effects of chance on historical events while, at the same time, maximizing the importance of cause-effect explanations. Primarily, this goal is achieved by denying the truth of the accounts of past historians because they are presented as full of imagined tales. This was a point made at the beginning of the volume on Anglo-Saxon England. Especially in ancient times, 'fables' are 'commonly employed to supply the place of

true history'. These 'ought entirely to be disregarded' (H, I: 4) when they go against what our reason tells us:

Should a traveller, returning from a far country, bring us an account of men, wholly different from any with whom we were ever acquainted; men, who were entirely divested of avarice, ambition, or revenge; who knew no pleasure but friendship, generosity, and public spirit; we should immediately, from these circumstances, detect the falsehood, and prove him a liar, with the same certainty as if he had stuffed his narration with stories of centaurs and dragons, miracles and prodigies. And if we would explode any forgery in history, we cannot make use of a more convincing argument, than to prove, that the actions ascribed to any person are directly contrary to the course of nature, and that no human motives, in such circumstances, could ever induce him to such a conduct. (ECHU, p. 61)

Hume, like Newton, refuses accounts which contradict a supposed 'uniformity in human motives and actions as well as in the operations of body' which, thanks to Newton's discoveries, can be now acknowledged 'readily and universally' (ECHU, p. 61). As is well exemplified by a summarising article published at the end of the century, it was widely believed that, thanks to Newton, eighteenth-century philosophers like Hume were considered as enlightened because of their ability to detect human actions compared to the ancient philosophers:

When the ancient philosophers inquired into physical truth, they most frequently pursued a wrong track. Instead of patiently and carefully observing the phaenomena of Nature, and thence ascertaining her general Laws, they followed their own conjectures, and from them they framed hypotheses.

Pursuing a mistaken path, the force and quickness of their genius served only to make their deviation the greater from the right road. What they dignified with the name of discoveries, were mere fictions of imagination, not legitimate conclusions of reason. [...] Experience only shews what Nature is, and what Man is, by what means and to what ends natural and moral powers ought to be employed.³⁴⁰

Ancient philosophers followed their own conjectures, producing ‘fictions of imagination’ – as the *Sun* writer puts it, echoing Cotes’ preface to the second edition of the *Principia* – that are not to be trusted anymore after Newton showed that ‘what Nature is, and what Man is’, must be ‘patiently and carefully’ observed to ascertain the ‘general Laws’ that govern their behaviours. Hume’s claim on history is parallel to this, evidently because of the connection between history and philosophy that is at work in his *oeuvre*. Past historians are not to be trusted because ‘the whole frame of nature is disjointed’ – that is, nature seems to behave differently from the nature we know:

When we peruse the first histories of all nations, we are apt to imagine ourselves transported into some new world; where the whole frame of nature is disjointed, and every element performs its operations in a different manner, from what it does at present. Battles, revolutions, pestilence, famine and death, are never the effect of those natural causes, which we experience. Prodigies, omens, oracles, judgements, quite obscure the few natural events, that are intermingled with them. (ECHU, p. 86)

³⁴⁰ *Sun*, Monday, June 27, 1796; Issue 1171.

In proportion as history moves towards the ‘enlightened ages’, man learns that there is ‘nothing mysterious or supernatural’ in these events but that everything can be explained by focusing on the fixed, universal laws that govern natural phenomena (pestilence and famine) as well as human transactions (battles and revolutions) (ECHU, p. 86).

Notwithstanding Hume’s implied presentation of himself as a historian engaged in moral sciences, however, his interrogation of ancient history to prove the validity of the universal principles (the passions) of human nature is continuously imperilled by historical characters that, like Louis IX, do not fit into his philosophical framework. In these cases, Hume tends to exclaim that ‘[s]uch are the strange contradictions in human nature!’ (H, I: 242), a paradoxical claim for a writer who insists on the universality and regularities of human nature. The implication is that not even Hume, the philosophical historian who lives in the post-Newton enlightened age of reason, can solve all the contradictions of human nature into a fixed set of universal principles. The identification of general laws, which are all ‘attended with inconveniencies, when applied to particular cases’, requires on the part of the philosopher ‘great penetration and experience [...] to discern what general laws are, upon the whole, attended with fewest inconveniencies’, as Hume puts it in ‘On the Rise and Progress of the Arts and Science’ (E, 116). There is in Hume a lurking awareness that the validation of the laws of nature done through ancient history is a tentative process continuously problematised by human deficiencies. Nature does not admit of anomalies, but its mechanisms are still too minute or remote to be apprehended. At times this aspect is manifestly declared as, for example, in the essay ‘Of Civil Liberty’, where the philosopher voices his ‘suspicion’ that the ‘world’ is

still ‘too young to fix management truths in politics, which will remain true to the latest posterity’ (E, 87):

We have not as yet had experience of three thousand years; so that not only the art of reasoning is still imperfect in this science, as in all others, but we even want sufficient materials upon which we can reason. It is not fully known, what degree of refinement, either in virtue or vice, human nature is susceptible of; nor what may be expected of mankind from any great revolution in their education, customs, or principles (E, 87–88)

This is to say that history has a disruptive potential. Once further events (which is to say further experience) have come to pass, principles that are now valid might be ‘refuted by further experience, and be rejected by posterity’ (E, 89), thus undermining any attempt to determine the principles of human nature universally. Historical anomalies, that is, have the capability to make philosophical history inadequate.

The method employed by Hume to avoid this problem is one already mentioned in the section above. In the Anglo-Saxon and Medieval volumes of the *History* Hume tries to foreground the evolution of societies and avoid focusing on the individual. The ‘rule’ he proposes is that ‘what depends upon a few persons is, in a great measure, to be ascribed to chance, or secret and unknown causes’, whereas ‘[w]hat arises from a great number, may often be accounted for by determinate and known causes’ (E, 112). Laws, in the sense of legal systems, are in this sense a useful resource, because laws discipline the arbitrariness of individuals and, thus, the anomalies of history. Laws, Hume claims, are ‘calculated’ in order to ‘defend general liberty’ and to ‘restrain’ powerful individuals like nobles who could exploit their personal powers for personal advantage (H, I: 172). These laws, in order to be just,

must be detached from personal characters and become de-personified, as abstract as the laws of nature, otherwise ‘a constitution, which depended so much on the personal character of the prince, must necessarily, in many of its parts, be a government of will, not of laws’. (H, II: 174) The same rationale lies at the basis of Hume’s partial indictment of the reign of Edward I who, though he appeared ‘a friend to law and justice’, implemented policies that in ‘a government more regular and legal’ (H, II: 142) would have been interpreted as arbitrary.

The stadial progression from the society of ‘rude people’ to the civilized state passes through an implementation of a system of laws that parallels the system of the laws of nature inasmuch as it ignores the will of particular people in favour of the general good. Through laws, the individual actions of historical characters can be relegated to the background in favour of what is ‘subject of reasoning and observation’, and dependent on ‘general passions and interests’ (E, 112). This suggests that Hume’s historiographical system is constructed as a progressive line that goes from the pole of irregularity to that of regularity, with societies being measured as finding their place between these two ends. On one end of the spectrum, there is a barbarous age where, in the absence of laws, everybody does whatever they want, and in which reason is disregarded and thus everything occurs randomly based on the will of the individual. On the other end, there is the age of the laws where everybody privileges public good over private interest. So, societies progress from times of ‘irregular’ authority (H, II: 180) and ‘irregular government’ (H, II: 274–75) to ‘times of more regular liberty’ (H, II: 76) supported by the ‘regular authority of the parliament’ (H, II: 273). As societies evolve, the ‘regularity’ of legal systems is implemented to control the power of subjects in a position of power – the kings and

the nobles, mostly – who, because of their anomalous characters, are in opposition to the order of nature.

Systems of justice are emphasised by Hume precisely because they are de-subjectified – that is, they operate on a general level that disregards the will of single individuals. Yet, and to conclude this chapter, it should be observed that Hume focuses on the laws because of his inability to explain the anomalies of historical characters through passions, the principles he had himself proposed as universally applying to all men in all ages and places. Passions may hold generally when seen from the perspective of a society but, at the level of the individual, it might be the case that no regularity is visible and that Hume either manipulates or ignores the data provided by ancient history to make it fit his model of universal passions. This problem constitutes a challenge for claim, such as that made by Nicholas Phillipson, that the assumption that underlies the Saxon and Medieval volumes of the *History* is that there is a ‘mental universe as regular in its operations as the natural universe described by scientists’.³⁴¹ This regularity is less evidential than wished for by Hume, who strives to emulate Newton and use history to prove his moral principles. In fact, history proves refractory to Hume’s universalising claims on man, and his desire to present general claims that, like those of Newton, could be said to hold universally and thus offer an insight to nature, is challenged by the lack of homogeneity of historical matter. The validity of his general claims is defended by arguing that they hold true even when individuals are an exception to it – this is the case, for example, when he states that ‘good morals and knowledge are almost inseparable, in every age, though not in every individual’ (H, I: 79) – but this is a contention that is valid only

³⁴¹ Nicholas Phillipson, *Hume* (London: Weidenfeld & Nicolson, 1989), p. 48.

insofar as a great amount of trust is put into the historian. Less than on actual universal principles, the objectivity of Hume's history is based on what Jacob Sider Jost has defined as the requirement to 'trust the brushwork'.³⁴²

Eventually, it is only the historian's authority, and not the self-evident principles of human nature, that constitutes the basis for the claims advanced in the Anglo-Saxon and Medieval volumes of *History*. The first stage in the analysis of the history of ancient times is to doubt the veracity of ancient historians, who Hume claims are influenced by their imagination. The second stage is to determine the universal principles of human nature that hold at all times and places. However, the conclusion seems to be that these principles can be only glimpsed at without being attained. In this sense, the description of Newton's achievements attached at the end of the final volume of the *History* acquires a deep significance. While Newton 'seemed to draw off the veil from some of the mysteries of nature', he actually showed that man was unequipped to master her secrets. In recognizing this, Newton thereby 'restored her ultimate secrets to that obscurity in which they ever did and ever will remain'.³⁴³ In this ambiguous portrayal that sits awkwardly both with the celebrations of Newton's powers made by the commentators and with Hume's confidence in using history to verify the universal principles of mankind, the *History* is concluded with the intimation that Newton's legacy might have consisted in instilling man with a confidence that had no experiential grounds. Newton might have suggested in the *Opticks* that with his method universal principles could be identified

³⁴² Jacob Sider Jost, 'David Hume: History Painter', *ELH*, 81:1 (2014), 143–165 (p. 146).

³⁴³ Hume, *History of England*, VI, 542.

in human nature, but the heterogeneity of experience continuously frustrates these attempts.

Chapter 5

The Nature of Talking Things.

Smollett, It-Narratives and the De-Personification-of Knowledge.

1. The Nature of Things as the Benchmark for Certain Knowledge

This final chapter investigates the prominence acquired by ‘things’ in narratives published in the second half of the century. The main claim advanced is that the new role taken by things as narrative subjects results in man being bypassed as the source of knowledge, thus avoiding the risk of having observations adulterated by the imagination. This development, I argue, is linked to the body of commentaries on Newton, in which ‘things’ was often used as a term to indicate that which is natural rather than human exclusively, to the point where things were considered to bear more epistemic authority than man. The specific example analysed is that of It-Narratives, which are introduced with a section on Smollett’s *The Expedition of Humphrey Clinker* in which Matthew Bramble elaborates on how scientific developments made things more reliable than man. In the final two sections of this chapter, it will be argued that, through the fiction of It-Narratives, the possibility that man does not have the ability to know nature adequately compared to the standards for valid knowledge set by Newton is fully acknowledged through a narrative reversal in which things are shifted to the role of narrators, with man becoming the object of enquiry.

The sense that ‘things’ had epistemic authority – that is, that they led to reliable knowledge – culminates with the dissemination of the texts on Newton but starts in the late seventeenth century with the activity of the practitioners of the Royal Society. In the first half of the early seventeenth century, the word ‘thing’ typically

occurred in the phrase ‘the nature of things’ in biblical commentaries and sermons. This expression broadly stood for the way the world is or was. This is the sense employed, for instance, in a discussion published in 1641 of the sabbath in the New Testament, where the habits of the Jews show the ‘extraordinary nature of things of that kind then’.³⁴⁴ By extension, and always in the context of religious commentaries, ‘the nature of things’ stood to indicate the rules of God – i.e., how the world is supposed to be if one follows the holy directions. So, for example, in 1614 a puritan divine complained that ‘to commit the office of the ministry to women, or any part of it, were as much as to turne the nature of things topsie turny, and to bury and abolish the ordinance of God’, while another writer insisted on the absurd, dire consequences that will happen if the ‘whole nature of things’ is ignored.³⁴⁵

The change that takes place with the rise of the Royal Society prepares the terrain for the eighteenth-century usage of the concept that is analysed in this chapter. The Royal Society practitioners, elaborating on the teachings of Lord Bacon, argued for a shift of their attention from ‘words’ to ‘things’. A gap exists between nature as it is and how man represents it through language, which must be bridged by a renovated focus on things rather than linguistic representation. It is in this sense that Thomas Sprat, in the *History of the Royal Society* (1667), contends that ‘things’ are ‘the Mind’s right object’ in contrast to words, which hinder the study of nature.³⁴⁶ As

³⁴⁴ George Abbot, *Vindiciae sabbathi, or, An answer to Two Treatises of Master Broads the One, Concerning the Sabbath or Seaventh day, the Other, Concerning the Lord’s-day or First of the Weeke* (London, 1641), p. 12.

³⁴⁵ William Attersoll, *The Neuu Couenant, or, A treatise of the Sacraments* (London, 1614), p. 382; A. L., *Spirituell Almes a Treatise wherein is Set Forth the Necessity, the Enforcements, and Directions of the Duty of Exhortation* (London, 1625), p. 213.

³⁴⁶ Sprat, *History of the Royal Society*, ‘To the Royal Society’.

Sprat explains, in its state of ‘primitive purity and shortness’, man was able to deliver ‘as many *things*, almost in an equal number of *words*.³⁴⁷ Experimental philosophers must bridge the gap to return to this pristine condition, something that they believed could be done by focusing on nature. Things, in this view, were the direct expressions of nature. The influential naturalist Robert Plot, who in 1677 was elected a fellow of the society and in 1682 became joint editor of the *Philosophical Transactions*, was one of the first to make this connotation explicit. He paired ‘things’ with the adjective ‘natural’, defining ‘natural things’ as whatever nature ‘hath retained the same from the beginning, or freely produced in her ordinary course; as *Animals, Plants*, and the *universal furniture of the World*’.³⁴⁸

In this distinction between knowledge derived from things and knowledge derived from people, things are declared to be more authoritative. This position is defended by Plot himself in one of the chapters of his natural history of Staffordshire, where he declares his intention to purposely omit ‘both *persons* and *actions*, and chiefly apply my self to *things*’.³⁴⁹ This hierarchy, however, was often nominal and failed to be followed by actual practice. As Michael C. W. Hunter notes, Plot’s natural histories made use of a number of dubitable testimonies, which made them far from objective.³⁵⁰ In addition to this, knowledge derived from personal testimonies was so highly valued by early Royal Society practitioners that, as some commentators have argued, even the clear evidence of an experiment could be smoothed to avoid confrontation and, thus, the risk of imperilling the reputation of

³⁴⁷ In Michael C. W. Hunter, ‘The Royal Society and the Origins of British Archaeology: II’, *Antiquity*, 45 (1971), 187–192 (p. 187).

³⁴⁸ Robert Plot, *The Natural History of Oxfordshire* (Oxford, 1677), p. 1.

³⁴⁹ Robert Plot, *The Natural History of Staffordshire* (London, 1686), p. 392.

³⁵⁰ Hunter, ‘The Royal Society’, p. 190.

gentlemanly practitioners.³⁵¹ Notwithstanding their claims to the contrary, for Royal Society practitioners ‘things’ were not actually above ‘persons’ in terms of epistemic value.

Therefore, when in *A View of Sir Isaac Newton’s Philosophy* Pemberton confidently claims that a ‘strict examination of things’ will distinctly bring to light the causes of everything in nature, a change seems to have occurred. Pemberton built on an implied hierarchy between things and persons wherein things are reckoned to yield true knowledge compared to the testimony of man, which is understood as unreliable.³⁵² Something had happened which, in the words of Fontenelle, had brought to light the ‘Principles and Elements of things’ that had been thus far ‘conceal’d from us by Nature’, for which we now enjoy ‘a Sight entirely new and unexpected’.³⁵³ This was a change that was believed by some to have been due to the advent of Newton, who had discovered the existence of the ‘pre-established order of things’ in nature.³⁵⁴ That such an argument made its appearance in a newspaper by the middle of the century intimates that this was not an intellectual position limited to a partly restricted intellectual circle (as it was the case of the Royal Society), but one that was disseminated across many layers of society.

In his writings, Newton understands ‘things’ as a synonym of phenomena, the ‘noncontroversial’ facts that, as Achinstein explains, are for Newton indisputable

³⁵¹ On the production of knowledge based on consensus within the Royal Society, see Steven Shapin, *A Social History of Truth* (Chicago, London: University of Chicago Press, 1994).

³⁵² Pemberton, *View*, p. 15.

³⁵³ Fontenelle, *Life and Writings of Sir Isaac Newton*, p. 19.

³⁵⁴ *Adventurer*, Tuesday, March 5, 1754; Issue 139.

because they logically elicit the agreement of all impartial, unprejudiced observers.³⁵⁵ ‘Things’, in other words, refer to nature in each of her indisputable manifestations. The connection is made explicit from the very ‘Author’s Preface’ of the first edition of *Principia*, where Newton invokes the times of the ancient Greek geometer Pappus, with his mathematics-based ‘investigation of natural things’, as the golden age of natural philosophy that the *Principia* aims to re-establish.³⁵⁶ In Newton’s view, things are the direct expressions of nature, and thus the impersonal determination of the mathematical causes that govern the behaviour of things is the one and only aspect that needs be discovered.

Since for Newton things are the direct expressions of nature, they are governed by mathematics. As such, they must be differentiated by quantity, rather than by quality. From Newton’s point of view, there is no qualitative difference in the variegated manifestations of nature, because anything in the universe – be it persons, animals or objects – is a physical body that obeys the same laws of physics.³⁵⁷ Being measured numerically, Newton’s concept of a thing as a natural phenomenon requires, for its proper apprehension, that no subjective explanation is added. As the first rule of reasoning inserted in the second edition of *Principia* in 1713 admonished, we are to admit ‘no more causes of natural things than such as are both true and sufficient to explain their appearances’.³⁵⁸ Considering persons, animals and objects as *things* means to observe them without trying to make sense of

³⁵⁵ Achinstein, ‘Newton’s Corpuscular Query’, p. 138.

³⁵⁶ Newton, *Principia*, p. 203.

³⁵⁷ Alexandre Koyré argued that what was perceived as the revolutionary character of Newton’s law of attraction was that it ‘uniformly and universally applied to large and small bodies, to apples and to the moon’. Koyré, *Newtonian Studies*, p. 15.

³⁵⁸ Newton, *Principia*, p. 785.

them, that is, treating them as raw data. This position is a reformulation of the *hypotheses non fingo*: things are not to be explained away by personal conjectures:

[A]lthough the arguing from Experiments and Observations by Induction be no Demonstration of general Conclusions; yet it is the best way of arguing which the Nature of Things admits of, and may be looked upon as so much the stronger, by how much the Induction is more general. And if no Exception occur from Phaenomena, the Conclusion may be pronounced generally.³⁵⁹

Newton is adamant that any knowledge produced by man is to be measured exclusively against the ‘nature of things’. This is a position that will have a major impact because of its dissemination through the body of commentaries on Newton. Already in the editor’s preface to the 1713 of *Principia*, Roger Cotes would elaborate on the consequences of this claim by putting ‘Things’ in stark opposition with ‘conjectures’. The latter are detrimental to the making of sound knowledge, because of their being ‘figment[s] of [the] imagination’ that falsely purport to hold a resemblance to nature. Conjectures arise as a result of ‘overly indulging’ one’s fantasy and not minding what Newton calls the ‘Nature of Things’ and Cotes, echoing him, ‘the laws of things’.³⁶⁰

In the dissemination of the body of commentaries on Newton, the concept that ‘things’ are the direct manifestation of nature is made apparent through their continuous evocation as the benchmark against which knowledge needs to be measured. One of the first eighteenth-century occurrences of this process clarifies the type of writer Defoe had in mind, and how things were conceived of after Newton.

³⁵⁹ Newton, *Opticks*, p. 404.

³⁶⁰ Cotes, ‘Editor’s Preface to the Second Edition’, pp. 393, 397.

In the *Disquisition of the Law of Nature* (1701), moral philosopher Richard Cumberland contends that the simple, unadorned exposition of the laws of nature is enough to convince ‘Men of sincere and honest minds, and who are naturally disposed to Vertue and right Reason’. With clear Newton-inspired language, Cumberland contends that, for those who remain reticent to reason, ‘a firmer and clearer Demonstration’ can be attained by ‘a strict search and inquisition into the nature of things’, by which ‘a true Knowledge of the Laws of Nature’ may be attained.³⁶¹ For Cumberland, the examination of things reveals the true knowledge of nature with an evidence equal to mathematical demonstration.

This Newtonianist confidence in the authority of things is reiterated by many other writers. According to Fontenelle, the principal merit of Newton was that he made all things measurable through calculation. The only requirement is to examine them ‘like Sir Isaac’ – that is, in ‘as accurate and importunate a manner’:

When we are for prying into Nature, we ought to examine her like Sir Isaac, that is, in as accurate and importunate a manner. Things that almost hide themselves from our enquiries, as being of two [*sic*] abstracted a nature, he knows how to reduce to calculation, tho’ such calculations might elude the Skill of the best Geometricians, without that Dexterity which was peculiar to himself; and the use which he makes of his Geometry, is as artful as the Geometry it self is sublime.³⁶²

³⁶¹ Richard Cumberland, *A Brief Disquisition of the Law of Nature, According to the Principles and Method Laid Down in the Reverend Dr. Cumberland’s (now Lord Bishop of Peterborough’s) Latin Treatise on that Subject* (London, 1701), p. xx.

³⁶² Fontenelle, *Life and Writings of Sir Isaac Newton*, pp. 19, 21.

Deviations from the ‘accurate and importunate’ examination of things that ‘almost hide themselves from our enquiries’ occur when the observer is too full of himself – that is, when, driven by his prejudices, the evidence of things is ignored. Nature speaks through things, and no further mediation is needed. This becomes a common position among commentators on Newton. Colin MacLaurin, in his influential *An Account of Sir Isaac Newton’s Philosophical Discoveries*, speaks harshly of the ‘absurd composition of truth and error’ that befalls those who are not able to restrain themselves and give in to the evidence of things. The causes of this mistake are ‘Vanity and pomp’, moral defects that obscure the value of things and thus make people stray from truth. Newton’s lasting intellectual contribution, according to MacLaurin, consisted in his having

overthrown the boasted schemes by which they pretended to unravel all the mysteries of nature; and the philosophy he introduced, in place of them, carrying with it a sincere confession of our being far from a complete and perfect knowledge of It, could not please those who had been accustomed to imagine themselves possess’d of the eternal reasons and primary causes of all things.³⁶³

The original polarisation between nature and man is by MacLaurin turned into a contrast between things, considered as the unadulterated expression of nature, and fictions, the unreliable interpretation of nature produced by the human subject. On one side there is nature, ‘the consummate art by which all things were made’. On the other, there are ‘our own extravagant conceits’, which we should be ‘afraid to intermix’ with nature. Implicit in this position is the argument that man can only

³⁶³ MacLaurin, *An Account*, pp. 11–12, 14.

produce fiction. Newton's legacy, MacLaurin suggests, lies in the suggestion that man can only produce fictional interpretations that should not be trusted because they hold no resemblance to nature. As such, the capacity to offer explanations about the phenomena of nature should be relinquished, and a muted observation of nature embraced. MacLaurin defines this process as listening to 'the unerring voice of nature':

The processes of nature lie so deep, that, after all the pains we can take, much, perhaps will remain undiscovered beyond the reach of human art or skill. But this is no reason why we should give ourselves up to the belief of fictions, be they ever so ingenious, instead of hearkening to the unerring voice of nature; for she alone can guide us in her own labyrinths; and it is a consequence of her real beauty, that the least part of true philosophy is incomparably more beautiful than the most complete systems which have been the product of invention. (pp. 12–13)

It is essential, MacLaurin argues, to constantly remind man of his shortcomings. The innate tendency to confound 'things' with 'ideas' leads to wrongfully 'explain the whole constitution of things by what they call clear ideas' (p. 14). It can be inferred from publications appeared around the mid-century mark that the benchmark provided by 'the constant Regularity of Things' did not remain limited to commentators on Newton but soon disseminated in texts not immediately concerned with him or his ideas.³⁶⁴ The loss of value of personal authority in favour of things implicit in MacLaurin's argument is especially visible in texts on moral philosophy

³⁶⁴ *Whitehall Evening Post or London Intelligencer*, April 12, 1750 – April 14, 1750; Issue 651.

published around those years. Thomas Morgan, for instance, takes pride in the absence of the word *Revelation* from his *The Moral Philosopher* (1740). The point is not that the authority of a prophet or a teacher is invalid evidence *per se* – Morgan specifies that personal authority should still be distinguished between ‘real’ and ‘supposed’. The crucial aspect Morgan wishes to emphasise is that personal authority is but a manner of conveying an argument which, when right, rather rests ‘its necessary Foundation in Nature and Reason’. At its best, personal testimony is a linguistic replica of things. It is things that make a doctrine a true one ‘and the Authority or Manner of Conveyance cannot alter, or affect this’. The ‘Nature and Reason of Things’ is the only possible authority, and those who try to convey it must make sure they do so neutrally. To explain this point, Morgan uses as a similitude the Laws of Nature that were ‘demonstrated’ by Newton:

Nothing that is antecedently and necessarily true in Nature and Reason, can depend on Authority for the Truth of it, since the very Authority itself must depend on the same Nature and Reason of Things. The same Truths or Doctrines may be receiv’d and adher’d to, either upon original, native Evidence, as founded in Nature and Reason, or by Authority from others, without any other Reason or Ground of Truth to those who thus take them upon Trust [...]. There are few thinking, inquisitive Persons, now among us, but know something of the Newtonian Philosophy, and the Laws of Nature demonstrated by that great Philosopher; but the Generality receive it only upon Trust.³⁶⁵

³⁶⁵ Morgan, *Moral Philosopher*, III, 126.

Significantly, the discourse on the primacy of things over personal opinions seeps into a field as far away from Newton's ideas as aesthetics. No explicit references are made to Newton, but the concept that taste is universal because it derives from things, and not from man's unsteady standards, is clearly evidenced by, for example, Edmund Burke, who contends that taste is a 'science' with 'axioms' that are to be reduced 'into a system'. If 'taste has no fixed principles, if the imagination is not affected according to some invariable and certain laws', Burke writes, this would mean nothing less than abiding to 'rules for caprice, and to set up a legislature for whims and fancies'.³⁶⁶ For Sir Joshua Reynolds too, the Newtonianist proposition that 'reason is something invariable and fixed in the nature of things' entails that the human beholder should make itself as much as possible into a recipient of what the 'things' of nature display. This is because taste derives from nature's 'invariable principles', and is therefore 'fixed and established in the nature of things':

We may therefore conclude, that the real substance, as it may be called, of what goes under the name of taste, is fixed and established in the nature of things; that there are certain and regular causes by which the imagination and passions of men are affected; and that the knowledge of these causes is acquired by laborious and diligent investigation of nature, and by the same slow progress as wisdom or knowledge of every kind, however instantaneous its operations may appear when thus acquired.³⁶⁷

³⁶⁶ Edmund Burke, *A Philosophical Inquiry into the Origin of Our Ideas of the Sublime and the Beautiful*, ed. Adam Phillips (Oxford, New York: Oxford University Press, 1990), p. 12.

³⁶⁷ Joshua Reynolds, 'Discourse VII. Delivered to the Students of the Royal Academy', *The Complete Works of Sir Joshua Reynolds*, 3 vols (London, 1824), I, 173. The idea that taste had its grounds in the identification of the principles of nature was made by a number of

2. 'The Novelty of Things': Matthew Bramble's Distrust in Human Knowledge

The way in which the concept of 'things' evolved in the eighteenth century thanks to the commentaries on Newton is crucial to appreciate the narrative focus given to things as non-human agents in the second half of the century. A central character in this enterprise is Tobias Smollett, who in 1769 writes a complex novel entitled *The History and Adventures of an Atom*, which not only anticipates a wave of It-Narratives, but also exploits the mechanisms of fiction to problematize the opposition between knowledge derived from things and man. Before discussing this text, it is however necessary to explore the theoretical edifice that supports it. This is provided by one of the letters from Smollett's final novel *The Expedition of Humphry Clinker* (1771). In a letter to his physician Dr Lewis written in London on the 2nd of June, Matthew Bramble elaborates on the problem of what constitutes reliable knowledge, encapsulating the suggestion that 'things' be adopted as a benchmark for knowledge-making within a complex discourse on the diminished value of personal authority.

The letter opens with Bramble's account of a visit to the British Museum, which had opened in 1753. About this 'noble collection' Bramble has some

commentators on Newton. According to Pemberton, the 'perspicuous reasoning' of Newton 'appears not only beautiful; but, when set forth in its full strength and dignity, it partakes of the sublime, and not only pleases but warms and elevates the soul'. In *View*, p. 3. Benjamin Martin, a famous populariser in the second half of the century, made an explicit association between fine arts and Newton's requirement not to feign hypotheses. 'Painting, as it consist in an *exact Imitation* of Nature, by a judicious Mixture of *Colours*, and a proper Disposition of various *Tints, Lights, Shades, &c.* must be pronounced a *philosophy Art*, whose Theory depends on the most refined Principles of this Science. A Person, by a thorough Skill in the *Doctrine of Light and Colours*, might almost make a Picture *a Priori*: How natural, genuine, and excellent must that Portrait be, which is executed by a Hand whose every Motion is directed by the Dictates of presiding Science?'. In Benjamin Martin, *A Panegyrick on the Newtonian Philosophy* (London, 1769), p. 41.

reservations, especially on two inter-related questions. The first is the incompleteness of the collection. ‘I could wish the series of medals was connected’, Bramble notes, ‘and the whole of the animal, vegetable, and mineral kingdoms completed’. The second question is that of the ordering strategies adopted in the museum. Bramble laments that the choices were made by a ‘private man’.³⁶⁸ In hoping for the collection to be expanded and differently categorized, Bramble wishes

for the honour of the nation, that there was a complete apparatus for a course of mathematics, mechanics, and experimental philosophy; and a good salary settled upon an able professor, who should give regular lectures on these subjects. (p. 110)

In the paragraph that follows, Bramble claims that his proposed improvements to the British Museum collection would never be realized because of the ‘spirit of the times’ that hinders the benefit of the public in favour of private interest.³⁶⁹ The issue of how to organise knowledge appropriately in a museum is two-fold, with mathematical instruments on one side and the subjectivity of the collector on the other. The effective reorganization of the museum and is grounded on adequately training people in appreciating knowledge produced through mathematics, mechanics and experimental philosophy.

Bramble takes exception to the collector being a ‘private man’ who has organised the collection in the museum according to his personal preferences. By

³⁶⁸ Tobias Smollett, *The Expedition of Humphry Clinker*, ed. Evan Gottlieb (New York, London: W. W. Norton and Company, 2015), p. 109.

³⁶⁹ In this passage John Sekora sees an example of Smollett’s lifelong attack on luxury. John Sekora, *Luxury. The Concept in Western Thought, Eden to Smollett* (Baltimore: Johns Hopkins University Press, 1977), pp. 215–238.

wishing for the collection to be made more comprehensive through ‘public expense’ so that it can embrace the ‘whole of the animal, vegetable, and mineral kingdoms’, Bramble implies that the idiosyncrasy of the collector should be kept under control because it threatens to represent nature partially or misrepresent it altogether. That is why Bramble wishes to replace the private collector with an ‘able professor’ who has both the experimental competences which allow knowledge to be made scientifically and a clear duty toward the public good, which is to be exercised by giving ‘regular lectures on these subjects’ (p. 110).

This preoccupation with subjective distortions is made manifest by the way Bramble transitions from the museum problem to that of slandering newspapers. Both problems have to do with the present state of knowledge within the public sphere, and specifically with the extent to which self-interest affects the pursuit of truth. By linking the figure of the private collector to that of the journalist who defames others for political advantage, Bramble makes a more general point about knowledge, which he intimates is reliable when produced with an eye to the public good and unreliable when beneficial only to a restricted number of people. In light of this, partial knowledge should be distrusted in favour of knowledge made by disinterested parties. Newspapers complicate this view, since authors can easily conceal or disguise their private interests by writing anonymously, and the pervasiveness of the periodical press puts unreliable writers in the position to influence many readers at once:

[E]very rancorous knave—every desperate incendiary, that can afford to spend half a crown or three shillings, may skulk behind the press of a newsmonger, and have a stab at the first character in the kingdom, without running the least hazard of detection or punishment. (p. 110)

Smollett's choice of the word 'character' is in this respect meaningful in this context. Bramble's attack against the vulgar slanderer can be read as an instance of Deidre Lynch's contention that, in the eighteenth century, 'to qualify for the title of gentleman [was] to possess what passes for a disinterested viewpoint, a way of knowing uncompromised by attachments to a particular locale or a determinate vocation'. Lynch's contention, made through explicit reference to Smollett, is that the eighteenth-century gentleman actively tries to avoid the perception of particulars, choosing to focus on the 'general figures' of man, their 'central form'.³⁷⁰ In a social world divided 'between those qualified to observe and those who are objects of others' observation', Matthew Bramble not only takes the role of the observer who judges beyond the level of personal opinion, but also elevates himself to a position where he can cast his critique of the very rules of organizing knowledge – thus his critique of the collection of the British Museum.³⁷¹

This position as an observer placed above the mass is a strategy used by Bramble to portray himself as immune to prejudices. Clearly, some caution ought to be exercised in identifying protagonist as Smollett's mouthpiece – Bramble's foibles in the rest of *Humphry Clinker* do not make him a prototype of the observer free from prejudice. But Bramble's lack of total reliability is probably Smollett's point. In *Humphry Clinker*, the peregrinations of the group led by the Matthew Bramble are told through a set of letters sent and received by five characters. The result is a range of narrative voices that are only in partial agreement with each other. No single point of view is the right one, for nobody is able to offer a transparent view on what they

³⁷⁰ Lynch, *Economy of Character*, p. 81.

³⁷¹ Lynch, *Economy of Character*, p. 82.

recount.³⁷² In fact, the very structure of the text invites the reader to challenge the idea of a definitive point of view.³⁷³ The choice of a multi-subjective epistolary account allows an observation of the world that relinquishes the belief that the individual narrative voice has any authority by developing a conflation of voices that renders the impossibility for man to agree on a single interpretation.³⁷⁴ The link between scientific knowledge and subjective prejudices made by Bramble suggests

³⁷² As Evan Gottlieb puts it, *Humphry Clinker* is ‘a virtual experiment’ with narrative, with the story being reconstructed by comparing the fragmented points of view. Evan Gottlieb, ‘“Fools of Prejudice”: Sympathy and National Identity in the Scottish Enlightenment and *Humphry Clinker*’, *Eighteenth-Century Fiction*, 18 (2005), 81–106 (p. 82). Gottlieb’s definition refers primarily to the discourse on Scottish national identity, which is a central aspect of *Humphry Clinker*. It should be kept in mind that Smollett belongs to a lineage of Scottish thinkers quite different in their intellectual agendas from their English counterparts. As Matthew Wickman has recently shown, writers who, like Smollett, were involved in the Scottish Enlightenment – particularly Walter Scott, Robert Burns and James Thomson – had a shared concern with the epistemological question of the ‘geometric imagination’. Matthew Wickman, *Literature after Euclid: The Geometric Imagination in the Long Scottish Enlightenment* (Philadelphia: University of Pennsylvania Press, 2018), p 163. Smollett’s interest in knowledge-making, and his position compared to the Scottish Empiricists, is also examined in Alfred Lutz, ‘Representing Scotland in *Roderick Random* and *Humphry Clinker*: Smollett’s Development as a Novelist’, *Studies in the Novel*, 33 (2001), 1–17 (p. 4). On the relation between space and national identity in *Humphry Clinker*, see Denys Van Renen, ‘Biogeography, Climate, and National Identity in Smollett’s *Humphry Clinker*’, *Philological Quarterly*, 90 (2011), 395–424; and Terence Bowers, ‘Reconstituting the National Body in Smollett’s *Travels through France and Italy*’, *Eighteenth-Century Life*, 21 (1997), 1–25 (p. 19).

³⁷³ This is a point also made in Robert Mayer, ‘History, *Humphry Clinker*, and the Novel’, *Eighteenth-Century Fiction*, 4 (1992), 239–256 (p. 242).

³⁷⁴ Wolfgang Iser arrives at a similar conclusion. He argues that Smollett’s choice of having different subjects is ‘the medium for an intensified observation of the outside world, as the complexity of changing situations is no longer visualized from the standpoint of a single interpretation’. In *The Implied Reader: Patterns of Communication in Prose Fiction from Bunyan to Beckett* (Baltimore: Johns Hopkins University Press, 1974), p. 70.

that Smollett perceived this problem to be of a piece with the opposition between things and persons advanced by commentators on Newton. Echoing MacLaurin's argument that 'things' are to be favoured compared to fickle human testimony, Bramble argues in his letter to Dr Lewis that man is all too often blinded by 'daemon of party' and becomes *ipso facto* unreliable. Significantly, Bramble extends this problem to all domains, lamenting the fact that party factions seem to have 'usurped every department of life', even matters of taste (p. 111). Upon a visit at a house of a gentleman, he meets two rival 'bards' who immediately enter into a discussion on who is the best poet. One of the poets is defined by Bramble as a 'new Pythagoras', and even though 'demonstration did not seem to be his talent', he is described as 'dogmatical' for his assertive mode of expression. The other poet is 'declamatory' in genius and, yet, unable all the same to convince his interlocutors (p. 113). Bramble's evaluation of the two rival bards follows the two prevalent modes of expressions that, according to Wilbur Samuel Howell, had their foundations in natural philosophy: logic and rhetoric.³⁷⁵ They represent opposite modes of expressions that fail to convince the spectator because their words do not match the 'thing' they are trying to represent. The 'thing', in this case, is taste in literature, which for Bramble is as objective as it was for Burke. The bard nicknamed Pythagoras parrots the language of mathematical demonstration, but this is not enough to persuade Bramble that 'Milton was harsh and prosaic' or 'Dryden, languid and verbose', because Bramble is assured by his taste that this cannot be the case (p. 113). Distrustful of man, Bramble is sure to be in the right because he adheres to the nature of things, which unmistakably guides his taste.

³⁷⁵ Wilbur Samuel Howell, *Eighteenth-Century British Logic and Rhetoric* (Princeton: Princeton University Press, 1971).

The concept of literary taste advocated by Bramble is less an appreciation of the beautiful than the expression of an ideal epistemological standpoint: the impartiality of ‘things’ is the standard to achieve in all domains because party spirit universally affects the judgment of man. Somewhat departing from earlier eighteenth-century novels, Smollett does not seem to aim at offering an authentic rendering of human experience. Rather, he invites his readers to question received representational modes by adopting what Franta calls an ‘extrinsic approach’ to knowledge. It is as if Smollett’s readers are invited to observe the characters from the standpoint of the author and, from there, take note on the one hand the circulation of characters in society (as Franta also suggests) and, on the other hand, realise their own situatedness as observers.³⁷⁶

The result, which constitutes the foundation for *History and Adventure of an Atom*, is that the reader is invited by Smollett to observe the characters in the history from the outside, as if they themselves were expressions of nature. Building on Lord Kames, who believed that in writing no difference should be made between objects and persons, for both ‘ought to be painted so accurately as to form [...] distinct and lively images’, Smollett engages the reader in admiring how man naturally fails to produce reliable knowledge.³⁷⁷ The suggestion advanced by Smollett is that man is not to be conceived as a source of knowledge, but as an object of observation that should be seen from the outside. This is why Smollett, according to Sullivan, ‘conceived the task of the novel pictorially to portray “the novelty of things” and “a

³⁷⁶ Andrew Franta, ‘From Map to Network in *Humphry Clinker*’, *ELH*, 83 (2016), 771–793 (pp. 772–773).

³⁷⁷ Henry Home, Lord Kames, *Elements of Criticism*, 2 vols, ed. Peter Jones (Indianapolis: Liberty Press Fund, 2005), II, 614.

large diffused picture” of life [...] just as Kames understood that effective narration should “transform [readers and hearers] as it were into spectators”.³⁷⁸

The crux of this argument is that, like David Hume before him, Smollett evokes human nature as a static object of observation whose properties are commensurable across different spaces and times. But there is a substantial difference between the two. Hume trusts that the science of man was as scientifically determinable as mathematics.³⁷⁹ Through Matthew Bramble’s letter, however, Smollett shows his scepticism in the argument that man can take a disinterested point of view on human nature. Undermining his own position as an impartial observer, Bramble contends that any attempt to salvage the human capability for objective self-representation is bound to fail insofar as it is led by man. The right choice, Bramble suggests, is to heed the advice that all pretences to explain man’s own nature should be relinquished, letting instead ‘things’ speak. The point is not that man should amend its representational abilities, but that the subject who is in charge of representation should altogether change, for man is constitutively incapable of offering any objective appraisals. Therefore, with a Newtonianist language charged

³⁷⁸ Charles R. Sullivan, ‘Enacting the Scottish Enlightenment: Tobias Smollett’s *Expedition of Humphry Clinker*’, *The Journal of the Historical Society*, 4 (2004), 415–445 (p. 418). From this angle, the very divide between city and country that Taylor Corse sees as the central theme of *Humphry Clinker* may be seen as a contrast between a city environment where man is unable to focus on the things of nature and a desired countryside landscape where this goal is possible. In Taylor Corse, ‘Husbandry in *Humphry Clinker*, Tobias Smollett’s Georgic Novel’, *Studies in English Literature 1500-1900*, 57 (2017), 583–603.

³⁷⁹ Thomas L. Hankins, *Science and the Enlightenment* (Cambridge: Cambridge University Press, 1985), pp. 159–160.

with references to forces acting upon bodies, Smollett intimates that it is now time to leave the science of man behind and move on to ‘things’:

With respect to the characters of mankind, my curiosity is quite satisfied: I have done with the science of men, and must now endeavour to amuse myself with the novelty of things. (p. 115)

3. Smollett’s *History of an Atom* and the Unadulterated Voice of Nature.

The centrality that in Smollett’s *Humphrey Clinker* is bestowed on things over man-made knowledge offers a key to understand the earlier *The History and Adventures of an Atom*. Published in 1769, *History of an Atom* is a text of difficult classification. Although often included in discussions on It-Narratives proper, the text is also replete with political satire.³⁸⁰ *History of an Atom* is an in-depth account of English politics from 1754 to 1768 rendered through the foil of a history of Japan. Like Defoe’s *The Consolidator*, it belongs to the established tradition of eighteenth-century satire that makes use of geographical displacement to obfuscate its political referents. But the text soon takes a broader import to develop a more general discourse about the abilities of an atom to know man compared to man himself, as this section now proceeds to show.

³⁸⁰ See Mark Blackwell, *The Secret Life of Things: Animals, Objects, and It-Narratives in Eighteenth Century England* (Lewisburg: Bucknell University Press, 2007), p. 121.

The account of Japanese politics in *History of an Atom* is dictated to Nathaniel Peacock, a London haberdasher, by an omniscient atom.³⁸¹ Being minuscule and provided with a potentially infinite lifespan, the atom has gone unperceived during its life span, moving from body to body and thus gathering direct knowledge of facts in a way that would not be conventionally allowed to a human narrator without a considerable breach of verisimilitude. The atom's ability to gather knowledge inconspicuously suggests similarities with the genre of the secret history, with which *History of an Atom* shares what Rebecca Bullard calls the 'central motif of revelation'.³⁸² The atom provides intelligence that was hitherto secret, disclosing information only it has the power of knowing.

What makes *History of an Atom* different from secret histories, and links it to the concerns explored in this chapter, is that the conditions for the knowledge of the atom are dependent on its ability to maintain secrecy rather than unveil it. The atom thematizes the eighteenth-century motif of spying to obtain knowledge otherwise unknowable through a conjunction of secrecy and observation. Samuel Johnson's 1755 *Dictionary* records five entries for the verb 'To Espy', among which the primary ones are '[t]o see a thing at a distance' and '[t]o discover a thing intended to be

³⁸¹ Robert Adams Day, 'Introduction', in Tobias Smollett, *History and Adventures of an Atom*, ed. Robert Adams Day (Athens and London: University of Georgia Press, 2014), pp. xxv–lxxvi (p. xxv).

³⁸² Rebecca Bullard, *The Politics of Disclosure, 1674-1725: Secret History Narratives* (London: Pickering & Chatto, 2009), p. 25. As one gathers from my argument, I do not agree with Bullard's claim that 'the concentration, variety and inventiveness of those early eighteenth-century authors who rework secret history's rhetorical characteristics to a serve their own, specific, political ends is unique to the early eighteenth century' (p. 187).

hid'.³⁸³ The meaning registered by Johnson of spying as an act of observation in which the observer must remain hidden for its successful completion is reminiscent of the requirements for performing a proper observation of nature set by the commentators on Newton. Fontenelle is particularly incisive on this point, describing Newton's ability to spy nature as one that should be widely imitated in order to understand nature with certainty. 'When we are for prying into Nature', Fontenelle argues,

we ought to examine her like Sir Isaac, that is, in as accurate and importunate a manner. Things that almost hide themselves from our enquiries, as being of two [*sic*] abstracted a nature, he knows how to reduce to calculation.³⁸⁴

Like the prototypical Newton evoked by Fontenelle, Smollett's atomic narrator must remain concealed to gather reliable knowledge, to the point where any type of interference between subject and object is impossible. Smollett describes the atom as spending its lifetime in concealment, in utter impossibility to communicate until the

³⁸³ The results of a search in the English Short Title Catalogue for the word 'spy' in eighteenth-century literary works tends to mirror Johnson's double focus on secrecy and observation. A Dubliner publisher printed in 1767 *The city Spy-Glass; or, Candidates mirror*, wherein the merits and pretensions of the several candidates are freely considered, and impartially examined by a 'Son of Candor' who associates the telescope with political enquiry; while in 1781 an anonymous 'gentleman of fortune' had his *The Complete Modern London Spy* published with the self-explaining subtitle 'or, a real new, and universal disclosure, of the secret, nocturnal, and diurnal transactions, in and about the cities of London and Westminster'. Scrolling on, we find titles of striking diversity. There is an anonymous *The Foreign and Domestic Spy* (1701), a *Hertfordshire Spy* (1707), a *Dublin Spy* (1710), a *Country Spy* (1730?), a *German Spy* (1738), a *Court Spy* (1744), a *Midnight Spy* (1766), a *Sentimental Spy: a Novel in two volumes* (1773), an *Irish spy* written by an 'ex-Jesuit' (1779), an *Aerostatic Spy* (1785), *Facts, the Female Spy* by Mary Tonkin (1783).

³⁸⁴ Fontenelle, *Life and Writings of Sir Isaac Newton*, p. 21.

moment it encounters Nathaniel Peacock. As the atom explains, the conditions for communication are prohibitive: atoms ‘cannot communicate, except once in a thousand years, and then only, when we fill a certain place in the pineal gland of a human creature, the very station which I now maintain in thine’.³⁸⁵

Being unable to communicate other than in exceptional circumstances means that the atom has not obtained its knowledge by communication but through observation. It has not been influenced by anybody, nor has it influenced anybody. What the atom had performed until meeting Peacock was a pure form of inconspicuous spying, and from an epistemic point of view this is quite significant. The interaction pattern through which the atom has collected the knowledge that is communicated to Peacock is through the ‘accurate and importunate manner’ of observation wished for by Fontenelle, based on the idea that nature should speak for herself without interferences. Because it communicates only under unrepeatable conditions, the atom preserves its independence from human control, becoming a narrative rendition of the ‘talking thing’ that, as Lorraine Daston argues, has the power to speak ‘the purest, most indubitable truth conceivable’ because its truth is ‘uttered by things themselves, without the distorting filter of human interpretation’.³⁸⁶ As the prime constituent of nature, the atom is the quintessential ‘thing’ that, according to the positions of the commentators on Newton examined in the first section of the chapter, must be hearkened if one is to understand nature with certainty.

³⁸⁵ Tobias Smollett, *History and Adventures of an Atom* (London, 1740), p. 5.

³⁸⁶ Lorraine Daston, ‘Introduction’, in *Things that Talk: Object Lessons from Art and Science*, ed. Lorraine Daston (New York: Zone Books, 2004), p. 13.

While the atom precedes man in an ontological sense, it also constitutes man, as the atom itself explains to Peacock before beginning the narrative of its tales:

What thou hearest is within thee—is part of thyself. I am one of those atoms, or constituent particles of matter, which can neither be annihilated, divided, nor impaired: the different arrangements of us atoms compose all the variety of objects and essences which nature exhibits, or art can obtain. Of the same shape, substance, and quality, are the component particles, that harden in rock, and flow in water [...] Even now, ten millions of atoms were dispersed in air by that odoriferous gale, which the commotion of thy fear produced.
(pp. 3–4)

Peacock is composed of atoms, therefore it is his very atomic constitution, rather than his will, that pushes him to write the narrative. In fact, the risk that Peacock could adulterate the account of the atom with his human influence is defused through a process of objectification. Peacock is made into a vehicle of the atom with no independent willpower and, as he himself explains in the preface, he is ordered by the atom to ‘[t]ake up the pen, therefore, and write what I shall unfold’ (p. 4) – an order to which he obeys without questioning the source because it comes from nature itself.

Through this strategy Smollett proposes a hierarchy in the production of knowledge, with Peacock passively informed by the atom which, in turn, had obtained its knowledge through inconspicuous observations. This serves two purposes seemingly incompatible with each other but ultimately ascribable to the same confidence advocated by the commentators on Newton. Peacock is represented as the ideal subject postulated by the commentators on Newton. He is, indeed, less

than a human subject, for, forced to follow the dictates of the atom, he is transformed into a mechanic device with no power to affect the outcome of the accounts told by the atom with his imagination. Unable to feign conjectures, Peacock is the mouthpiece of nature.³⁸⁷ He is so focused on listening to the voice of the atom that he is unable to propose his own ideas. Peacock is the narrative realization of MacLaurin's contention that man must take inspiration from Newton and, like him, resist the temptation of 'giving ourselves up' to fiction:

The processes of nature lie so deep, that, after all the pains we can take, much, perhaps will remain undiscovered beyond the reach of human art or skill. But this is no reason why we should give ourselves up to the belief of fictions, be they ever so ingenious, instead of hearkening to the unerring voice of nature; for she along can guide us in her own labyrinths; and it is a consequence of her real beauty, that the least part of true philosophy is incomparably more beautiful than the most complete systems which have been the product of invention.³⁸⁸

By portraying Peacock in this way, Smollett thematises the claim that things hold more evidential value than human testimony. It is as if *History of an Atom* was grounded on the question of whether a person who fully subjects itself to nature's dictates could be conceptualized. The answer is positive, but the consequence is that man loses its centrality in favour of an object-derived knowledge completely

³⁸⁷ According to Alfred Lutz, Peacock is the prime exemplification that the heroes of Smollett's early novels have little or no possibility of making choices because they are 'at the mercy of external forces'. Lutz, 'Representing Scotland', p. 2.

³⁸⁸ MacLaurin, *An Account*, pp. 12–13.

sanitized from human intervention. This process is apparent when the atom tells Peacock his own genealogy which, rather than human, is part of the course of nature:

I was enclosed in a grain of rice, eaten by a Dutch mariner at Firando, and, becoming a particle of his body, brought to the Cape of Good Hope. There I was discharged in a scorbutic dysentery, taken up in a heap of soil to manure a garden, raised to vegetation in a sallad, devoured by an English supercargo, assimilated to a certain organ of his body, which, at his return to London, being diseased in consequence of impure contact, I was again separated, with a considerable portion of putrefied flesh, thrown upon a dunghill, gobbled up, and digested by a duck, of which duck your father, Ephraim Peacock, having eaten plentifully at a feast of the cordwainers, I was mixed with his circulating juices, and finally fixed in the principal part of that animalcule, which, in process of time, expanded itself into thee, Nathaniel Peacock.³⁸⁹

The atom demotes Peacock's status from human observer to the product of a series of events in nature. In other words, the price paid for Peacock's ability to be the ideal subject postulated by the commentators on Newton is his own individuality. Aileen Douglas claims that throughout *History of an Atom* Smollett 'teases out the relationships between the individual, who is made of matter and generates abstractions, and the material institution of the state, which resides on an abstract foundation'.³⁹⁰ Yet, the individual cannot be said to exist in *History of an Atom*, given that Peacock is forcefully divested of its subjective agency to better listen to the atom.

³⁸⁹ Smollett, *History and Adventures of an Atom*, pp. 8–9.

³⁹⁰ Aileen Douglas, *Uneasy Sensations: Smollett and the Body* (Chicago and London: Chicago University Press, 1995), p. 133.

Smollett reduces Peacock to a ‘thing’ to the point that human attempts at taking back control are annulled by the assertiveness of nature:³⁹¹

What! dost thou mutter, Peacock? Dost thou presume to question my veracity? now by the indivisible rotundity of an atom, I have a good mind, caitiff, to raise such a buzzing commotion in thy glandula pinealis, that thou shalt run distracted over the face of the earth, like Io when she was stung by Juno’s gadfly! What! thou who hast been wrapt from the cradle in visions of mystery and revelation, swallowed impossibilities like lamb’s wool, and digested doctrines harder than iron three times quenched in the Ebro! thou to demur at what I assert upon evidence and faith of my own consciousness and consistency!---Oh! you capitulate: well, then beware of a relapse---you know a relapsed heretic finds no mercy. (pp. 34–35)

In this passage, human subjectivity is explicitly ostracized on the basis that a person has no right to speak compared to the atom, which is instead a direct emanation of nature. Voyaging from body to body throughout the history of humankind, the atom can confidently assert that people ‘swallow impossibilities’, so they are unreliable in the stories they tell. By contrast, the atom is able to make assertions based ‘upon evidence and faith of my own consciousness and consistency’, that is, upon its being part of nature. Pythagoras’ doctrine of the transmigration of souls, for instance, is ‘affirm[ed] on the integrity of an atom’, who claims to have attended to the process

³⁹¹ A similar point is made by Mark Blackwell, who argues that *Atom* poses crucial questions about ‘the bounds of personal identity’ through Smollett’s ‘particular interest in the forcible reduction of humans to things’. See Mark Blackwell, ‘Disjecta Membra: Smollett and the Novel in Pieces’, *The Eighteenth Century*, 52 (2011), 423–442 (p. 428).

directly. The pun on integrity plays on the portrayal of the atom as a pure expression of nature unaffected by human prejudices, to the point that it can state that ‘I might with safety set the convocation and the whole hierarchy at defiance, knowing, as I do, that it is not in their power to make me bate one particle of what I advance’ (pp. 16–17).

By contrast, it could be said that Peacock is ‘naturalized’ – made by Smollett into one of the many expressions of nature. The acquisition of the role of an observer who perceives nature and communicates it without alterations from the imagination comes at the cost of agency. Vassiliki Markidou argues that in Smollett’s novels travelling is typically a process that, through a number of transitions across geographic, semiotic and symbolic spaces, ‘shapes, to a considerable extent, the traveller’s subjectivity’.³⁹² In *History of an Atom*, significantly, it is the atom that travels, while the human subject is motionless. But this does not mean that one subjectivity (that of Peacock) is replaced with another one (that of the atom). In contrast to what Markidou suggests, Smollett’s atom remains always the same due to its being a direct expression of the nature discovered by Newton. The atom is declaredly the same as millions of other atoms and does not therefore qualify as a subject. Its account can only be unveiled through its host Peacock. Conversely, the existence of Peacock, both as person and as narrative *persona*, is a consequence of the circulation of an atom. It is significant that Peacock is not even a writer but an artisan whom the atom has provisionally turned into the means to deliver its tales. He does not have knowledge of his own apart from that communicated to him by the atom and, commenting upon his lack of knowledge of what an atom was, Peacock

³⁹² Vassiliki Markidou, ‘Gender and Space in Tobias Smollett’s *The Expedition of Humphry Clinker*’, *Critical Survey*, 22 (2010), 58–73 (p. 59).

can only apologise ‘to my internal monitor; and taking pen, ink, and paper, sat down to write what it dictated’ (p. 8).

The radical operation that Smollett performs consists of creating a narrative world where, since objects are both observing and observed, the production of knowledge is an instantaneous operation of identity between the atom and the rest of nature. The atom knows nature because the atom *is* nature. Commenting on a sage met in its life, the atom bases its story by claiming that ‘I myself constituted part of that sage’s body; and I could say a great deal’ (p. 18). The circulation of the atom through space and time spans from England to Japan, from the past to the future, to the point that it is able to reveal to Peacock that ‘your own soul has within these hundred years threaded a goat, a spider, and a bishop; and its next stage will be the carcase of a brewer’s horse’ (pp. 19–20). The atom is able to unveil ‘the mysteries that now conceal the origin, migration, superstition, language, laws, and connection of different nations’ (p. 93) with an ostentatious confidence in the certainty of its revelations – the verbs used to support its claims are ‘demonstrating’ (p. 90), ‘proving’ (p. 91) ‘showing’ (p. 91).

As Peacock is taken over by the atom, he too becomes nature and is therefore able to know nature directly without the mediations of conjectures. It could be thus said that the atom is Smollett’s fictional stratagem to project the ideal of a man who can perceive, and render, nature’s voice without human interventions. This power depends on a relinquishment of human subjectivity. Grounded on the insistence of the commentators on Newton that hypotheses must not be feigned because they are the product of the human imagination that adulterates the voice of nature, man’s denial of his own subjectivity is a logical consequence of man’s inability to distinguish between true and false knowledge. Man, as the atom does not fail to

remark, is always prone to lying. Thus, to counter the ‘malicious people’ who did not scruple ‘to whisper about’, the atom responds that most man-made knowledge is nothing but ‘the suggestion of falsehood and slander’ (p. 30). In its simplicity, the atom’s contention that ‘[t]he truth was this’ cannot be challenged (p. 30), whereas the testimony of human subjects is portrayed as unreliable to the point of explicit, and risible, logical fallacy. One of the Japanese characters in the story told by the atom undergoes a public trial, only to be ‘unanimously found guilty, and unanimously declared innocent; by the same mouths condemned to death and recommended to mercy’ (p. 100). The problem is structural for, as the atom puts it, a person might be ‘biased by the nature of his disposition, as well as by prejudices acquired, and yet not guilty of intentional partiality’ (p. 46).

Peacock is no exception to this rule, unless he is considered as an object. Once he relinquishes all pretensions to expressing his subjectivity, he too is considerable as both the product and the next source of the infinite natural processes whereby atoms are ‘variously eaten, discharged, assimilated, gobbled up, digested, mixed, and expanded’, in a chain process that, as Annika Mann argues, ‘exposes a basic animal sameness among the matter he [the atom] passes through’.³⁹³ Eventually, nothing in Peacock separates him from the rest of nature. Lynn Festa well captures how *History of an Atom* develops the idea that human subjectivity should be relinquished in favour of a complete reliance on nature. The atom ‘infiltrates bodies literally and figuratively, binding them together in a world in which nothing can be held apart’,

³⁹³ Annika Mann, ‘Waste Management: Tobias Smollett and Remediation’, *Eighteenth-Century Fiction*, 25 (2012–13), 359–382 (p. 374).

producing a narrative world where human subjectivity is progressively annulled thanks to the atom's direct emanation of the voice of nature.³⁹⁴

This is why *History of an Atom* should not be only conceived of as political satire, but as a broader critique of the credulity that is engrained in the human mind and that ultimately depends on an innate inability to perceive the nature of things without prejudice. The final result is an insoluble discrepancy between man and nature. The atom never explains to Peacock how 'we atoms come by these articles of intelligence, whether by intuition, or communication of ideas', because it is 'not necessary that you should conceive' (p. 20). The process through which the atom apprehends nature is declaredly beyond the human capabilities. The only way man can interact with nature is by passively listening to nature, which, as the atom makes evident, speaks in monologues. The only option left for man is to conceal his presence and listen passively to her voice.

4. It-Narratives and the Dispossession of Story-Telling from Man

If *History of an Atom* is considered as part of the group of object-narratives, it is the only one that was authored by a writer of prestige. The rest have a reputation as texts with little literary value written by the hack writers of Grub Street. Notwithstanding their ephemeral value, It-Narratives are however a powerful testimony of the rising interest in the epistemological value of things. Building on the position advocated by

³⁹⁴ Lynn M. Festa, *Sentimental Figures of Empire* (Baltimore: Johns Hopkins University Press, 2006), p. 127. On the description of natural phenomena, see Lorraine Daston, 'Description by Omission. Nature Enlightened and Obscured', in *Regimes of Description: In the Archive of the Eighteenth Century*, eds John B. Bender and Michael Marrinan (Stanford: Stanford University Press, 2005), pp. 11–24 (pp. 22–24).

the commentators on Newton that things are more reliable sources of knowledge than persons, It-Narratives are in this final section re-evaluated as the fictional thematization of the desire for an external point of view in the representation of man. To do so, it is first essential to appreciate the properties of this less known sub-genre of the eighteenth-century novel.

The It-Narrative is a comprehensive category that includes the written accounts narrated by items of everyday use such as coins, banknotes, coats, slippers, sofas and watches, among others. Christina Lupton accurately defines It-Narratives as ‘texts without generic aspiration, deliberately formulaic, cheaply produced, and carefully positioned to be easily disposed of on the market’.³⁹⁵ While they started to play a central role in the book market by the second half of the eighteenth century, they had been one of the expressions of the early English novel since the beginning of the century with the publication of Charles Gildon’s *The Golden Spy* in 1709.³⁹⁶ As products appositely made for public consumption in a flourishing book market, It-Narratives could undergo several editions, achieving occasional commercial peaks such as the four-volume set *Chrysal; or, The Adventures of a Guinea* (1760) by Charles Johnstone, which by 1800 had been reprinted some twenty times.

The diversity of the texts published under this category especially across the last four decades of the eighteenth century, makes the labels of ‘object narrative’ and ‘it-narrative’ appear somewhat misleading. In the eighteenth-century use of the category, not only artefacts but different types of animals were included. It-

³⁹⁵ Christina Lupton, ‘The Knowing Book: Authors, It-Narratives, and Objectification in the Eighteenth Century’, *NOVEL: A Forum on Fiction*, 39 (2006), 402–420 (p. 404).

³⁹⁶ Jonathan Lamb, *The Things Things Say* (Princeton and Oxford: Princeton University Press, 2011), p. xvi.

Narratives are often told by recognisably ‘object’ narrators such as guineas, pincushions and spinning tops, but one also finds accounts told by cats, fleas, butterflies and mice. That the narrating subject could be both an artefact or an animal is clarified in the preface to *The Adventures of a Pin, Supposed to be Related by Himself, Herself, or Itself* (1790), where the anonymous author describes the group of It-Narrative writers:

Being in company, some months ago, with several of the learned authoresses of the adventures of inanimate beings, such as peg-tops, pincushions, kites, &c. and likewise the compilers of memoirs of rather more rational (although dumb) animals; and hearing the great praise bestowed on such productions; it naturally occurred to me, that, under the title of ‘The Adventures of a Pin’, as much amusement and instruction might be conveyed, (to those who desire it), as either of my predecessors can boast of having circulated.³⁹⁷

Writers of object narratives did not consider the distinction between animate and inanimate narrators to be of any specific relevance – the author of *The Adventures of a Watch!* (1788) justifies his literary endeavour by reminding the reader that ‘[a]s Authors have made lap-dogs, fleas, lice, bank notes, guineas, nay even Birmingham halfpence, though of very roguish appearance, give the history of their lives, why not adopt the example?’³⁹⁸

A conflation in the domains of the item and the animal is at work in It-Narratives, as implied in the preface of the anonymous *The Adventures of a Pen*

³⁹⁷ *The Adventures of a Pin, Supposed to be Related by Himself, Herself, or Itself* (London, 1790), p. i.

³⁹⁸ *The Adventures of a Watch!* (London, 1788), pp. 1–2.

(1795). The narrator, though a self-declared object, vindicates his animal origin from the very beginning of his accounts by declaring that he was ‘born a Feather’, probably ‘of a Goose or Gander’. Does it count as an object or an animal? The predictable joke that, being a pen, the narrator has been ‘since employed by many a Goose and Gander’ (two terms referring to lacklustre hack writers) suggests that its status as an object depends on the presence of people who treat it *as an object*, rather than on its being produced as such.³⁹⁹ A feather becomes a pen in the moment it is deprived of its agency – that is, when it is enslaved for a practical purpose. It is unessential then to determine the difference between animal and item for, as the pen intimates, the relevant question is that of ownership. The pen had ‘numberless’ masters and mistresses, and that is what put the story in motion to begin with. A high number of owners characterises *The Life and Adventures of a Cat* (1760; sometimes believed to have been written by Henry Fielding) as much as *The Adventures of a Cork-Screw* (1775). The kinship between animals and objects – and the uncanny narrative similarity to slave narratives, with which they share the relative surprise in hearing a supposedly muted narrator speak with its own voice – is testified to by the possibility of mutual exchange between the two categories. Items may be acquired for a given amount of money, and even the intelligent Pompey the Little in the eponymous text is traded for a gold watch.⁴⁰⁰

³⁹⁹ *The Adventures of a Pen*, in Jeremy Hunt, *The Miscellany: Containing The Cottage, or Winter’s Amusement. The Adventures of a Pen. And a Poem on Death* (Buckingham, 1795), p. 29.

⁴⁰⁰ See Francis Coventry, *The History of Pompey the Little. Or, the Life and Adventures of a Lap-Dog* (London, 1751), pp. 16–17. It must be specified, however, that *Pompey the Little* does not qualify as an It-Narrative because of the external narrator. The similarity between It-Narratives and slave narratives has been discussed in Lynn M. Festa, *Sentimental Figures of Empire*.

It-Narratives have traditionally been explained as a function of the relationship of the item to their owners. The unveiling of very different social situations is the common pattern that holds across various It-Narratives, though the concept of taste seems to play an important role in the circulation of the narrator, with sophisticated and highly-sought objects clearly having the power to attract owners as well as readers.⁴⁰¹ A given item is first owned by people of taste and then, because of deterioration or increasing lack of interest, ends up being owned by people lower and lower in terms of social standing – this happens, for example, with the worn-out coat in *The Adventures of a Black Coat* (1760) that moves from being used by noblepersons all the way to hack writers. As items move across different social classes, they gave eighteenth-century readers the possibility to explore sections of society that they did not have access to, and to compare them by contrast.⁴⁰²

While these aspects have already been scholarly investigated, nomenclature can reveal valuable insights about the epistemology of these texts. The label of ‘object narratives’ is often employed in contemporary criticism in free alternation

⁴⁰¹ The preface of *The Adventures of a Watch!* is paradigmatic in its attempting from the very first lines of its account to lure the reader in by presenting its narrator as ‘no vulgar watch, but a watch of fashion! a gold Repeater, elegantly chased! Listen to it attentively!’. In *The Adventures of a Watch!*, p. 3.

⁴⁰² Aileen Douglas suggests that object narratives are an emblematic expression of the ‘consumer culture of the eighteenth century ‘which seemed, to contemporaries, to dissolve the marks of social class and to render the barriers between social orders frangible and vulnerable’. In Aileen Douglas, ‘Britannia’s Rule and the It-Narrator’, *Eighteenth-Century Fiction*, 6 (1993), 65–82 (p. 68). Commenting on this facet of It-Narratives, Mark Blackwell claims that these texts raise ‘disturbing and fascinating questions about where human personhood ends and alienable property begins’. Mark Blackwell, ‘The It-Narrative in Eighteenth-Century England: Animals and Objects in Circulation’, *Literature Compass*, 1 (2004), 1–5 (p. 3).

with ‘It-Narratives’, though neither of these terms was in use in the eighteenth century. Both labels hide a degree of haziness. Samuel Johnson’s *Dictionary* shows that the noun ‘object’ had an ambiguous status that oscillates between, on the one hand, an entity which can be physically manipulated (definition 1, ‘That about which any power of faculty is employed’) and, on the other, an entity whose physical concreteness is a function of human reactions (definition 2, ‘Something presented to the senses to raise any affection or emotion in the mind’). Similarly, Johnson offers a definition of the neutral demonstrative ‘it’ that hovers uncomfortably between thinghood and personhood. While surely ‘Used in speaking of things’ (definition 1) and ‘for the thing; the matter; the affair’ (definition 3), the *it* of It-Narratives could thus also refer to ‘the state of a person or affair’ (definition 2) and is ‘Sometimes applied familiarly, ludicrously, or rudely to persons’ (definition 6). This is an ambiguity that some It-Narratives fully acknowledge: the full title of *The Adventures of a Pin* (1790), which are *Supposed to be Related by Himself, Herself, or Itself*, suggests that the ontology of the ‘it’ is undetermined.

Remarkably, no commentator calls these texts ‘thing-narratives’. The reason for this choice probably lies in the distinction between thing and object proposed by Bill Brown. According to Brown, things are opaque, bare facts that cannot be harnessed into a system of interpretation. By contrast, objects are things charged with human meaning, transparent items that are looked through ‘to see what they disclose about history, society, nature, or culture – above all, what they disclose about us’. As Brown puts it, we ‘look through objects because there are codes by which our interpretive attention makes them meaningful, because there is a discourse of objectivity that allows us to use them as facts’. A thing, by contrast, is unrelated to superimposed structures of meaning and tells its own story. Objects are the product

of human interpretation, whereas things are irreducible to it. ‘The story of objects asserting themselves as things’, Brown concludes, ‘is the story of a changed relation to the human subject and thus the story of how the thing really names less an object than a particular subject-object relation’.⁴⁰³ In other words, while objects are given meaning by man, things are such when they are unadulterated. If the ‘its’ in these narratives are considered as objects, they are at the service of man. If they are considered as things, they are independent from man, and the voice of man is inconsequential.

The distinction between thing and object acquires great relevance when one considers that the strict requirement for the ‘it’ protagonist is being *not human*. Establishing their identity by opposition to man, It-Narratives offer an enactment of the argument, advanced by the commentators on Newton, that things are more reliable sources of knowledge than man is. According to Min Wild, It-Narratives are fictions in which things ‘are lent human voices and sensibilities by their writers’.⁴⁰⁴ The reverse seems to be true. If one understands It-Narratives as being an expression of thinghood rather than objecthood, the relationship between thing and person appears as one of appropriation rather than borrowing. Like Smollett’s atom had done with Peacock, things in It-Narratives take over the story to express themselves without the mediation of the person. In It-Narratives things appropriate the role of storytellers, deciding what to observe and what to say about what is observed.

As a result, the persons who own them are displaced to the position of the object of observation. No specific person is indispensable in It-Narratives, because

⁴⁰³ Bill Brown, ‘Thing Theory’, *Critical Inquiry*, 28 (2001), 1–22 (p. 4).

⁴⁰⁴ Min Wild, ‘Book Review: *Knowing Books* and *The Things Things Say*’, *Journal for Eighteenth-Century Studies*, 37 (2014), 424–426 (p. 424).

the owners of the objects are interchangeable and thus, taken singularly, dispensable. In this sense, the relationship of ownership is inverted: a character has relevance only through the narrative focus received from the thing-narrator. Implicitly, the knowledge produced by man is a function of the dictates of the thing. This issue is less related to agency than to epistemic hierarchies, for human characters formally retain their liberty of action in It-Narratives.⁴⁰⁵ Moreover, the talking thing is unable to tell a story other than through a human vehicle. In this sense, what happens is a process of hybridization between the thing and the human subject: symbolically, the narrator in the two volumes of *Memoirs and Adventures of a Flea* (1785) writes its story by subsequent infestations of several bodies. It is this multiple act of appropriation that makes the flea able to tell its story. From the very beginning – indeed, from the very blurb that introduces the first chapter – the flea sets out to relate ‘the Birth of the Adventurer, and some other necessary Anecdotes, in order to introduce him into the grand Theatre of Historical Notice’.⁴⁰⁶ By taking over human bodies, the ‘thing’ also takes exclusive possession of the ability to narrate.

The result is that things displace man in the most characteristic of man’s abilities: that of telling stories. The basis for this has been discussed in the beginning of this chapter. In the commentaries on Newton the concept of ‘things’ began to be associated with any direct manifestation of nature. Indeed, things in It-Narratives are not always direct expressions of nature but can also be artefacts. But it must be once again recalled that the only requirement for it-narrators was to be non-human. It is

⁴⁰⁵ Unless the term ‘agency’ is used to indicate narrative agency, the prerogative of the narrator to offer a point of view and select information.

⁴⁰⁶ *Memoirs and Adventures of a Flea; in which are Interspersed Many Humorous Characters and Anecdotes* (London, 1785), p. 7.

by opposition to the human that It-Narratives find their connection with the claim made by Newton, and elaborated by his commentators, that knowledge must be produced based on the ‘nature of things’. As discussed in the first two sections of the chapter, this position influenced the relevance assigned to ‘things’, making them more authoritative than persons. Thus, in terms of storytelling, the it-narrator is more reliable than any human narrator who, as Roger Cotes had put it paraphrasing Newton, tends to produce ‘figment[s] of imagination’.⁴⁰⁷ In this sense, as Crystal B. Lake contends with reference to the *Adventures of a Black Coat* but with a point that could be extended to all other It-Narratives, these texts ‘shortcircuit’ the representation process by making man disappear, producing a distillation of a message coming from the thing itself, which is to be trusted precisely because of its being uncontaminated by man.⁴⁰⁸

As the extreme thematization of the Newtonianist belief that things have epistemic authority as expressions of nature whereas man does not, man is forcefully relegated to the position of passive listener. Published in three instalments in the 1779 issues of the *London Magazine*, *Adventures of a Quire of Paper* is a case in point. In its opening paragraphs the text entertains the possibility that the knowledge conveyed through writing comes not from the author who had written it in the first place, but from the very materiality of the text. Initially, the gentleman steps into a coffee-house, ‘in order to run over the newest pamphlets’. On the lookout for fresh intelligence, he takes one sermon in his hands, musing about its author simply because ‘it is natural enough while we read any composition, to turn our thoughts

⁴⁰⁷ Cotes, ‘Editor’s Preface to the Second Edition’, pp. 393, 397.

⁴⁰⁸ Crystal B. Lake, ‘Feeling Things: The Novel Objectives of Sentimental Objects’, *The Eighteenth Century*, 54:2 (2013), 183–193 (p. 184).

[...] towards its author; and if known either by person, history, or report, to advert to many things respecting his life, fortunes, and character'. The search for the subjective action of writing is natural for the gentleman but, to his surprise, the material sermon – that is, the very piece of paper upon which the sermon is printed – begins a long 'soliloquy' where it expatiates on the story of its generation and circulation, in effect taking over the right of talking about the text from the author.⁴⁰⁹ The irony of a thing deliberately ignoring its creating subject to speak about its own composition hints at the drastic consequence of making man a supplementary presence in the act of writing. *Adventures of a Quire of Paper*, as Lupton claims, is representative of It-Narratives in the insistence of its it-narrator that its story is 'objectively given'.⁴¹⁰ This is done at the expense of man, a presence that is systematically ignored because considered detrimental to the process of accurately observing, and representing, the world.

⁴⁰⁹ *London Magazine: Or, Gentleman's Monthly Intelligencer*, 52 vols (London, 1779), XLVIII, 335.

⁴¹⁰ Christina Lupton, *Knowing Books*, p. 11.

Conclusions

The Modest Genius.

Mapping the Evolutions of Newton's Public Figure

I wish to conclude this study by offering a summary of the arguments advanced in the preceding chapters. Specifically, the aim of this conclusion is to take a more distanced view of the texts so far analysed, seeing them in relation to the changes in the figure of Newton as found in the commentaries on Newton. A few final remarks will also be offered.

The primary concern throughout the chapters of this thesis has been to examine a group of texts that display the traces of Newtonianism. As discussed in the introduction, Newtonianism is meant in two complementary senses. First, it refers to the extensive body of commentaries on Newton and his ideas that appeared throughout the eighteenth-century. Along with Newton's own words, it includes para-textual materials within Newton's own works, like Roger Cotes's 'Editor's Preface' to the second edition of *Principia*; popularisations such as Pemberton's *A View of Sir Isaac Newton's Philosophy*; several newspaper articles that offered a view on both Newton's intellectual achievements and personal qualities; works not directly concerned with natural philosophy that clearly referenced Newton as, for example, Alexander Pope's *An Essay an Man*; and even non-textual artefacts like the Temple of British Worthies in Stowe, designed by William Kent in 1734, in which Newton's bust sits alongside other great British personalities. Throughout the thesis, this value of Newtonianism has been consistently referred to as 'commentaries on Newton' and more occasionally, 'the body of commentaries on Newton', an expression mostly used when said commentaries are taken as a group.

It bears repeating that, in this first sense, the main characteristic of Newtonianism is a relative independence from Newton's own positions. In many cases, references to Newton were not due to a direct reading of his works. Newton was considered by his contemporaries as a genial but difficult writer. When this judgment changed in the first decades of the eighteenth century, it was because virtually everybody but those interested in scientific technicalities had virtually given up reading the *Principia* and the *Opticks*. This was not due to a lack of interest but because knowledge of Newton was made easily accessible through second- or third-hand alternatives, including not only textual artefacts but also public demonstrations, conversations at coffeehouses and, eventually, common lore. Only rarely do quotations from the *Principia* and the *Opticks* appear in eighteenth-century publications, and that almost exclusively in discussion about mathematics. And yet Newton was frequently mentioned throughout the whole century, often in the form of tributes for his achievements or exaltations of the personal qualities that, according to his contemporaries, enabled him to unveil the secrets of nature.

The commentaries on Newton all tended to emphasise that Newton had made an unprecedented intellectual contribution by making nature available for definitive discovery. This position soon turned into the common assumption that Newton's ideas had been a watershed in the history not only of Britain, but of humankind. As famously encapsulated in Pope's proposed epitaph for his tomb, before Newton 'Nature and Nature's Laws lay hid in Night'. Then 'God said, *Let Newton be!* and all was *Light*'.⁴¹¹ Commentators on Newton insisted on this point, eventually agreeing that Newton had demonstrated that nature was, and indeed should be, known with a

⁴¹¹ Pope, *Poetry*, p. 808.

degree of certainty akin to that of mathematics. Whether Newton believed such a degree of certainty could be achieved is still a matter of debate.⁴¹² In terms of the history of public ideas, what matters is, as Gerd Buchdahl puts it, that Newton's contemporaries felt that they could bestow 'the certainty of mathematics upon man's knowledge of physical phenomena'. As a result, this gave them 'a new sense of power over nature'.⁴¹³ The complexity of *Principia* and *Opticks* was distilled into the perception that nature could be finally discovered in its entirety, regardless of whether Newton actually endorsed this position and without any clarity as to how this goal could be reached.

Throughout this thesis, the term 'confidence' has consistently indicated the belief promoted by the commentators on Newton that universal principles regulating not only nature but phenomena in any sphere, including the study of man, could be discovered with the same certainty associated with Newton's discoveries. This confidence depended on whether one was able conform to Newton's *hypotheses non fingo*. According to this dictum, knowledge is certain only if based on nature, which is regarded as providing objective data, and detached from subjective interpretations, which are regarded as a result of indulging one's imagination. In other words, Newton's claim for certainty rests on the requirement that the observer of a given phenomenon does not interfere with the act of observation by advancing interpretations, for these are subjective and cannot be thus verified by other observers. By restraining the faculty of imagination that Newton, and his commentators after him, claimed was at the basis of conjecture-making, man would

⁴¹² For a summary of this discussion see Kirsten Walsh, 'Newton: From Certainty to Probability?', *Philosophy of Science*, 84 (2017), 866–878 (pp. 866–867).

⁴¹³ Buchdahl, *Newton*, p. 5.

be able to produce certain knowledge. As Henry explains, the *hypotheses non fingo* is the synthesis of a methodology that forces man to recoil and let nature speak, based on the idea that '[n]ature does not need man to make sense out of apparently occult mechanism. It just works like that'.⁴¹⁴

Detached from the theoretical and practical difficulties of satisfying the criterion of not feigning hypotheses, the confidence in the ability of knowing with certainty became a common assumption, and Newton was transformed into the model to be emulated because of his having successfully restrained his imagination to know the universal principles of nature. For an age in which Newton's continuous evocations resulted in a new confidence with regards to man's ability to know nature, this thesis has argued that it is necessary to use the term Newtonianism in a second sense that is complementary to, and a consequence of, the first one. Together with being an extensive body of commentaries on Newton, Newtonianism is also a complex historical phenomenon characterised by the dissemination of the confidence that certainty in knowledge was within reach. While this confidence was initially emphasised in the commentaries on Newton, its link with Newton progressively disappeared, morphing into a more general confidence about the knowledge-making powers of man that was not directly linked to Newton anymore. Newtonianism is therefore best understood as an intellectual climate, and it was discussed as such throughout this thesis.

The main argument made in this thesis is that the texts written by a number of influential authors supported, contested or dramatized the confidence in the ability of man to know with certainty; as a result, this claim strongly suggests that the

⁴¹⁴ Henry, 'Introduction', p. vii.

influence of Newtonianism as an intellectual climate was pervasive in the eighteenth century. Fostering evidence to argue for the existence of Newtonianism as an intellectual climate is difficult, since engaging with any piece of evidence carries with it the risk of establishing cause-effect patterns that are at odds with the elusiveness inherent in the very concept of intellectual climate. To obviate this problem, this thesis has chosen to offer a representation of Newtonianism as a climate of opinion by mapping the dissemination of crucial concepts such as ‘reason’, ‘demonstration’, ‘sagacity’ and ‘things’ in texts authored by writers who did not engage directly with Newton.

Chapter 1 examined how the commentaries on Newton crucially contributed to establish this intellectual climate of confidence, arguing that the belief in Newton’s ‘reason’ became so pervasive that it generated the related anxiety that man was structurally unable to know anything with the degree of certainty that Newton claimed he had achieved with natural phenomena. The belief at the basis of this anxiety was that Newton had been an exceptional case whose intellectual abilities could not be replicated by anyone else. Confidence and anxiety, though opposite to one another, could, and often did, co-exist, and writers like Addison could praise Newton as the ‘Miracle of the Present Age’ while also emphasising the inherent limitations of man that impeded any comparison with his model. Indeed, as Chapter 1 showed, the *hypotheses non fingo* that was continuously rehashed in the commentaries on Newton is a highly ambivalent statement. As many perceived, it left open the question of whether Newton, a thinker whose genius many believed had no comparison in the history of man, extended his ‘reason’ to the rest of man.

The core of this study is the scrutiny of how this tension, and the questions it provoked, is represented in a number of texts by writers selected because of their

receptivity to public discussions on the ability of man to produce certain knowledge.⁴¹⁵ The main writers selected for analysis in this thesis reflect the richness of responses to the confidence associated with Newtonianism. They did so, however, in reaction to Newtonianism as an intellectual climate rather than through direct reading of Newton or of the commentaries on his ideas. Whether the texts of Defoe, Fielding, Hume, Smollett and It-Narrative writers show traces of a direct reading of Newton's works is undecidable, but also irrelevant. The four chapters dedicated to these writers have shown that, while there is no conclusive evidence that any of these writers read the *Principia* or the *Opticks* – Hume was probably more familiar with Newton, but here too there is scarce proof of direct readings – all of them, as well as others who are discussed in the chapters, make use of concepts such as 'reason', 'demonstration', 'sagacity' and 'things' to appropriate, process and problematize the confidence that man, meant as a universal category, could produce knowledge with certainty.

Although the four chapters dedicated to each of these writers are not set in progressive order other than the simple chronological one, each of them can be retrospectively seen as interpreting the public images of Newton that were current in their times. When Daniel Defoe published *The Consolidator* in 1705, he addressed a widespread insistence on the powers of demonstration that had its root in the fresh enthusiasm for the potentialities of Newton's mathematical method. Contemporary writers eagerly contended that demonstrative knowledge extended way beyond natural philosophy – it could be used, for one, to measure political progress, since

⁴¹⁵ Higher in the agenda is the question, intimated by Michael McKeon, of paying attention to the influence of scientific knowledge on knowledge-making in the eighteenth century. See McKeon, *Origins*, pp. 65–89.

government could be understood as part of the natural ‘order of things’.⁴¹⁶ Significantly, as discussed in Chapter 2, George Cheyne established his *Philosophical Principles of Natural Religion* (1705) by ‘demonstration’.⁴¹⁷ After Newton, traditionally intricate fields like religion and politics started to be treated by many with an assurance that was characteristic of the mathematician. Defoe satirises this trend by creating a parallel lunar world where optical lenses improve human eyesight to the point of perfection. With these special glasses on, mysterious phenomena become as uncontroversial as the ones that Newton treats in *Principia* and *Opticks*, with the result of making everything ‘Rational, reconciled to Practice, and brought down to Demonstration’.⁴¹⁸

Defoe was astute in showing that, notwithstanding the vigour of the zealots of ‘demonstration’, in some extreme cases the newly-discovered power of man over nature was frustrated by events that would remain beyond human comprehension. This is the case of the tempest which devastated Britain in 1703, the subject matter of *The Storm* (1704). While at face value he defends the view that natural catastrophes are God’s way of smiting the impenitent and to make them repent, Defoe does not find great comfort in the providential explanations advanced by his contemporaries to explain the storm. The commentaries on Newton emphasised that every phenomenon is to be matched with a scientific explanation. Winds, like gravity, are invisible but, unlike gravity, their action is irregular, making the prediction of their occurrences impossible.

⁴¹⁶ See, for example, *A View of the Times*, Wednesday, Oct 8, 1707.

⁴¹⁷ Cheyne, *Philosophical Principles of Natural Religion*, pp. 2, 5.

⁴¹⁸ Defoe, *The Consolidator*, pp. 79–82.

This pessimistic view finds a more potent, and more ambivalent, expression in *A Journal of the Plague Year* (1721). The setting is that of the 1665 Great Plague, but the text is written with an eye to the possible plague contagion that threatened London from Marseille in 1721. Discovering more about the disease was crucial for survival, and conjectures were continuously advanced to explain the workings of the disease. Through his fictional mouthpiece H.F., Defoe chooses not to feign hypotheses, for doing so only distorted what little data was gathered from an accurate observation of the nature of plague. Conjectures contributed to disseminating false information, which in turn led to a widespread contagion and thousands more deaths. No conjectures on the causes of the diseases should be advanced because, like gravity, the plague is invisible in its operations. The problem is that no Newton was there to cast light on the workings of plague. Eventually, what remains in the wasteland of the London struck by the Great Plague is the awareness that avoiding conjectures is no guarantee that a better form of knowledge can be achieved. The confidence that nature could be known with certainty, Defoe suggests, must come to terms with the realisation that many of the secrets of nature are ultimately unknowable, and that demonstration is an ability beyond human means.

Defoe lived at a time when Newton was still alive and could impose some control over his public image, though in what measure he did so is still a matter of debate.⁴¹⁹ Since his last years of life, and especially after his death in 1727, the figure of Newton underwent a process that Mordechai Feingold calls ‘idolization’. This is a historical phenomenon of great importance. It is at this time that ‘the historical Newton receded into the background, overshadowed by the very legacy he helped

⁴¹⁹ Iliffe, ‘Is He Like Other Men?’, pp. 159–160, 175.

create'. For some, Newton 'metamorphosed into science personified'.⁴²⁰ For others, he was the modest observer of nature whose main virtue was patience; while for others still he was the embodiment of freedom from religious prejudice.⁴²¹ The masks that were put onto the public Newton were many, but the first critical change was the dissociation of his figure from mathematics. The interest in demonstration that characterised the first decade of the century was soon replaced with the view that mathematics was detrimental to the advancement of knowledge. While the possibility offered by Newton's method of establishing principles with more assuredness than ever was greatly cherished, the achievement of demonstrative certainty could be seen as a dangerous proposition. Eustace Budgell's advice for the British youth published in a 1711 issue of *The Spectator* takes mathematicians as the prime example of those that damaged social intercourse by their unwillingness to take 'little less than Demonstration in the most common Discourse'.⁴²² Budgell's implicit argument that mathematical demonstration was not advisable suggests a more complex problem than simple conversational appropriacy. In contrast to the enthusiasm of people like Cheyne, and in open conflict with Newton's belief in the centrality of mathematics, Budgell voiced the widespread concern that proving things by demonstration hindered the making of knowledge in all fields other than mathematics. 'Can nothing be *true*, but what is *demonstrable*?' is the question provocatively asked in *Grub Street Journal* in 1735 in a retrospective reflection on the state of the discussions on religion after Newton.⁴²³

⁴²⁰ Feingold, *Newtonian Moment*, pp. xiv, 173.

⁴²¹ Henry, 'Introduction', p. vii.

⁴²² *The Spectator*, Tuesday, October 16, 1711; Issue 197.

⁴²³ *Grub Street Journal*, Thursday, August 28, 1735; Issue 296.

Newton himself was not under discussion. He was praised for his ability to consider the universe ‘in its Weight, Number, and Measure; and draw from it as many Demonstrations of infinite Power and Wisdom’. But, as Joseph Addison had put it, Newton was a ‘Miracle’, a subtle definition that begs the intricate question of whether his ability could be replicated by anybody else, or was exclusively limited to his mathematical genius.⁴²⁴ This is why so many eighteenth-century commentators worked to amend the image of Newton with the aim of making his ideas more accessible. From the 1710s, a part of his followers attempted to detach the name of the Cambridge man from his role as a leading mathematician. As early as 1716, William Whiston undertook the task of disseminating ‘in a more easy Method’ the ideas of the ‘Great Man’ with the overt aim of bringing Newton ‘within the Reach and Comprehension of those, who are but indifferently perhaps exercis’d in the Mathematicks, and communicate the Knowledge thereof as far as may’. Mathematics is set aside because the ‘Truth’ of the ‘Newtonian Philosophy’, although indeed ‘supported by Mathematicks’, may still be fruitfully communicated without it.⁴²⁵

This split would eventually succeed. In the decades immediately following his death in 1727, Newton would be represented both as an exceptional genius of unrepeatable intellectual powers *and* as the benefactor that allowed the entirety of humankind to partake of his powers. Influential commentators like Henry Pemberton had a hard time reconciling these two strands. On the one hand, Newton was the only one who had been able ‘to make any great advancements in the true course of natural knowledge’. On the other, he had done ‘honour to human nature, by having extended the greatest and most noble of our faculties, reason, to subjects, which, till he

⁴²⁴ *The Spectator*, Saturday, November 22, 1712; Issue 543.

⁴²⁵ Desaguliers, *A Course of Experimental Philosophy*, ‘Preface’.

attempted them, appeared to be wholly beyond of our limited capacities'.⁴²⁶ Eventually, people like Pemberton were more concerned to promote Newton as a public character, and thus insisted that his discoveries were directed to the improvement of people. In Pemberton's depiction, Newton is less a genius than a public benefactor who had improved the life of the whole of humankind by gifting them with reason, 'that faculty, whereon the conduct of our lives, and our happiness depends'. The assumption on which Pemberton makes this point is that producing accurate knowledge is a natural drive for man. For the human mind

nothing is more suitable [...] than the contemplation of truth; and that all men are moved with a strong desire after knowledge, esteeming it honourable to excel therein; and holding it, on the contrary, disgraceful to mistake, err, or be in any way deceived. (p. 2)

Since he furnished people with a method to discover the truth that satisfied the need for accurate knowledge, Newton was the archetypal benefactor. But the tension arising from Newton's exceptionalism kept on being there as an undercurrent. The work of Henry Fielding, examined in Chapter 3, problematizes this tension in an especially salient way. In different texts published in the span of two decades, Fielding conflates a marked confidence that the principles governing the behaviour of humankind could be unveiled by an attentive observer with the anxiety that man does not have the ability to see through deception. Fielding's portrayal of the 'accurate observer' in the *Essay on the Knowledge of the Characters of Men* strongly resonates with the image of Newton's 'wonderful Sagacity' that was common in those decades:

⁴²⁶ Pemberton, *View*, 'Preface', p. 4.

[H]owever cunning the disguise be which a masquerade wears; however foreign to his age, degree, or circumstance, yet if closely attended to, he very rarely escapes the discovery of an accurate observer; for Nature, which unwillingly submits to the imposture, is ever endeavouring to peep forth and show herself. [...] In the same manner will those disguises, which are worn on the greater stage, generally vanish, or prove ineffectual to impose the assumed for the real character upon us, if we employ sufficient diligence and attention in the scrutiny.⁴²⁷

The perspicuity advocated by Fielding is made necessary by the universal tendency of humankind to lie and disguise for advantage, rather than to seek truth. Notwithstanding Newton's confident assertion that, by extending his method of enquiry beyond natural philosophy, 'the Bounds of Moral Philosophy will be also enlarged', detecting truth beyond the inert realm of nature was no easy task.⁴²⁸ Driven by an ill-grounded confidence, Fielding argues, most people 'almost universally mistake the Symptoms which Nature kindly holds forth to us'. Indeed, 'an accurate and discerning Eye', Fielding argues, is 'the Property of the few', whereas 'the Generality of Mankind mistake the Affectation for the Reality' (p. 162).

Is it possible to develop an accurate and discerning eye, even though this is the property of the few? Taking advantage of the liberty provided by fiction, in *Jonathan Wild* (1743) and *Tom Jones* (1749) Fielding interprets the concept of *hypotheses non fingo* as the need to avoid being deceived by appearances when judging characters who are mistakenly conceived as innocent (Jonathan Wild) or

⁴²⁷ Fielding, *The Journal of a Voyage to Lisbon*, p. 283. On Newton's 'wonderful sagacity', see, for instance, Derham, *Astro-Theology*, p. 154.

⁴²⁸ Newton, *Opticks*, p. 405.

guilty (Tom Jones). Eventually, Fielding's answer to this problem is ambivalent. *Jonathan Wild* and *Tom Jones* are constructed through two distinct viewpoints corresponding to two distinct levels of knowledge ability. One is that of the characters in the texts, the Heartfrees and the Allworthys, who, notwithstanding their being described as rational observers (especially Allworthy), remain unable to see through the deception of the other characters because they are anchored to their imagination and, thus, to their own prejudices. Even though they discover the truth, there is no improvement for them: they constantly make assumptions that are proven wrong and, even worse, they never learn how to tell truth from lie because of their confidence in their being right.

At a second, higher level, sits the omniscient narrator, a pure body of rationality that knows how the story ends and actively engages in conversation with his readers to educate them to a scientific analysis of the behaviour of his characters which, Fielding suggests, will determine with certainty the innocence or guilt of a given person. Through this double level of narrative, Fielding suggests that a Newton-like sagacity could be attained which enables accurate judgment even within the complex domain of law. But this goal, when read against Fielding's later legal works, is revealed as a fictional speculation with no real counterpart. In his texts produced as a magistrate in his final five years of life, Fielding himself proves unable to exercise the sagacity he attempted to teach his readers, taking erroneous decisions because mistakenly confident in his evaluation of legal evidence. Just like his fictional characters in *Jonathan Wild* and *Tom Jones*, in the influential trials of Bosavern Penlez and Elizabeth Canning Fielding is unable to mistrust appearances. The late satirical position on the impossibility for man to engage in natural philosophy advanced in *Covent-Garden Journal* in 1752 suggests that the ideal of

sagacity advocated by the commentators on Newton, the ability to be unaffected by prejudices and, consequently, able to behold the essence of nature, was one that could only be achieved in the imaginary domain of fiction. In the domain of reality, Fielding implies, man has nothing of Newton's sagacity, and unavoidably ends up mistaking exact judgment for ill-grounded conjectures.

Fielding's interpretation synthesises the ambivalence between the confidence resulting from living in an age in which the deepest secrets of nature are revealed or about to be revealed, with the anxiety that all interpretations advanced by man might be prejudiced and thus fallacious. The logical consequence of this anxiety was to reassess the role of man in the discovery of nature to a more marginal one. As one of the commentaries on Newton put it, truth ensues only where 'Men follow Nature, and not their own Notions', therefore any attempts at playing a role more active than that of a passive receptacle of nature's dictates are bound to fail.⁴²⁹ The bleak implication of this position was that man was structured in such a way that telling truth from lie was impossible. To understand nature in the way Newton was believed to have done, it was necessary to become as little human as one could.

This complex balance between confidence and anxiety, the 'sagacious doubt' symbolized by Fielding's works, would soon be accompanied by new representations offered by the commentaries on Newton. Not only, as John Henry contends, did the Enlightenment image of Newtonian science emphasise 'the certainty of both the mathematical and the experimental methods' as attainable ideals.⁴³⁰ More significantly, confidence in man's ability to understand nature began to be taken for

⁴²⁹ Johann Heinrich Cohausen, *Hermippus Redivivus: or, the Sage's Triumph Over Old Age and the Grave* (London, 1744), p. 98.

⁴³⁰ John Henry, 'Introduction', p. xv.

granted by many writers, although in a different way from the demonstrative ideal embraced at the beginning of the century. The anxiety of man's ability to know nature that characterises Fielding's texts was increasingly downplayed to the point of almost complete disappearance. The emblem of this position is David Hume, examined in Chapter 4, who embarks in historiography not quite with the goal of discovering the principles of human behaviour, but by taking such principles, which he claimed to have discovered in his moral philosophy, as the initial assumption upon which even the obscure parts of the history of man can be told. In the final two volumes of *The History of England* published in 1760-61, Hume radically claims that he could write the history of Saxon and Middle Ages without always trusting the few historical sources available because, in his view, they might be adulterated by the imagination of past historians.

Hume's application of the concept of *hypotheses non fingo* to historiography is paired with a confidence in producing certain knowledge that is based on the claim that human nature is constant and universal. Since passions, which determine the behaviour of man, are the same in all times and places, certain knowledge can be produced about ancient history too. By considering people as a general category rather than as a group of individuals, Hume re-conceptualizes history as a set of experiments from which general laws about human nature can be verified with a degree of certainty declaredly akin to that of mathematics-based sciences. Hume's confidence is rhetorically expressed through an emphasis upon the regularities in the behaviour of man across different spatial and temporal circumstances.

Significantly, the frequent appeals to the universality of human nature intimate that the early history of the English people is a metonymy for the history of humankind. The regularities found in the former owe little to the developments of

English society because they are based on principles and laws that govern the passions of *all* humankind. To achieve this degree of certainty, however, historical characters that fail to fit into Hume's system of passions are ignored, or see their importance belittled in the grand design of Hume's scientific history. While this bold strategy shows Hume's unshaking belief in his ability to detect principles with absolute certainty, it also means that Hume required his readers to trust the authority of the historian rather than the evidence provided by history, a position that sits uncomfortably with the distrust of human authority initially advocated in the commentaries on Newton.

Mapping the transition from the ambivalent and problematic reliance on sagacity represented by Fielding to the unwavering confidence in handling the principles in the behaviour of man represented by Hume is not straightforward, but a clue is provided by two changes that took place in the public image of Newton. These are the acquisition of a virtually complete dominion over the public discourse on philosophy, along with an increasingly evoked image of Newton as a patient, modest thinker constituting a role model for fellow Britons. The first aspect is well described by Voltaire in *Candide*, a philosophical novella originally published in 1759 and translated into English in 1761 with the title *Candid: Or, All for the Best*. Since the death of Newton in 1727, Voltaire had taken advantage of his interstitial status as a French anglophile to offer fresh perspectives on Newton's impact on Britain for almost thirty years. By the early 1760s, the cult of this hero became so established that it was impossible to publicly claim that Newton's ideas were wrong. When the main character asks a group of philosophers why they are engaged in a heated debate, their answer is symbolic of the level of orthodoxy Newton achieved in the second half of the century:

[I]f we dispute, 'tis only to strengthen our own sentiments, for we are all of the same mind. We seek the truth upon Newtonian principles, because we are convinced that Newton is a great man—and so is Descartes, so is Leibnitz, so is Pangloss, said [Candide]: these are great men worth all the others. You are very impertinent, friend, replied the philosophers: are you acquainted with the laws of refrangibility, of attraction, and of motion? Have you read doctor Clarke's refutation of your Leibnitz? Do you know what is meant by the centrifugal, and centripetal force? Do you know, that colours are formed by density? Have you any notion of the theory of light, and of gravitation? Are you ignorant of the period of 25.920 years, which unfortunately, does not agree with chronology? No, I warrant, your ideas of all these things are false and imperfect: learn to keep silence therefore, for a pitiful *Monade* as you are, and be careful how you affront gentlemen by comparing them with pigmies. Gentlemen, said [Candide], if Pangloss was here, he would teach you surprizing things, for he is a great philosopher: he has an absolute contempt for your Newton, and, as I am his disciple, Newton is no great favourite of mine. The philosophers quite enraged, fell upon [Candide], and our poor hero was drubbed most philosophically.⁴³¹

At this point of the century, whenever Newton was named philosophical allegiance readily translated into coerciveness. Passages like the one quoted from *Candide* must have resonated with the experience of British readers in the second half of the eighteenth century, for whom it was hardly possible to publicly pledge allegiance to somebody that had ideas contrary to those of Newton. Such ideas, as one periodical

⁴³¹ François-Marie Arouet de Voltaire, *Candid: Or, All for the Best* (London, 1761), pp. 47–48.

reports, were reckoned as ‘false and imperfect’, for Newton’s was ‘the true philosophy’ against which all ideas proposed by other philosophers ‘like bubbles, vanish into air’.⁴³² In an important sense, the late eighteenth-century Briton had to be Newtonian, whether he liked it or not – as another newspaper article put it in 1757, ‘the wisdom and knowledge of this amazing genius, who unfolded the great secrets of nature and of nature’s Laws, are universally allowed a kind of infallibility’.⁴³³

There is a second valuable point raised by Voltaire that reveals a change in the public perception of Newton’s ideas. To the philosophers portrayed in *Candide*, the certainty of the laws of the universe discovered by Newton are indisputable. Certainty, as Newton himself would have had it, is grounded in mathematics. Yet, mathematics is not mentioned at all in the passage. Although the philosophers ‘seek truth upon Newtonian principles’, this judgment is not based on the evidence of nature but on Newton’s authority.

A kind of ‘compelled assent’ was at work at this point, based on the idea that Newton could have never been wrong because, paradoxically, he never forced anyone to believe him.⁴³⁴ The very expression ‘great man’ is one that recurs in accounts of Newton published in the second half of the century to emphasise an unparalleled modesty that was felt to be the more striking because of Newton’s exceptional discoveries. One newspaper, for example, declares that the ‘modesty of

⁴³² *Lloyd’s Evening Post and British Chronicle*, April 17, 1761 – April 20, 1761; Issue 578.

⁴³³ *Test*, Saturday, April 9, 1757; Issue 22.

⁴³⁴ The term ‘compelled assent’ is adapted from Barbara Shapiro, *Probability and Certainty in Seventeenth-Century England: A Study of the Relationships Between National Science, Religion, History, Law, and Literature* (Princeton, New Jersey: Princeton University Press, 1983), p. 32 *et passim*.

this great man was as wonderful as his sagacity'.⁴³⁵ This goes against historical records – as seen in the introduction, Newton had been renowned for his assertiveness amongst his contemporaries. But history on Newton was being rewritten to accommodate new cultural needs. It is a great pleasure, we read in a 1765 issue of the *London Chronicle*, to read the accounts of ‘men of fame’ like Newton, because they gave their opinions ‘with *candour* and *modesty*, instead of the *positive*, *dogmatical* way, too pregnant among many of them’. The ‘glory of knowledge’, the writer clarifies, never arises ‘from learning and talents of the mind only’ but from the use that is made of them. The lustre is provided by modesty, which ‘exalts more than anything else’ because it makes knowledge publicly accessible. By contrast, the ‘utmost extent of knowledge’ is not simply useless without modesty, but even detrimental to society. The vital question, therefore, is not what one knows, but whether one’s knowledge benefits fellow citizens:

Let us suppose, then, a man endowed with the utmost extent of knowledge, to what end does it serve? To make him *learned*, you’ll say.—True—but does it make him good? We must therefore call in *humility* here; for if he is only *learned*, what is he, too often, but a mere bubble of vanity, blown up with the froth of himself, and a sport to the puffs of flattery. In short, a mere *animal of glory*.—A strict adherence and regard to *truth* is another point absolutely necessary; it is this which gives so much weight and credit to a *writer*, quickly recommends him to the approbation and esteem of his *readers*. A zealous regard to *virtue* and *purity of morals*, in words as well actions, is a third point equally necessary [...] we have a secret and double pleasure in reading the

⁴³⁵ *Public Advertiser*, Thursday, June 16, 1791; Issue 17767.

works of those *writers*, who have built their fame upon the basis of *piety* and *virtue*, as well as of *learning* and *strength of abilities*.⁴³⁶

It is significant that, in a 1761 translation of the Latin inscription to Newton's monument in Westminster Abbey, the adjective 'sagax', meaning sagacious, is retranslated as 'wise'. Sagacity, the mark of Newton's geniality in the 1720s and 1730s, starts to be obscured in favour of a description of Newton as a 'diligent, wise, and faithful Interpreter of Nature', qualities that any layperson could easily relate to.⁴³⁷ This is well instanced in a memorial of the botanist Stephen Hales, who is portrayed as possessing 'in an uncommon degree, that industry and patient thinking, which Sir Isaac Newton used modestly to declare, was his own only secret by which he was enabled so fortunately to trace the wonderful analysis of nature'.⁴³⁸

By the second half of the century the image of Newton became less related to the wonder caused by his scientific achievements than to his modest conduct, to the point that Joseph Priestley takes for a fact that 'if history says true' Newton had been 'remarkably *modest*'.⁴³⁹ Rather than genius, these commentators argued, Newton's discoveries were the result of his patience, a skill that anybody could harness. Priestley went as far as to say that if one had first-hand access to both Newton's

⁴³⁶ *London Chronicle*, August 6, 1765 – August 8, 1765; Issue 1347.

⁴³⁷ Henry David, *An Historical Description of Westminster-Abbey, its Monuments and Curiosities* (London, 1761), p. 170.

⁴³⁸ *The Annual Register, Or, A View of the History, Politics, and Literature for the Year 1761* (London, 1762), p. 4. The statement mentioned is one that Newton does not seem to have ever made.

⁴³⁹ Joseph Priestley, *Remarks on Some Paragraphs in the Fourth Volume of Dr. Blackstone's Commentaries on the Laws of England, Relating to the Dissenters* (London, 1769), p. 51.

scientific practice and words, his aura as a genius would disappear.⁴⁴⁰ Stephen D. Snobelen claimed that Newton ‘assumed in the mind of many a god-like status’ for his philosophical penetration.⁴⁴¹ This contention, as we have seen, holds mainly for the first half of the century. In the second half, the socially-constructed modesty transformed Newton into a tangible hero that could be taken as a model to be imitated.

In a seeming paradox, this new evolution in the image of the public Newton resulted in an acceptance of the limitations of man compared to things, meant in Newton’s language and that of his commentators as expressions of nature unadulterated by conjectures. The anxiety about man’s inadequacy in discovering nature turns into a calm awareness that, indeed, human knowledge must be subordinated to that derived by things. The very process of knowledge is a long exercise that consists in progressively divesting the traces of one’s own subjectivity, surrendering oneself to the voice of nature. Smollett elaborates on this in *Humphry Clinker*, a novel that experiments with multiple narrative perspectives. By offering multiple versions of the same events, Smollett challenges the reader to challenge the assertions of the characters and look for a truth that comes from neither of them. Specifically, the letter by Matthew Bramble analysed in Chapter Five links the collection of mathematical instruments in the British Museum to a broader discourse about the unreliability of man in the production of knowledge, in which Bramble

⁴⁴⁰ Joseph Priestley, *The History and Present State of Electricity, with Original Experiments* (London, 1769), p. 546. Priestley’s point was also linked to a wider reflection about the role of the philosopher in society. This is an intricate topic that involves the appraisal of how the intellectual pursuits of figures such as Newton, Boyle, Joseph Addison and John Locke were perceived by the general public in terms of what Priestley calls ‘acknowledged utility to the public’. See Joseph Priestley, *Letters to the Members of the New Jerusalem Church, Formed by Baron Swedenborg* (Birmingham, 1791), p. vii.

⁴⁴¹ Snobelen, ‘On Reading Isaac Newton’s *Principia*’, p. 160.

implies that attempting to analyse man scientifically is an impossible task unless such knowledge is directly derived from things.

In *The History and Adventures of an Atom*, published two years before *Humphry Clinker*, the things of nature establish a direct connection with man. By an exceptional circumstance, the atom is allowed to communicate with its host, Peacock. In *History of an Atom* Smollett chooses not to personify the atom but to keep its objectivity intact. The atom, a narrative exemplification of nature, occupies Peacock's brain and forces him to take pen and paper to write under dictation the transactions the atom has observed during thousands of years of circulation through different natural beings. The narrative experiment of *History of an Atom* with the conceptual possibility that things could express their epistemological superiority to man is followed up by the diffusion of It-Narratives. Their commercial success in the final decades of the century marks a widespread acceptance that the world could be fruitfully represented from non-human points of view. In a finalization of the claim made by commentators on Newton that things, and not man, should be trusted as sources of knowledge, man is displaced to the position of the object described, abandoning all pretensions to offer descriptions.

It-Narratives and *History of an Atom* are the ultimate enactments of the confidence associated with Newtonianism that knowledge could be made certain if only the presence of man was erased from the observation of nature. Some ironies emerge from this reading, and with these I wish to conclude this thesis. The first is that the epistemological goal of describing nature with the certainty believed to have been reached by Newton was one that could only be attained through highly experimental narratives. The choice of an atom, a flea or a black coat as the carriers of an objectivity unachievable by man questions the belief in the empirical realism

that scholars have tended to see as a feature of the eighteenth-century British novel. A more complex picture emerges, one in which the confidence in attaining the certainty associated with Newtonianism is conceivable because of, and not in spite of, fiction. With perhaps the exception of Hume's *History of England*, no text among those analysed in this thesis is factual in the sense of pertaining exclusively to the establishment of facts, and yet all claim to dispel false myths and establish truth once and for all, in discontinuity with the practices of past commentators.

Some of these texts are overtly imaginative, either because set in other narrative worlds (such as Defoe's *The Consolidator*), told by narrators with no faculty of speech (Smollett's *History of an Atom* and all It-Narratives) or populated with fictional characters (Fielding's *Tom Jones*, Smollett's *Humphry Clinker*). Yet, even these texts show a tendency to speak about certainty and falsehood, not only in relation to the verisimilitude of the characters, their historical settings and the more or less oblique references to political events, but also in terms of how they insist on the credulity of man and on the requirements to establish facts with certainty. Contrariwise, texts purporting to offer a true rendition of facts tend to resort to fiction quite easily. One is hard-pressed, for instance, to distinguish between Defoe's *A Journal of the Plague Year* and Fielding's *Jonathan Wild* in terms of fact versus fiction, for both texts alternatively pledge their allegiance to realistic historical representations while directing the attention of the reader to the credulity of their own characters. This conflated use of fact and fiction seems to stem from the tension between the confidence that certainty in knowledge is possible if the imagination is not allowed to interfere in the process of knowing, and the sceptical view that doing so is beyond actual human abilities. Significantly, even Hume's Anglo-Saxon volumes of the *History of England* and Fielding's legal texts, which treat of topics

unrelated to fiction, are animated by the same tension, though expressed in a meta-textual way. As they denounce credulity as one of the universal characteristics of humankind and advocate a more objective determination of facts (be them historical or legal), both writers have at times to have recourse to knowledge established by leaps of the imagination.

Significantly, in William Blake's *Newton* monotype painted in 1795 (a work revised and completed in 1805), Newton is portrayed as an Adam-like figure whose muscular prowess matches the high level of confidence in his intellectual powers. Nature is in a subordinate position, smoothed out to the point that Newton can comfortably sit upon it. Astutely depicting Newton with an Adamitic appearance that makes him a symbol for all mankind, Blake seems to voice the concern that in the quest for certain knowledge it is nature, rather than man, that had seen her role reduced. Blake's Newton is entranced in his geometrical abstractions about nature, imagining a fictional counterpart without ensuring that they coincide with the displays of nature herself, which is symbolically placed behind his back, away from Newton's eyes notwithstanding her iridescent colours.⁴⁴²

Notoriously inimical to Newton, with his monotype Blake seems to anticipate a concern with the increasing influence and pervasiveness of Newtonianism in the early nineteenth century described by Feingold and Fara in their studies.⁴⁴³ This was

⁴⁴² See Donald D. Ault, *Visionary Physics: Blake's Response to Newton* (Chicago: University of Chicago Press, 1974) and L. J. Cooper, 'William Blake's Aesthetic Reclamation: Newton, Newtonianism, and Absolute Space in The Book of Urizen and Milton', *European Romantic Review*, 29:1 (2018), 247–269. A persuasive argument is made by I. Bernard Cohen that Newton's method in the *Principia* consists of abstraction that take little consideration of observations of nature. See Cohen, *Newtonian Revolution*, Ch. 3.

⁴⁴³ Feingold, *Newtonian Moment*, pp. 166–167. Fara, *The Making of Genius*, pp. 192–230.

the result of continuous presentations of Newton as a modest genius: as the turn of the century approached, it became commonplace to state that Newton had been blessed with a kind of civic modesty that made his method not only appropriate for everybody irrespective of scientific abilities, but also advisable in terms of proper social intercourse. As a newspaper reported in 1774, Newton's 'candour and modesty, even to bashfulness, were the graces which made such superior knowledge not disgusting to his inferiors', and everybody should imitate him.⁴⁴⁴ A religiously-tainted candor recurs in these representations: perhaps building on Voltaire's famous remark that the Woolsthorpe philosopher never had 'any Commerce with Women', the ekphrasis of one of Newton's many portraits in a 1791 issue of the *Public Advertiser* conjures up the image of 'a man of a most placid countenance, and with a complexion as delicate, and as well incarnated, as that of a young woman'.⁴⁴⁵ These evocations of quasi-sanctity are the appendages of the portrayal of Newton as a modest philosopher devoting his life to gently advancing his opinions on nature for the advantage of fellow members of society. Between 1820 and 1870, as Rebekah Higgitt has shown, a newly-made available wealth of archival information on Newton and his milieu would result in a number of biographies published on the his life and achievements.⁴⁴⁶ There is some irony in the fact that these biographies, which contributed to the diffusion of Newton's image as the epitome of proper public behaviour (a point particularly keen in Brewster's 1831 *The Life of Sir Isaac Newton*),

⁴⁴⁴ *London Chronicle or Universal Evening Post*, November 12, 1774 – November 15, 1774; Issue 2798.

⁴⁴⁵ Voltaire, *Letters Concerning the English Nation*, p. 100; *Public Advertiser*, Thursday, June 16, 1791; Issue 17767. I have been unable to identify the painting.

⁴⁴⁶ Rebekah Higgitt, *Recreating Newton: Newtonian Biography and the Making of Nineteenth-Century History of Science* (London: Pickering and Chatto, 2007).

were published at a time of what Higgitt calls ‘the increasing professionalization, specialization and secularization of science’ (p. 1) which signaled the separation of scientific enterprises from other domains of knowledge-making.

A final irony becomes apparent as we move back to our perspective as contemporary observers. Smollett’s atomic narrator is the most successful rendition of the certainty of knowledge associated with Newtonianism. The atom is a direct manifestation of nature and Smollett renders in detail the process whereby man is subjugated to its dictates, which are the dictates of nature. The forceful relinquishment of Peacock’s subjectivity satisfies the requirements set by the commentators on Newton of *hypotheses non fingo* for producing accurate knowledge. For a curious coincidence, it was by going beyond the concept of the atom that the idea of accurate knowledge inherent in the intellectual legacy of Newton would be challenged by early twentieth-century science. Newton’s description of the universe diffused by his commentators was shown to be valid only for a limited number of cases, both the macro-level, with Einstein’s theory of General Relativity that redesigned the whole concept of gravity, and at the micro-level, with Heisenberg’s discovery that, when observing sub-atomic particles, a complete measurement that identifies both the velocity and the position of an object is impossible. Epistemologically, early twentieth-century scientific discoveries suggest a renewed awareness of the importance of the human observer, who must be conscious that adopting a different observational standpoint or focusing on different properties modifies the result of the observation. As it turned out, human presence cannot help but influence the result of the observation itself. Retrospectively, the inevitability of the human influence manifested in early twentieth-century science insinuates that the Newtonianist claim that man’s presence must be erased in order to reach the

confidence of certainty was one that could only be achieved within the limited conditions of fiction, failing to find convincing factual applications.

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