

# Francis Bacon's doctrine of idols: a diagnosis of 'universal madness'

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**Abstract.** The doctrine of idols is one of the most famous aspects of Bacon's thought. Yet his claim that the idols lead to madness has gone almost entirely unnoticed. This paper argues that Bacon's theory of idols underlies his diagnosis of the contemporary condition as one of 'universal madness'. In contrast to interpretations that locate his doctrine of error and recovery within the biblical narrative of the Fall, the present analysis focuses on the material and cultural sources of the mind's tendency towards error. It explains the idols in terms of Bacon's materialist psychology and his exposé of the debilitating effects of language and traditional learning. In so doing, it highlights the truly radical nature of the idols. For Bacon, the first step towards sanity was to alert people to the prevailing madness. The doctrine of idols was intended as a wake-up call, preparing the way for a remedy in the form of his new method of inquiry. The paper concludes by indicating how Bacon's method aimed to treat 'universal madness', and it suggests that his diagnosis influenced John Locke.

The starting point for Bacon's reform of natural inquiry is his assessment of the present situation, which he describes as a state of 'universal madness' (*insania universalis*).<sup>1</sup> Men, he argues, have unknowingly exchanged 'reason for madness [*rationem cum insania*], and the world for fable'.<sup>2</sup> Bacon, however, was not the first to make this claim. The notion that most people are insane finds a pre-Socratic precursor in Heraclitus' statement, which Bacon knew and approved, that most people inhabit their own little worlds rather than the one common to all.<sup>3</sup> Kindred notions occur in

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1 Francis Bacon, *Temporis partus masculus*, in *The Works of Francis Bacon* (ed. James Spedding, Robert Leslie Ellis and Douglas Denon Heath), 7 vols., London: Longman, 1857–1861, vol. 3, p. 529 (Latin original) (the volumes in this edition will hereafter be cited as SEH, with volume number). This text is translated in Benjamin Farrington, *The Philosophy of Francis Bacon: An Essay on Its Development from 1603 to 1609 with New Translations of Fundamental Texts*, Liverpool: Liverpool University Press, 1964, p. 62 (hereafter Farrington's translations will appear as PFB). Instances where I use my own translations or modify existing translations for the sake of clarity or precision are duly noted. Where translations of Bacon's early philosophical writings are not available in the Spedding edition or in Farrington's *The Philosophy of Francis Bacon*, I give my own translation.

2 Bacon, *De interpretatione naturae sententiae xii*, SEH 3, p. 785 (Latin)/(my tr.): 'rationem cum insania, mundum cum fabula commutabit'. I have retained Bacon's gendered language throughout this paper.

3 Bacon, *Advancement of Learning* (ed. Michael Kiernan) (Oxford Francis Bacon, vol. 4), Oxford: Clarendon, 2000, p. 30 (hereafter citations of the Oxford Francis Bacon texts with facing-page translations will appear as OFB, with volume number). See also *Novum organum* (Book 1, aph. 42), OFB 11, pp. 80–

Renaissance literature as a kind of satirical caprice.<sup>4</sup> Several of Bacon's contemporaries made isolated assertions to the same effect.<sup>5</sup> But to find the idea treated with comparable philosophical seriousness and analytical depth we must turn to the heirs of Heraclitus, namely the Stoics, who notoriously maintained that the foolish are mad and all but the sage are fools.<sup>6</sup>

As Marke Ahonen points out, 'The Stoic dictum according to which everyone, apart from the non-existent wise, is equally mad, crazy, and insane (*mainesthai, insanire*), was notorious in antiquity, and is cited by numerous Greek and Latin authors (comprising philosophers, poets, satirists, and medical authors) as a staple Stoic doctrine'.<sup>7</sup> The Stoics recognized 'the notorious "general madness" (*insania publica*), which they

81; *De augmentis* (Book 5, Chapter 4), SEH 1, p. 645 (Latin)/SEH 4, p. 433 (tr.). Michael Kiernan and Graham Rees ('Commentary', OFB 4, p. 231 and OFB 11, p. 509) suggest that Bacon may be referring to Sextus Empiricus, *Against the Logicians*, I, 133–134; see also Brian Vickers, *Francis Bacon: The Major Works*, Oxford: Oxford University Press, 1996, p. 599.

4 See, for example, Sebastian Brant's popular skit on the 'ark of salvation' as the Catholic Church, *The Ship of Fools* [1494] (tr. Alexander Barclay, ed. T.H. Jamieson), 2 vols., London: H. Sotheran & Co., 1874.

5 See, for instance, Campanella, 'the world was driven mad by sin, and ... the wise men, wanting to cure it, were forced to say, do, and live like the crazy ones, although they held another opinion secretly', from Tommaso Campanella, 'Unarmed intellect in ancient wise men was subjected to the arms of madmen', *Scelta di alcune poesie filosofiche* [1622], in *Selected Philosophical Poems of Tommaso Campanella: A Bilingual Edition* (ed. and tr. Sherry Roush), Chicago: The University of Chicago Press, 2011, pp. 66–67; Francisco Sanches, 'Is this not madness and insanity? Men who are said to "study Nature" do nothing less than study it, whereas they fight to the death about what X or Y meant to say, not what this or that is in Nature, and spend their entire lives on such questions'. Francisco Sanches, *Quod nihil scitur* (That Nothing Is Known) [Lyon, 1581] (ed. and tr. Douglas F.S. Thomson), Cambridge: Cambridge University Press, 1988, p. 267, emphasis in original, see also pp. 40, 91.

6 Cicero, *Paradoxa Stoicorum IV*, in Cicero, *On the Orator: Book 3. On Fate. Stoic Paradoxes. Divisions of Oratory* (tr. H. Rackham), Loeb Classical Library (hereafter abbreviated as LCL) 349, Cambridge, MA: Harvard University Press, 1942, pp. 278–279. See also Seneca, *Epistulae morales ad Lucilium* (XLI, 8) in Seneca, *Epistles*, vol. 1: *Epistles 1–65* (tr. Richard M. Gummere), LCL 75, Cambridge, MA: Harvard University Press, 1917, pp. 276–279: 'what is it which this reason demands of him? The easiest thing in the world, – to live in accordance with his own nature. But this is turned into a hard task by the general madness of mankind'.

7 Marke Ahonen, *Mental Disorders in Ancient Philosophy*, Heidelberg: Springer, 2014, p. 103. Bacon's appropriation of Stoic thought is unsurprising given the Stoic milieu in which he moved. Reid Barbour, *English Epicures and Stoics: Ancient Legacies in Early Stuart Culture*, Amherst: University of Massachusetts Press, 1998, p. 17, observes that 'the overall impression left by early Stuart writers is of their deeply informed and widely ranging knowledge of the classical, medieval, and Renaissance legacy of the Porch'. Stoicism was omnipresent for the well-read Renaissance man. On an obvious level there is the popularity of Seneca's *Naturales quaestiones* and *Ad Lucilium epistulae morales*, along with Cicero's *Tusculanae disputationes*, *De officiis*, *De finibus bonorum et malorum*, and *De natura deorum*, to name just a few. There were also Plutarch's hostile treatments. Furthermore, Epictetus' ethics in the *Discourses* and *Encheiridion* was highly popular. Augustine's writings reflect Stoic ideas, as do the works of the Alexandrian Church Fathers. Ambrogio Traversari's Latin translation of Diogenes Laertius' *Vitae philosophorum* was published around 1472. William J. Bouwsma, *John Calvin: A Sixteenth-Century Portrait*, New York: Oxford University Press, 1988, discusses Calvin's ambiguous relationship with Stoicism. Lipsius's *De constantia* (1583/1584) was also extremely influential, followed by the *Manducatio ad Stoicam philosophiam* and the *Physiologia Stoicorum*. Stoic thought percolated through the Italian naturalists. Pietro Pomponazzi embraced aspects of Stoic determinism in *De fato* and Bernardino Telesio's natural philosophy is indebted to Stoic ideas. Perhaps most significantly, there is the revival and widespread availability in this period of Galen's writings, which were suffused with Stoic materials. Girolamo

claimed affected all mankind'.<sup>8</sup> For the Stoics, people are deluded because they do not correctly distinguish between what lies within their power and what does not, and so they fail to judge external impressions accurately, mixing passions with perceptions. Bacon was undoubtedly influenced by the Stoic doctrine, but he treated mass lunacy as an immediate consequence of his theory of the idols.<sup>9</sup> His doctrine of error (famously delineated in terms of the four idols) provides an in-depth account of why all are mad. He believes that the mind is capable of sanity but only if purged and restrained.

At the heart of contemporary institutions in both church and state lay the *Organon* of Aristotle – in Bacon's words, 'a kind of art of madness'.<sup>10</sup> Bacon's project for the regeneration of learning required the replacement of Aristotle's *Organon* with his *New Organon* (1620). In Book 1, Aphorism 10, he suggests that 'all our choice meditations, speculations and controversies are mere madness [*res male-sana sint*], except there is no one there to tell us so'.<sup>11</sup> The learned but unsupervised mind has the uncontrolled spontaneity of a lunatic, and yet this insanity goes undiagnosed. He is at pains to point out (again in the *Novum organum*) that consensus is no guarantee of truth: 'even if men went mad [*insanirent*] in the same copycat way, they could still agree among themselves well enough'.<sup>12</sup> In fact, he declares, 'the worst of all omens in intellectual matters is taken from consent'.<sup>13</sup> According to Bacon, 'so far distant is this consensus from true and solid authority that it even induces a violent presumption to the contrary. For the famous Greek very well said "What have I done wrong?" when they joined together in applause for him'.<sup>14</sup>

Bacon thinks that philosophers go about their business insane in the same way; they agree because they all accept the philosophical status quo. They are blind to the devastating consequences of their slavish submission to Aristotle, and institutions of learning only reinforce the prevailing madness. No institution, group, or individual escapes Bacon's indictment of existing philosophical practices. His three refutations – 'of *Native Human Reason* left to itself', 'of *Demonstrations*', and 'of *Theories*, or of received philosophies and doctrines' – are far more than mere intellectual opposition.<sup>15</sup> Rather, they constitute a wholesale demolition of all human learning, which, in his assessment, is rotten to the core.

Fracastoro, for example, was keen on the contemporary revival of Galen's writings, though he was not always positively responsive to them.

8 Ahonen, op. cit. (7), p. 103.

9 The partial isomorphism of the Stoic and Baconian analyses is no coincidence. The idols clearly have some affinity both with the *eidola* of Epicurus and the *phantasia* (impression) of the Stoics. At any rate Bacon at times seems to echo Epictetus, *Fragments*, 28: 'It is no ordinary matter that is at stake, said he, but it is a question of either madness or sanity', *Discourses, Books 3–4. Fragments. The Encheiridion* (tr. W.A. Oldfather), LCL 218, Cambridge, MA: Harvard University Press, 1928, pp. 470–471. On the history of the term *idolum* see Rees, 'Commentary', OFB 11, pp. 506–508.

10 Bacon, *Temporis partus masculus*, SEH 3, p. 530 (Latin)/(my tr.): 'artemque quandam insaniae'.

11 Bacon, *Novum organum* (Book 1, aph. 10), OFB 11, pp. 66–67.

12 Bacon, *Novum organum* (Book 1, aph. 27), OFB 11, pp. 74–75.

13 Bacon, *Novum organum* (Book 1, aph. 77), OFB 11, pp. 122–123.

14 Bacon, *Redargutio philosophiarum*, SEH 3, p. 568 (Latin)/(my tr.). In Plutarch's *Sayings of Kings and Commanders*, 188A, this remark is attributed to Phocion, *Moralia*, vol. 3 (tr. Frank Cole Babbitt), LCL 245, Cambridge, MA: Harvard University Press, 1931, pp. 108–109. Bacon repeats this claim in *Novum organum* (Book 1, aph. 77), including the reference to Phocion.

15 Bacon, *Novum organum* (Book 1, aph. 115), OFB 11, pp. 172–173.

By diagnosing men as mad, Bacon highlights the challenging nature of the problem: unaware of their affliction, madmen are not amenable to advice.<sup>16</sup> According to Seneca, the Stoic Aristo noted this feature of madness:

Between the insanity of people in general [*Inter insaniam publicam*] and the insanity which is subject to medical treatment, there is no difference, except that the latter is suffering from disease and the former from false opinions. In the one case, the symptoms of madness may be traced to ill-health; the other is the ill-health of the mind. If one should offer precepts to a madman – how he ought to speak, how he ought to walk ... he would be more of a lunatic than the person whom he was advising. What is really necessary is to treat the black bile and remove the essential cause of the madness. And this is what should also be done in the other case – that of the mind diseased. The madness itself must be shaken off; otherwise, your words of advice will vanish into thin air.<sup>17</sup>

Bacon takes a similar position. He does not think that madness can be simply shaken off, but he shares the view that one cannot straightforwardly offer precepts to madmen. Instead, one must first address ‘the essential cause of the madness’. This is the thinking behind his two-step procedure in the *Novum organum*. First, he reveals the causes of insanity (Book 1), and then he offers a practical remedy (Book 2). The doctrine of idols was meant to awaken people to their madness so that they would accept treatment in the form of his radical new method.

This paper first considers some of the reasons why Bacon’s diagnosis of universal madness has been widely overlooked. To show how his theory of idols explains this diagnosis, it then focuses on the material and cultural sources of the mind’s tendency towards error, in contrast to interpretations that locate Bacon’s doctrine of error and recovery within the biblical narrative of the Fall.<sup>18</sup> We shall see that for Bacon madness has its roots in the restless and unruly imagination. Bacon’s identification of the imagination

16 See *De augmentis*, where Bacon quotes an aphorism of Hippocrates: ‘they who are sick and feel no pain are sick in their mind’, adding that ‘they need medicine not only to assuage the disease, but to awake the sense’ (Book 7, Chapter 3), SEH 1, p. 732 (Latin)/SEH 5, p. 20 (tr.); Hippocrates, aph. ii.6, *Hippocratis Magni Aphorismi, soluti et metrici* (tr. R. Winterton), Cambridge, 1633, p. 30. See also Rees, ‘Introduction’, OFB 11, p. lvii, who notes, ‘The doctrine of idols offers the *self-knowledge* which (Bacon believes) is a precondition of knowledge of what lies outside the mind’ (emphasis in original).

17 Seneca, *Epistulae morales ad Lucilium* (XCIV, 17) in *Epistles*, vol. 3: *Epistles 93–124* (tr. Richard M. Gummere), LCL 77, Cambridge, MA: Harvard University Press, 1925, pp. 20–23.

18 There is a large literature arguing that Bacon hoped to recover Adamic knowledge. Peter Harrison’s work epitomizes this interpretation, asserting that ‘Francis Bacon’s proposed instauration of natural philosophy was conceived of as a recovery of knowledge lost as a consequence of the Fall’. Peter Harrison, *The Fall of Man and the Foundations of Science*, Cambridge: Cambridge University Press, 2007, p. 16. See also Harrison, ‘Francis Bacon, natural philosophy, and the cultivation of the mind’, *Perspectives on Science* (2012) 20, pp. 139–158. Sorana Corneanu discusses Bacon’s understanding of the Fall and its consequences for the mental faculties in *Regimens of the Mind: Boyle, Locke, and the Early Modern Cultural Animi Tradition*, Chicago: The University of Chicago Press, 2011. According to Corneanu, op. cit., p. 2, Bacon’s new method offered ‘a route toward a partial restoration of man’s prelapsarian mental powers’. Stephen Gaukroger, *The Emergence of a Scientific Culture: Science and the Shaping of Modernity, 1210–1685*, Oxford: Clarendon Press, 2006, p. 206, holds that Bacon regarded men’s ‘seriously deficient natural faculties’ as in many respects a consequence of the Fall and ‘beyond remedy’. On Gaukroger’s reading, there is no question of a return to ‘a natural, prelapsarian state in which they might know things as they are with an unmediated knowledge’. The most detailed account of the post-Baconian project to restore fallen nature remains Charles Webster’s *The Great Instauration: Science, Medicine, and Reform 1626–1660*, London: Duckworth Press, 1975, esp. pp. 324–335.

as the source of error and madness leads into an analysis of the relationship between his doctrine of idols and materialist psychology. He maintains that even mental operations are motions inherent in certain constellations of suitably refined matter.<sup>19</sup> Thus the source of error cannot be eliminated in any straightforward manner since it is rooted in our physical constitution. The paper then considers Bacon's view that language, traditional learning bolstered by pride, and syllogistic reasoning all serve to further entrench errors, thereby compounding the madness. It concludes by indicating how Bacon's new method proposed to solve the problems he identified, and it suggests that his diagnosis of madness influenced John Locke.

### An unwelcome diagnosis

Bacon was shrewd enough to know that a diagnosis of universal madness would be a bitter pill for many to swallow, and yet swallow it they must if they were to regain their sanity. In view of the harsh nature of his critique, he proceeds with caution and restraint. Writing in the third person in *Cogitata et visa* (c.1607), he says,

He could not forget that inveterate errors, like the delusions of the insane [*tanquam phreneticorum deliramenta*], must be artfully circumvented rather than exasperated by violent opposition. Accordingly, to avoid fanning rather than quenching the flames of contention ... he recognised the desirability of a certain measure of prudent conformity. To this end he proposed a work on the interpretation of nature and on nature itself, designed to eradicate errors with the least possible offence and thus to effect a peaceable entry into the apprehensions of men.<sup>20</sup>

Bacon's desire to avoid stirring up controversy helps to explain why scholars have seldom noticed his language of madness. He made his diagnosis of insanity both in the texts that were unpublished in his lifetime and in the works he actually published, including the *Novum organum*.<sup>21</sup> His early unpublished onslaught on insanity is somewhat moderated in the later published writings, yet it is nonetheless textually evidenced. This is exactly what one would expect, given Bacon's recognition that it is unproductive to try to alter men's wits in a direct and confrontational manner. As the passage above shows, he clearly and consciously realized that one does not begin to persuade one's

19 Bacon's materialism entails a concept of matter as active, appetitive, eternal and self-subsisting.

20 Bacon, *Cogitata et visa*, SEH 3, p. 619 (Latin)/PFB, p. 100 (tr. modified). See also *Temporis partus masculus*: 'amid this universal madness they [madmen] must absolutely be humoured', SEH 3, p. 529 (my tr.).

21 For Bacon's language of madness see, for instance, *insania* in *Temporis partus masculus*, SEH 3, pp. 529, 530; *De interpretatione naturae sententiae xii*, SEH 3, p. 785; 'Cogitationes de scientia humana', SEH 3, p. 193. *Insanus* in *Novum organum* (Book 1, aph. 6), OFB 11, p. 66. *Insanire* in *Distributio operis*, OFB 11, p. 34; *Novum organum* (Preface), OFB 11, p. 54; *Novum organum* (Book 1, aph. 27), p. 74. 'Res male sana' in *Novum organum* (Book 1, aph. 10), OFB 11, p. 66. 'Malesanus impetus' in *Redargutio philosophiarum*, SEH 3, p. 581; *Novum organum* (Preface), OFB 11, p. 54. 'Phreneticorum deliramenta' in *Cogitata et visa*, SEH 3, p. 619. 'Morbus animorum' in *Redargutio philosophiarum*, SEH 3, p. 568. 'Alienatio mentis' in *Cogitata et visa*, SEH 3, p. 600. 'Animus alienus' in *De interpretatione naturae sententiae xii*, SEH 3, p. 785. *Dementia* in *Redargutio philosophiarum*, SEH 3, p. 574; *Novum organum* (Preface), OFB 11, p. 54. *Delirare* in *Novum organum* (Preface), OFB 11, p. 54. 'Annon eos helleboro opus habere cogitaretis?' ['Would you not think that they had need of hellebore?'] in *Redargutio philosophiarum*, SEH 3, p. 581 (my tr.).

audience by first calling them madmen. On many occasions he spoke of his desire to avoid stoking controversy; he planned instead to insinuate his views into suitably predisposed minds. He likened his strategy to that employed by Roderigo Borgia, who

was wont to say of the expedition of the french for *Naples*, that they came with Chaulke in their hands to marke vp their lodgings, and not with weapons to fight: So I like better that entrie of truth which commeth peaceably with Chaulke, to marke vp those Mindes, which are capable to lodge and harbour it, then that which commeth with pugnacitie and contention.<sup>22</sup>

Bacon's problem was how to seek out suitable and receptive minds. In *Valerius Terminus* (c.1603), he approves the strategy 'of publishing part, and reserving part to a private succession, and of publishing in a manner whereby it shall not be to the capacity nor taste of all', which, he says, 'is not to be laid aside, both for the avoiding of abuse in the excluded, and the strengthening of affection in the admitted'.<sup>23</sup> A number of Bacon's early unpublished writings are addressed to the 'sons of the sciences' (*filiii scientiarum*), and we know that he privately circulated at least some of these writings in manuscript among a select few.<sup>24</sup> His published works, by contrast, relied on an esoteric mode of writing 'that might set aside for itself and as it were adopt a suitable and legitimate reader'.<sup>25</sup> We would therefore expect to find some differences in tone and content

22 Bacon, *Advancement of Learning*, OFB 4, pp. 90–91.

23 *Valerius Terminus*, SEH 3, p. 248. Bacon also discusses this strategy in *De interpretatione naturae prooemium*: 'Now for my plan of publication – those parts of the work which have it for their object to find out and bring into correspondence such minds as are prepared and disposed for the argument, and to purge the floors of men's understandings, I wish to be published to the world and circulate from mouth to mouth: the rest I would have passed from hand to hand, with selection and judgment'. SEH 3, p. 520 (Latin)/translated in James Spedding (ed.), *The Letters and the Life of Francis Bacon*, 7 vols., London: Longmans, 1861–1874, vol. 10, p. 87 (the volumes in this edition will hereafter be cited as LL, with volume number). See also *Commentarius solutus*, which includes the note 'Qu. of the Maner and praescripts touching Secrecy, tradition, and publication', LL 11, p. 66.

24 For Bacon's use of the term *filiii scientiarum* or simply *filius* in the singular and plural see *Temporis partus masculus*, SEH 3, *passim*; *Redargutio philosophiarum*, SEH 3, *passim*; *Cogitata et visa*, SEH 3, p. 606; *De interpretatione naturae sententiae xii*, SEH 3, pp. 787–788; *Filum labyrinthi, sive formula inquisitionis*, SEH 3, p. 496; *Advancement of Learning*, OFB 4, p. 123, marginal note, '*De Methodo syncera, sive ad filios Scientiarum*'; *Novum organum* (Preface), OFB 11, p. 58; *De augmentis* (Book 6, Chapter 2), SEH 1, pp. 663–664; *New Atlantis*, SEH 3, pp. 156, 164, 166. See also Bacon's reference to the alchemists as *filiii chimiae*, *Redargutio philosophiarum*, SEH 3, p. 575; *Cogitata et visa*, SEH 3, p. 605. In *Cogitata et visa* Bacon proposed to 'communicate his tables only to a few and keep the rest back till after the publication of a treatise for popular perusal', SEH 3, p. 620 (Latin)/PFB, p. 101; and in *Commentarius solutus* (26 July, 1608) there is an entry, 'Imparting my *Cogitata et Visa* with choyse, ut videbitur', LL 11, p. 64. On Bacon's concept of 'secret and public knowledge' see Dana Jalobeanu, 'Bacon's brotherhood and its classical sources: producing and communicating knowledge in the project of Great Instauration', in Claus Zittel, Gisela Engel, Romano Nanni and Nicole C. Karafyllis (eds.), *Philosophies of Technology: Francis Bacon and His Contemporaries*, 2 vols., Leiden: Brill, 2008, vol. 1, pp. 197–231, 211–214. On the restricted circulation of Bacon's unpublished philosophical writings see Richard Serjeantson, 'The philosophy of Francis Bacon in early Jacobean Oxford, with an edition of an unknown manuscript of the *Valerius Terminus*', *Historical Journal* (2013) 56, pp. 1087–1106. Serjeantson, *op. cit.*, p. 1091, presents evidence that Bacon 'maintained a rather close guard over his unprinted philosophical compositions, and ... permitted only limited access to them'.

25 Bacon, *Temporis partus masculus*, SEH 3, p. 529 (Latin)/(my tr.): 'ut idoneum et legitimum sibi lectorem seponat, et quasi adoptet'. See also *Valerius Terminus*, SEH 3, p. 248: 'shall as it were single and adopt his

between the early unpublished and later published writings. These differences should not, however, be exaggerated.

Many of Bacon's early Latin philosophical writings were not translated in the Spedding, Ellis and Heath edition of his works.<sup>26</sup> Benjamin Farrington later translated three texts in his *Philosophy of Francis Bacon – Temporis partus masculus, Cogitata et visa*, and the so-called *Redargutio philosophiarum*.<sup>27</sup> Consequently, these texts have received more attention than Bacon's other early Latin works. Among Farrington's texts, the *Temporis partus masculus* (c.1603–1608) stands out in that, in it, Bacon notoriously used a kind of polemic hyperbole to launch a scathing attack on the philosophers or positions he critiqued.<sup>28</sup> However, while Bacon's rhetorical strategy here is untypical, the overall message is consistent with his other works. As Farrington recognized, 'the judgements expressed by Bacon in *The Masculine Birth of Time ...* however harshly phrased, represent permanently held convictions. To understand them is to understand the essentials of his attitude'.<sup>29</sup> Similarly, James Spedding observes that the second chapter of the *Temporis partus masculus* aims to counteract the idols of the theatre and that Bacon 'goes over the same ground in another paper entitled *Redargutio Philosophiarum*, and again in the *Novum Organum*'.<sup>30</sup> Bacon incorporated much of *Redargutio philosophiarum* (c.1607–1608) and *Cogitata et visa*, along with parts of other lesser known pieces such as *Aphorismi et consilia de auxiliis mentis* (c.1607), *De interpretatione naturae sententiae xii* (c.1607), and *Calor et frigus* (date uncertain) into the *Novum organum*.<sup>31</sup> Moreover, as Spedding notes, *Partis instaurationis secundae delineatio & argumentum* (c.1606–1607) outlines 'the entire scheme of the *Instauratione Magna*' and 'agrees exactly with the design ultimately developed in the *Distributio Operis*'.<sup>32</sup> Finally, *Indicia vera de interpretatione naturae* (which could have been written as early as 1607) is so close in form to the *Novum*

reader'; *De interpretatione naturae sententiae xii*, SEH 3, p. 787: 'qui sibi legitimum lectorem seponat'. James Stephens, *Francis Bacon and the Style of Science*, Chicago: The University of Chicago Press, 1975, p. 78, discusses Bacon's decision 'to weed out by way of his style all those unqualified to make the full journey to the noble heights of learning'.

26 These texts will be included in vol. 5 of the new Oxford University Press critical edition of Francis Bacon's complete works, *Oxford Francis Bacon V: Early Philosophical Writings to c.1611*, at [www.oxfordfrancisbacon.com/planned-volumes/ofb-v-early-philosophical-writings](http://www.oxfordfrancisbacon.com/planned-volumes/ofb-v-early-philosophical-writings), accessed 20 September 2018.

27 See Farrington, op. cit. (1), pp. 59–133. The title *Redargutio philosophiarum* is an addition in a later hand in BL MS Harley, 6855, vol. I, fos. 4r–31v. For the Latin texts see SEH 3, pp. 527–539, 557–585, 591–620.

28 On Bacon's tone in *Temporis partus masculus* see Spedding, SEH 3, pp. 524–526; Farrington, op. cit. (1), pp. 35–37.

29 Farrington, op. cit. (1), pp. 36–37.

30 Spedding, SEH 3, pp. 524–525. See also Rees, 'Introduction', OFB 11, pp. lii–liii. I agree with Spedding that 'chapter 2' of *Temporis partus masculus* addresses the idols of the theatre. See *Temporis partus masculus*, SEH 3, p. 536, where Bacon appears to acknowledge that the rest of his discussion pertains to idols of the theatre. There is also mention of the idols in a general sense throughout *Temporis partus masculus*. *Redargutio philosophiarum* is not directly concerned with the idols, but much of this work was later incorporated into *Novum organum*.

31 For discussion of the genesis of the 1620 texts see Rees, 'Introduction', OFB 11, pp. cxvii–cxix.

32 Spedding, SEH 3, p. 543. See *Partis instaurationis secundae delineatio & argumentum*, SEH 3, pp. 547–548.

*organum* preface that Spedding decided not to publish it separately.<sup>33</sup> Bacon's earlier and later writings, then, exhibit remarkable consistency in that the essential elements of his project are already present in the early works.

The question of the relationship between earlier and later works leads to deeper questions about the appropriate approach to reading Bacon's *oeuvre*. A full discussion of this issue lies outside the scope of this paper, but it is relevant to my interpretive strategy. My approach diverges from the prevailing developmental paradigm, which assumes that Bacon's plans and ambitions developed and changed so much over time that we cannot expect the sum of his writings to yield a single comprehensive and coherent project. Rather, my view is that Bacon established his project early in his philosophical career and that later writings elaborated and expanded on it from various directions.<sup>34</sup> If we focus our attention on the *fundamentals* of Bacon's thought, the views he presents do not change significantly. Instead we have expansions and elaborations of, and supporting additions to, precisely the same doctrines, together with some omissions motivated by the desire to avoid causing needless offence. William Rawley, Bacon's amanuensis and editor, likened the lengthy revision process to the way in which 'many living creatures do lick their young ones, till they bring them to their strength of limbs'.<sup>35</sup> Later editors, too, consistently refer to Bacon's early philosophical texts as 'rehearsals', 'sketches', 'rudiments', 'embryos' and 'early drafts of materials which eventually found their way into the 1620 edition'.<sup>36</sup> The positions Bacon set forth in his early writings were not staging posts he later abandoned; rather, they were cannibalized, elaborated, reiterated and re-expressed according to the contexts and genres within which he redeployed them.<sup>37</sup> I wish to stress that I do not claim that Bacon's views in every

33 Spedding, SEH 3, pp. 4, 543. See also Rees, 'Introduction', OFB 11, p. cxviii.

34 The opening aphorisms of Books 1 and 2 of the *Novum organum* illustrate this point. They contain the pith and marrow of the Baconian project and earlier versions can be found in *Aphorismi et consilia*, SEH 3, pp. 793–794; and *De interpretatione naturae sententiae xii*, SEH 3, pp. 785–786. Similarly, *Aphorismi et consilia*, SEH 3, p. 794, compresses Bacon's inductive method into a few sentences. It is worth noting that Bacon was in his forties when he wrote the early philosophical writings.

35 William Rawley, 'The life of the Right Honourable Francis Bacon, Baron of Verulam, Viscount St. Albans', in SEH 1, p. 11. Rawley states, 'I myself have seen at the least twelve copies of the *Instauration*, revised year by year one after another, and every year altered and amended in the frame thereof, till at last it came to that model in which it was committed to the press'. Rees finds Spedding's decision not to publish *Indicia vera* regrettable because, 'while the [*Novum organum*] preface and *Indicia vera* are unmistakably the same in effect, they nevertheless differ in 34 substantive respects in the space of about 1,075 words', original emphasis. He argues that these differences constitute 'direct evidence ... of Bacon's licking a small part of his text into shape', Rees, 'Introduction', OFB 11, p. cxviii.

36 See, for example, Spedding, SEH 1, pp. 106, 416; and SEH 3, p. 543; Brian Vickers, *Francis Bacon: The Major Works*, Oxford: Oxford University Press, 1996, pp. xxi, xxviii, 516; Rees, 'Introduction', OFB 11, pp. cxviii, cxix; Richard Serjeantson, 'Francis Bacon's *Valerius Terminus* and the voyage to the "Great Instauration"', *Journal of the History of Ideas* (2017) 78, pp. 341–368, 342–344. Rees describes Bacon as 'a great reviser and amplifier of his own writings. Passages in earlier works were frequently revised and incorporated in later ones'. Graham Rees, 'An unpublished manuscript by Francis Bacon: *Sylva sylvarum* drafts and other working notes', *Annals of Science* (1981) 38, pp. 377–412, 379 n. 15.

37 Rees's meticulous editorial work has drawn attention to numerous instances of redeployment, and it is by no means limited to the 1620 texts. For example, he observes that 'the astronomical material in the *Cogitationes de natura rerum* (ca. 1604) was rearranged and incorporated in the *Descriptio globi intellectualis* (1612) ... The *Descriptio* was itself a partial revision of the *Advancement of learning* (1605).



respect were forever set in stone at the outset of his publishing career. Graham Rees, for instance, has traced the developmental trajectory of Bacon's views on *spiritus* through manuscript drafts and published writings with particular reference to the issue of longevity.<sup>38</sup> Likewise, a number of scholars have attempted to chart the development of his theory of idols.<sup>39</sup> But Bacon's grand vision precedes and determines the task of refining and expanding that vision over the period during which he worked on his Instauration. Although tracing the adaptations and refinements in the way Bacon presents his philosophy is fascinating and important in its own right, understanding his overall project is paramount.<sup>40</sup>

The developmentalist approach to Bacon's writings is ill-suited to uncovering the invariant core commitments discreetly embedded throughout his works by his disseminative style of presentation. Bacon intentionally fragments his discourse, leaving the task of reintegrating the fragments to his so-called 'sons of the sciences'. Vittoria Perrone Compagni, William Newman and Lawrence Principe have drawn attention to the use of dispersion by Cornelius Agrippa and within the alchemical tradition more generally, while Ralph Lerner and Arthur Melzer have shown that figures as diverse as Clement of Alexandria, Maimonides and Michel de Montaigne practised this technique.<sup>41</sup> Agrippa, for example, concludes the *De occulta philosophia* (1533) by advising his 'sons of wisdom and learning' to 'search diligently in this book, gathering together our dispersed intentions, which in divers places we have propounded, and what is hid in one place, we make manifest in another, that it may appear to you wise men'.<sup>42</sup>

Both of these works can be regarded as early versions of the *De augmentis scientiarum* (1623). Rees, op. cit. (36), p. 379 n. 15. More recently, Serjeantson has argued that the *Valerius Terminus* (c.1603) 'forms a vital seedbed for several of his subsequent writings'. Serjeantson, op. cit. (36), p. 344. On Bacon's practice of rewriting and revision see also Jalobeanu, op. cit. (24), pp. 208–211.

38 See, for example, Rees, 'Introduction', OFB 6, pp. xxxi–xxxv, lxx–lxxix; Graham Rees, *Francis Bacon's Natural Philosophy: A New Source. A Transcription of Manuscript Hardwick 72A with Translation and Commentary* (ed. Graham Rees assisted by Christopher Upton), Chalfont St Giles: The British Society for the History of Science, 1984, pp. 3–78.

39 On the history of the doctrine of idols see Rees, 'Introduction', OFB 11, pp. li–liiii; Corneanu, op. cit. (18), pp. 20–21; Spedding, SEH 1, pp. 113–117; W.H. O'Briant, 'The genesis, definition, and classification of Bacon's idols', *Southern Journal of Philosophy* (1975) 13, pp. 347–357.

40 The following statement from Hobbes regarding the need to understand the overall design applies equally to Bacon: 'For it is not the bare Words, but the Scope of the writer that giveth the true light, by which any writing is to be interpreted; and they that insist upon single Texts, without considering the main Designe, can derive nothing from them clearly'. Thomas Hobbes, *Leviathan*, 3 vols. (ed. N. Malcolm), Oxford: Clarendon Press, 2012, vol. 3, p. 954; quoted in Eva Helene Odzuck, "'I professed to write not all to all": diversified communication in Thomas Hobbes's political philosophy', *Hobbes Studies* (2017), 30, pp. 123–155, 128.

41 Vittoria Perrone Compagni, "'Dispersa Intentio": alchemy, magic and scepticism in Agrippa', *Early Science and Medicine* (2000) 5, pp. 160–177. William R. Newman and Lawrence M. Principe, *Alchemy Tried in the Fire*, Chicago: The University of Chicago Press, 2002, pp. 186–187. On Clement and Maimonides see Ralph Lerner, 'Dispersal by design: the author's choice', in Arthur Melzer and Robert Kraynak (eds.), *Reason, Faith, and Politics: Essays in Honor of Werner J. Dambhauser*, Lanham, MD: Lexington Books, 2008, pp. 29–41. For a wide-ranging discussion of dispersal see Arthur M. Melzer, *Philosophy between the Lines: The Lost History of Esoteric Writing*, Chicago: The University of Chicago Press, 2014.

42 Cornelius Agrippa, *De occulta philosophia libri tres* (enlarged edn, 1533), Book 3, Chapter 65 (ed. Vittoria Perrone Compagni), Leiden: Brill, 1992, p. 599: 'Vos igitur, doctrinae et sapientiae filii, perquirite

Compagni argues, ‘It is therefore necessary to take on the supplementary task of assembling the *diseiecta membra* of an argumentation that, though consistent, is distributed in various parts of the text, when not actually in different texts. Once this task is carried out, one will find a coherent and unexpected structure’.<sup>43</sup>

The same applies to Bacon’s texts. He deliberately disperses his thoughts within and across his works so that the onus is on the reader to reassemble the scattered fragments into a coherent whole. Consequently, reading Bacon is rather like doing an enormous jigsaw puzzle. However, not only do readers have to impose order on a chaos of fragments but they must also supply essential connections. This idea too is found in Montaigne, who advocates writing ‘without an intricate criss-cross of words, linking things and stitching them together for the benefit of weak and inattentive ears’.<sup>44</sup> Bacon recommends leaving gaps so that the reader is forced to supply the missing links and contribute something of their own.<sup>45</sup> As he puts it in the *Historia vitae & mortis* (1623), some ‘principles and presuppositions ... I have inserted and others kept back [*alia Mente seruamus*]’.<sup>46</sup>

Yet Bacon’s use of dispersal throughout his works has been mostly overlooked. In part, this is because his comments about the benefits of dispersed writing are mistakenly thought to apply only to the aphoristic genre, narrowly defined.<sup>47</sup> Rees, for example,

in hoc libro colligendo nostram dispersam intentionem quam in diversis locis proposuimus et quod occultatum est a nobis in uno loco, manifestum fecimus illud in alio, ut sapientibus vobis patefiat’. For the English translation see Agrippa, *Three Books of Occult Philosophy* (tr. James Freake, ed. Donald Tyson), St Paul: Llewellyn Publications, 1997, p. 677. Agrippa’s use of this technique is particularly noteworthy because Bacon recommends the *De vanitate scientiarum* to Sir Henry Savile: ‘A Letter and Discourse to Sir Henry Savile, touching helps for the intellectual powers’, SEH 7, p. 102. On the connection between *De vanitate* and *De occulta philosophia* see Compagni, op. cit. (41), pp. 160–177.

43 Compagni, op. cit. (41), p. 162. See also Perrone Compagni, ‘Heinrich Cornelius Agrippa von Nettesheim’, *The Stanford Encyclopedia of Philosophy* (Spring 2017) (ed. Edward N. Zalta), at <https://plato.stanford.edu/archives/spr2017/entries/agrippa-nettesheim>. Newman’s book review of Compagni’s edition of *De occulta philosophia* discusses the dispersion of knowledge in the *Summa perfectionis* of Pseudo-Geber on which Agrippa’s final chapter is based: ‘In essence, the technique of dispersion involved the intentional splitting up of a coherent discourse and the distribution of its parts throughout a text or texts. The reader then had to reassemble the disparate parts of the argument in order to divine the author’s genuine meaning’. William Newman, review of Compagni’s edition of Cornelius Agrippa, *De occulta philosophia libri tres*, *Isis* (1995) 86, p. 105.

44 Michel de Montaigne, *Les Essais* (Book 3, Chapter 9: “De la vanité”), in Montaigne, *Oeuvres complètes* (ed. Albert Thibaudet and Maurice Rat), Paris: Gallimard, Bibliothèque de la Pléiade, 1962, p. 974. For the English translation see *The Essays of Michel de Montaigne* (tr. and ed. M.A. Screech), Harmondsworth: Allen Lane/Penguin, 1991, p. 1126. On Bacon’s debt to Montaigne see Emiliano Ferrari, “‘A knowledge broken’: essay writing and human science in Montaigne and Bacon”, *Montaigne Studies* (2016) 28, pp. 213–223.

45 See, for example, Bacon, *Cogitata et visa*, SEH 3, pp. 593–594 (Latin)/PFB, p. 75 (tr.); *De augmentis* (Book 6, Chapter 2), SEH 1, pp. 665–666 (Latin)/SEH 4, p. 451 (tr.).

46 Bacon, *Historia vitae & mortis*, OFB 12, pp. 240–241. Bacon’s unpublished texts sometimes contain connecting threads that are absent from his published works.

47 There is a sizeable literature on Bacon’s aphorisms. See, for example, Sister Scholastica Mandeville, ‘The rhetorical tradition of the Sententia, with a study of its influence on the prose of Sir Francis Bacon and of Sir Thomas Browne’, unpublished PhD thesis, St Louis University, 1960; Brian Vickers, *Francis Bacon and Renaissance Prose*, Cambridge: Cambridge University Press, 1968, pp. 60–95; James Stephens, ‘Science and the aphorism: Bacon’s theory of the philosophical style’, *Speech Monographs* (1970) 37, pp. 157–171;

rightly argues that Bacon withheld certain works from publication, choosing 'to disassemble their doctrines before cautiously infiltrating the *disiecta membra* into *Novum organum*. In *Novum organum* these materials were not fragmentary but deliberately fragmented'.<sup>48</sup> He asserts that in his treatment of prerogative instances, 'Bacon robbed out his own system of theories about the nature of things and, publishing them for the *first time*, set them forth dispersedly, and in such a way that perhaps he alone knew of the connective tissue holding them together'.<sup>49</sup> However, Rees does not view dispersal as a general strategy that Bacon employed across his works, although he does note that 'Bacon's cosmology can be pieced together only by drawing on many passages scattered throughout his writings'.<sup>50</sup> Certainly Bacon saw the aphorism as the ideal vehicle for dispersion owing to its disconnectedness, but it was by no means the only literary form compatible with this technique.<sup>51</sup> For example, in the preface to the *Prodromi sive anticipationes philosophiae secundae* (c.1620–1623), which was to form Part V of the *Instauratio magna*, he does not mention aphorisms but says that he has 'decided to scatter [*spargere*] the thoughts themselves and not connect them by rhetorical method'; in the *Sylva sylvarum* (1626) he presents his ideas *sparsim* (dispersedly), broken into a thousand experimental fragments.<sup>52</sup>

Stephens, op. cit. (25), pp. 98–121; Stanley Fish, *Self-Consuming Artifacts: Studies in Seventeenth-Century Prose and Poetry*, Berkeley: University of California Press, 1972, pp. 85–90; Lisa Jardine, *Francis Bacon: Discovery and the Art of Discourse*, Cambridge: Cambridge University Press, 1974, pp. 176–178; Oscar Kenshur, *Open Form and the Shape of Ideas: Literary Structures as Representations of Philosophical Concepts in the Seventeenth and Eighteenth Century*, Lewisburg, PA: Bucknell University Press, 1986, pp. 38–48; Alvin Snider, 'Francis Bacon and the authority of aphorism', *Prose Studies: History, Theory, Criticism* (1988) 11, pp. 60–71; Stephen Clucas, "A knowledge broken": Francis Bacon's aphoristic style and the crisis of scholastic and humanist knowledge-systems', in Neil Rhodes (ed.), *English Renaissance Prose: History, Language, and Politics*, Tempe, AZ: Medieval and Renaissance Texts and Studies, 1997, pp. 147–172.

48 Rees, 'Introduction', OFB 11, p. lxxxiii, emphasis in original.

49 Rees, op. cit. (48), p. lxxxiii, emphasis in original.

50 Graham Rees, 'An unpublished manuscript by Francis Bacon: *Sylva sylvarum* drafts and other working notes', *Annals of Science* (1981) 38, pp. 377–412, 381 n. 25. Elsewhere Rees observes that 'the huge but dispersed reserves of cosmological material actually stockpiled in earlier parts of the *Instauratio* and elsewhere were never woven into a systematic account', and suggests it is unlikely 'any commentator could unlock these dispersed reserves and integrate them properly without prior knowledge of the essentials of the cosmology'. Rees, 'The fate of Bacon's cosmology in the seventeenth century', *Ambix* (1977) 24, pp. 27–38, 29.

51 As Melzer, op. cit. (41), p. 317, puts it, some 'literary forms ... being inherently more disjoint and promising less in the way of order and system, go together more naturally with the dispersal strategy'. Bacon recognized that a variety of forms, including essays, *sententiae*, observations and experiments, lent themselves to dispersal but the aphorism was the perfect vehicle. Vickers points out, 'The prime quality for which Bacon valued the aphorism was not the pithiness commonly associated with it but its unsystematic quality, which allowed its user to set down separate observations without implying any firm connections between them'. Brian Vickers (ed.), *Francis Bacon, The Essays Or Counsels, Civil and Moral*, Oxford: Oxford University Press, 1999, p. xvii. He therefore describes Bacon's interest in the aphorism's 'flexibility and freedom from system' as 'a more personal idea'. Vickers, op. cit. (47), p. 67. It seems likely that Bacon's decision to employ dispersal resulted in his personal take on the aphorism.

52 Bacon, *Sylva sylvarum*, Exp. 839, SEH 2, p. 615; Preface to *Prodromi sive anticipationes philosophiae secundae*, OFB 13, pp. 263–265. The *Prodromi* 'was to be a temporary collection of "anticipations", i.e., provisional theories or conclusions which Bacon had arrived at by "ordinary" reasoning'. Rees, 'Introduction', OFB 11, p. xix. See also *Novum organum* (Book 1, aph. 116), OFB 11, p. 174, where Bacon

To my knowledge only two commentators, both of whom focus on Bacon's theory of rhetoric, argue that dispersal occurs throughout his works, and that this has important implications for how we read his texts.<sup>53</sup> Karl Wallace says with respect to Bacon's views on public discourse, 'One who endeavors to sketch an accurate, intelligible picture ... must deal with sources that resemble patchwork. There are a multitude of suggestions and they are scattered throughout Bacon's writings'. Wallace makes the salutary observation that 'Bacon's works do not present a systematic exposition of rhetorical theory; and in trying to present an ordered picture one must select what appears to be the proper point of emphasis, and must arrange relevantly about it a background that shows some balance, harmony, and perspective'.<sup>54</sup> John Briggs goes further, suggesting that 'all of his [Bacon's] works are dispersals of deeper intent', and that this is a deliberate strategy on Bacon's part.<sup>55</sup> Briggs draws an insightful comparison between how one must read Bacon and the interpretive strategy advocated by the Paracelsian Richard Bostocke in *The Difference between the auncient Phisicke ... and the latter Phisicke* (1585). Bostocke advises his 'sons of science' (*fili scientiae*) that

if in one place the Author write darkly, in some other place some particuler thyng maie bee found that ioyned with the other may explicate the meanyng, for they disperse their meaning in seuerall places, to the ende they would be vnderstode onely of the deligent and painfull reader and not of the vnworthie.<sup>56</sup>

The similarities to Agrippa's approach are obvious. Dispersal, as Newman and Principe point out, 'was expected of many chymical writers, and readers recognized their obligation to hunt down, identify, and rejoin these dispersed fragments'.<sup>57</sup> We should not be altogether surprised to find Bacon, whose goal was an anti-occultist science of magic, adopting a technique widely deployed by alchemists and natural magicians. There is a misconception that Bacon disapproves of their esoteric writing, when in fact what he objects to is their (mis)use of this mode of communication to conceal 'counterfeite Marchandizes'.<sup>58</sup> As is clear from his comments in *Valerius Terminus* and elsewhere, he recommends the practice of esoteric writing, while acknowledging that it has 'by

describes himself as 'scattering [*spargamus*] in the meantime seeds of a purer truth for the generations to come' (my tr.).

53 In addition to Wallace and Briggs, Stephens comes close to this position when he takes Bacon's aphoristic writing in a wider sense, and views it as a means to select readers. He stresses that 'Bacon's philosophical works, taken together, as they must be, are carefully integrated, mutually dependent arguments for the new science'. Stephens, *op. cit.* (25), p. 137.

54 Karl R. Wallace, *Francis Bacon on Communication and Rhetoric*, Chapel Hill: University of North Carolina Press, 1943, pp. 2–3.

55 John Briggs, *Francis Bacon and the Rhetoric of Nature*, Cambridge, MA: Harvard University Press, 1989, p. 14.

56 Richard Bostocke, *The Difference between the auncient Phisicke ... and the latter Phisicke*, London: R. Walley, 1585, Chapter 23, sig. Liv; Briggs, *op. cit.* (55), p. 14.

57 Newman and Principe, *op. cit.* (41), pp. 186–187.

58 For example, Rose-Mary Sargent, 'Bacon as an advocate for cooperative scientific research', in Markku Peltonen (ed.), *The Cambridge Companion to Bacon*, Cambridge: Cambridge University Press, 1996, pp. 146–171, 163, argues that Bacon was hostile to alchemical secrecy and esotericism, and instead called for 'an open, democratic approach to the study of nature whereby the knowledge produced by all members of society would be freely communicated for the benefit of all'.

the precedent of many vain persons and deceivers' been 'disgraced'.<sup>59</sup> Bacon does not throw out the baby with the bathwater; he retains the practice as a means to deliver real and true content.<sup>60</sup> Moreover, as noted above, the technique of dispersal was by no means limited to alchemists and magicians but had an illustrious precedent among a diverse range of writers, including Montaigne. The strategy of dispersal enabled Bacon, among other things, to publish his ideas to a wide audience, but 'in a manner whereby it shall not be to the capacity nor taste of all'.<sup>61</sup> His aim is to 'find and light upon those minds and spirits which are apt to be kindled', while sidestepping those which are not.<sup>62</sup> In light of the above, the interpretation presented here reconstructs Bacon's account of madness on the basis of fragments scattered throughout his works.<sup>63</sup>

If we consider Bacon's diagnosis of a 'mental disease which rages and is epidemic', it is not difficult to see why he would wish to address only receptive readers.<sup>64</sup> In his 1885 biography of Bacon, Edwin Abbott perceptively remarked, 'We can not be surprised that an author who stigmatized the present state of learning as "universal insanity," should contemplate the anonymous publication of works likely to make himself widely disliked, suspected, or ridiculed'. Abbott is unusual in that he recognizes the force of Bacon's argument. In his brief discussion of the idols, Abbott notes that Bacon 'proceeds to complain that the minds of all men are blocked or branded with false fancies (*idols*) which preclude the acceptance of truths. This "universal insanity" requires skill in preparing the way for the truth'.<sup>65</sup> Abbott's interpretation is based on his reading of the unpublished *Temporis partus masculus*, and the 'anonymous publication' to which he refers above is *Valerius Terminus*. Although it is not in fact the case that Bacon's

59 *Valerius Terminus*, SEH 3, p. 248.

60 See also *De interpretatione naturae prooemium*, SEH 3, p. 520 (Latin)/LL 10, p. 87 (tr.); *Advancement of Learning*, OFB 4, p. 27. This is consistent with his wider criticisms of the magical–alchemical tradition; he does not reject magic per se, but what he perceives as its abuse and contamination.

61 For Bacon, dispersal was not just a means to disseminate controversial ideas but played a significant pedagogical role. The process of interpreting Bacon's texts mirrors the process of interpreting nature, thereby training the 'sons of the sciences' in his new method of inquiry. On this point see Briggs, *op. cit.* (55), p. 14; Melzer, *op. cit.* (41), esp. pp. 232–334. Dispersal allows Bacon to leave a trail of breadcrumbs, as it were, so that readers can retrace his steps and are primed to continue where he left off.

62 Bacon, 'A Letter of request to Dr. Playfer, to translate the Advancement of Learning into Latin', LL 10, p. 301.

63 My approach to reading Bacon will be discussed at greater length in a book in preparation, *Francis Bacon's Science of Magic*. My claim that Bacon's project was established early in his career, and that later writings elaborated and expanded on it from various directions, is an empirical one demonstrated in this paper and elsewhere. The same goes for my argument that he deliberately fragmented his project and that it is therefore possible to construct a coherent account based on fragments scattered throughout his works. Some readers may object that my approach is too 'internalist' and fails to address the social and political context within which Bacon wrote, but it seems advisable to ascertain in the first instance, and as accurately as possible, just what set of doctrines, ideas, arguments, etc. is to be contextualized, otherwise the contextualization is liable to mistakes.

64 Bacon, *Redargutio philosophiarum*, SEH 3, p. 568 (Latin)/(my tr.): 'Postremo, si de isto consensu non diffiteamur, sed eum ipsum ut suspectum rejiciamus, an nos inter morbum istum animorum grassantem et epidemicum sanitatis poenitebit?'

65 Edwin Abbott, *Francis Bacon: An Account of His Life and Works*, London: Macmillan, 1885, p. 349, original emphasis.

charge of madness is confined to his unpublished works, Abbott's assessment of Bacon's predicament is astute. Bacon was undoubtedly aware that others had been subjected to ridicule and worse for advancing similar views. In his analysis of Stoic madness Ahonen notes that 'the doctrine of all mankind's madness was criticised and ridiculed in antiquity for its absurdity and for its negative depiction of the human condition'.<sup>66</sup> Bacon knew that many readers would not welcome his diagnosis of dysfunctional epistemic culture. His demolition of traditional learning did not receive a sympathetic hearing from Sir Thomas Bodley, founder of the Bodleian Library, to whom he sent the manuscript of the *Cogitata et visa* in 1607. Bodley's reply reveals that he was deeply disturbed by Bacon's call to 'renounce our common Notions, and cancell all our Actions, Rules, and Tenents' in order to begin 'afresh to create new principles of Sciences'. Indeed, Bodley warned, 'there is nothing more certain in my understanding, then that it would instantly bring us to Barbarism'.<sup>67</sup> Bacon was clearly frustrated by Bodley's failure to appreciate the gravity of the situation and his response was dismissive. He made a playful threat to 'add a Cogitation against Libraries' but did not engage with Bodley's criticisms. Instead, he responded,

You are, I bear witness, slothful, and you help me nothing; so as I am half in conceit that you affect not the argument ... I can say no more to you, but *non canimus surdis, respondent omnia sylvae* ['We do not sing to the deaf, the woods echo all']. If you be not of the lodgings chalked up (whereof I speak in my preface) I am but to pass by your door.<sup>68</sup>

These are the same chalked-up lodgings mentioned above, and Bodley's response has only served to reinforce Bacon's conviction that he must 'single [out] and adopt his reader'.<sup>69</sup> There is no point whatsoever in singing to deaf ears or aggravating lunatics.

Bacon's decision to select readers by publishing 'in a manner whereby it shall not be to the capacity nor taste of all' means that one can easily overlook key features of his philosophy. Rees expressed frustration at the tendency of scholars 'to ignore or discount what failed to suit their tastes or competence'.<sup>70</sup> Similarly, Bacon's early eighteenth-century editor Peter Shaw suggested with respect to *De interpretatione naturae sententiae xii*, an unpublished writing addressed *ad filios*, that should a reader 'be shocked, disgusted, or unentertained with the following Piece, he may please to examine himself, Whether he be of the Number of those for whom it was design'd'.<sup>71</sup> It is noteworthy that Shaw does not shy away from discussing Bacon's thoughts on what he terms

66 Ahonen, op. cit. (7), p. 104.

67 Thomas Bodley, 'Sir Thomas Bodley's letter to Sir Francis Bacon, about his *Cogitata et Visa*', in *The Remaines of the Right Honorable Francis Lord Verulam*, London: B. Alsop, 1648, sigs. M1v, M3r.

68 Bacon, LL 10, p. 366. For a discussion of this passage, including Bacon's use of Virgil (*Eclogues* 10.8), see David Colclough, "'Non canimus surdis, respondent omnia sylvae': Francis Bacon and the transmission of knowledge', in Philippa Berry and Margaret Tudeau-Clayton (eds.), *Textures of Renaissance Knowledge*, Manchester: Manchester University Press, 2003, pp. 81–97, 89–90.

69 Valerius Terminus, SEH 3, p. 248.

70 Rees, 'Introduction', OFB 11, p. lxxvii.

71 Peter Shaw in *The Philosophical Works of Francis Bacon* (ed. and tr. P. Shaw), 3 vols., London, 1733, vol. 2, p. 334, note c; Bacon, *De interpretatione naturae sententiae xii*, SEH 3, pp. 785–788, esp. pp. 786–787.

'*Philosophical Madness*'. Commenting in a footnote on Bacon's reference to Aristotle's 'art of madness', he explains Bacon's view in the following terms:

as in *Natural Madness*, Men argue upon things that have no Existence or true Foundation; so, in *Philosophical Madness*, we reason about things, whose History, or true State, we have no clear and certain Knowledge of, from Experiment and Observation: But as Madmen do, take all for granted, according to our *frantic Notions*.<sup>72</sup>

Furthermore, Shaw notes that the topic of madness is addressed in Book 1 of the *Novum organum*.<sup>73</sup> Shaw's willingness to embrace Bacon's language of madness contrasts markedly with Spedding's reluctance to acknowledge it. The Spedding and Ellis translation of the *Novum organum* omits Bacon's charge of insanity in Book 1, Aphorism 10:

so that all those specious meditations, speculations, and glosses in which men indulge are quite from the purpose, only there is no one by to observe it.<sup>74</sup>

vt pulchrae illae meditationes, & speculationes humanae, & Causationes, res male-sana sint, nisi quod non adsit, qui aduertat.<sup>75</sup>

Interestingly, in this case Spedding thought it prudent to add a footnote informing the reader that the Latin (quoted above) reads, 'Literally, "are a thing insane"'.<sup>76</sup> Fortunately, modern translators have not shied away from expressing the full force of Bacon's words. Michael Silverthorne's translation conveys Bacon's sentiments: 'so that men's fine [*pulchrae*] meditations, speculations and endless discussions are quite insane, except that there is no one who notices.'<sup>77</sup> Silverthorne even adds a footnote remarking, '*Pulcher* seems always to be used ironically in *The New Organon*'.<sup>78</sup> Likewise, Rees's translation previously quoted

72 Shaw, op. cit. (71), vol. 2, p. 52 n. 1, emphasis in original.

73 Shaw, op. cit. (71), vol. 2, pp. 52 n. 1, 59 n. m.

74 Bacon, *Novum organum* (Book 1, aph. 10), SEH 4, p. 48 (tr.).

75 Bacon, *Novum organum* (Book 1, aph. 10), OFB 11, p. 66 (Latin)/SEH 4, p. 48 (tr.).

76 Spedding, SEH 4, p. 48 (tr.), note 1. The full footnote reads: 'Literally, "are a thing insane." The meaning appears to be, that these speculations, being founded upon such an inadequate conception of the case, must necessarily be so wide of the truth that they would seem like mere madness if we could only compare them with it; like the aim of a man blindfolded to bystanders looking on'. This is not the only instance where Bacon's language of madness is omitted in the SEH translation of the *Novum organum*. See also Book 1, aph. 6, where the Latin 'Insanum quiddam esset, & in se contrarium ...' is rendered as 'It would be an unsound fancy and self-contradictory ...'. OFB 11, p. 66 (Latin)/SEH 4, p. 48 (tr.). As Rees notes, the introductions and prefaces to the Victorian edition of Bacon's works show that the Victorian translations 'were not prepared by Spedding, Ellis, and Heath but by individuals who inevitably had rather less purchase on Bacon's modes of thought than the editors themselves had'. G. Rees, in *Collected Works of Francis Bacon* (ed. J. Spedding, R.L. Ellis and D.D. Heath, with a new introduction by G. Rees), 7 vols., London: Routledge/Thoemmes, 1879, repr. 1996, vol. 1, p. vii. However, Spedding and Ellis were certainly involved in the translations, making corrections and revisions as they saw fit. See Spedding's 'History and plan of this edition', SEH 1, p. xiv; and Thomas Fowler's note in his second edition of Bacon's *Novum organum*: 'Mr. Spedding ... informed me that the translation was originally made by an Undergraduate of Trinity College, Cambridge, but that he was himself responsible for the form which it ultimately assumed'. Thomas Fowler, *Bacon's Novum Organum*, 2nd edn, Oxford: Clarendon Press, 1889, p. 147 n. 78.

77 Francis Bacon, *The New Organon* (ed. Lisa Jardine and Michael Silverthorne, tr. Michael Silverthorne), Cambridge: Cambridge University Press, 2000, p. 34.

78 Silverthorne, in Bacon, op. cit. (77), p. 34 n. 2.

accurately conveys Bacon's meaning: 'all our choice meditations, speculations and controversies are mere madness, except there is no one there to tell us so'.

In what follows we shall see that the doctrine of idols presented in Book 1 of the *Novum organum* fosters an awareness and understanding of the prevailing madness. In this way, Bacon hoped 'to make ready the minds of men as much to understand as to accept what is to come'.<sup>79</sup> This was essential because he knew that people would only be willing to subject their minds to the severe constraints of his new method if they understood the severity of the problem. To this end, his doctrine of idols presents what Rees aptly characterizes as 'a psycho-pathology of the intellect'.<sup>80</sup> Bacon dissects the mind with surgical precision to reveal 'the seats pores and passages' of error.<sup>81</sup>

### The imagination as the root of madness

Agreeing with Plato that the aim of inquiry is knowledge of the 'partitions' or 'real dividing lines of nature', Bacon quotes the well-known passage from the *Phaedrus*: 'he who knows well how to define and divide, is to be counted as a god'.<sup>82</sup> He adopts the traditional image of the mind as a mirror, but in his account it is 'rather like an enchanted glass, full of superstition and imposture'.<sup>83</sup> He insists that 'the human intellect is to the rays of things like an uneven mirror which mingles its own nature with the nature of things, and distorts and stains it'.<sup>84</sup> Rather than providing a true reflection of nature's dividing lines, the mind alters and misrepresents reality. In what follows, we shall see that Bacon identifies the imagination as the root cause of error.<sup>85</sup>

<sup>79</sup> Bacon, *Novum organum* (Book 1, aph. 115), OFB 11, pp. 172–173.

<sup>80</sup> 'Introduction', OFB 11, p. liv.

<sup>81</sup> Bacon, *Valerius Terminus*, SEH 3, p. 246.

<sup>82</sup> Bacon, *Novum organum* (Book 2, aphs. 26, 34), OFB 11, pp. 288–289, 310–311, original emphasis. He is referring to the Platonic goal of being 'able to cut up each kind according to its species along its natural joints, and ... not to splinter any part, as a bad butcher might do'. Plato, *Phaedrus* 265E (tr. Alexander Nehamas and Paul Woodruff), in *Plato, Complete Works* (ed. John M. Cooper), Indianapolis: Hackett, 1997, p. 542.

<sup>83</sup> Bacon, *De augmentis* (Book 5, Chapter 4), SEH 1, p. 643 (Latin)/SEH IV, p. 431 (tr.). See also Bacon, *Valerius Terminus*, SEH 3, p. 241. For a discussion of Bacon's notion of the mind as a mirror see Katherine Park, 'Bacon's "enchanted glass"', *Isis* (1984) 75, pp. 290–302. Richard Rorty, *Philosophy and the Mirror of Nature*, Princeton: Princeton University Press, 1979, esp. pp. 42–43, provides a philosophical reconsideration of the mind–body relationship in terms of the Renaissance notion of glassy essence. Herbert Grabes, *The Mutable Glass: Mirror-Imagery in Titles and Texts of the Middle Ages and Renaissance* (tr. Gordon Collier), Cambridge: Cambridge University Press, 1982, esp. pp. 75–103, provides a historical survey of mirror discourse in this period. Debora Shuger discusses the cultural role of the mirror in an essay titled 'The "I" of the beholder: Renaissance mirrors and the reflexive mind', in Patricia Fumerton and Simon Hunt (eds.), *Renaissance Culture and the Everyday*, Philadelphia: University of Pennsylvania Press, 1999, pp. 21–41. For an account of the mind as mirror image in Plato's *Republic* see Murray W. Bundy, 'Plato's view of the imagination', *Studies in Philology* (1922) 19(4), pp. 362–403. Bundy, op. cit., p. 367, says that Plato 'insists that truth is a matter of right vision, and is the first, so far as we know, to talk about the eye of the mind'. Plato's *Republic* is undoubtedly a key source for the idea that the distortion is within us, not external to us. Also important is the Pauline idea that our natural mode of seeing and understanding is 'through a glass darkly' (1 Cor. 13:12).

<sup>84</sup> Bacon, *Novum organum* (Book 1, aph. 41), OFB 11, pp. 80–81.

<sup>85</sup> On Bacon's view of the imagination see Park, op. cit. (83), pp. 290–302. Corneanu and Vermeir argue that 'the imagination is an important ingredient in the moral, or mental-medicinal, aspect of Bacon's



In the *Distributio operis*, the plan of the six-part *Instauratio magna*, Bacon describes the way in which the 'innate' idols 'are rooted in the very nature of the intellect'.<sup>86</sup> In the *Novum organum* he elaborates on this idea, explaining that the so-called idols of the tribe 'are rooted in human nature itself and in the very tribe or race of men', while the idols of the cave 'originate from the peculiar nature of the individual, both body and soul, as well as from education, custom and accident'.<sup>87</sup> It is not possible here to give a comprehensive account of the manifold errors, but the innate idols can be traced to what Bacon calls the 'grand deception of the senses'.<sup>88</sup> Perceiving the world as if through a distorted mirror, people mistakenly think that 'the sense is [the] measure of things' when in fact 'the testimony and information of the sense is always made to the measure of man and not the universe'.<sup>89</sup> Yet sense impressions, Bacon says, 'are not very misleading'.<sup>90</sup> The problem is that the sense is weak and the unaided mind cannot penetrate beyond the superficialities of things. Despite this limitation, or rather because of it, the mind posits imaginary causes. Unable to pierce the darkness of matter, the mind 'longs to leap up to higher generalities to find rest there'.<sup>91</sup>

In the *Novum organum* Bacon explains that the vital spirit has a 'restless motion' (*inquietus Motus*) and constantly seeks satisfaction.<sup>92</sup> Since the mind 'cannot stay still or rest', it 'always compulsively hankers' after a deeper knowledge of nature's hidden causes. He describes how 'the human intellect being unable to stop still lusts after things still better known to nature'.<sup>93</sup> He is drawing here on the Aristotelian distinction between what is better known to nature and what is better known to us. In Aristotelian philosophy, what is better known to nature signifies that which is first in the order of being and therefore least known to us. For Bacon, what is better known to nature denotes the hidden motions of matter or 'the very things themselves' (*ipsissimae*

epistemological project'. Sorana Corneanu and Koen Vermeir, 'Idols of the imagination: Francis Bacon on the imagination and the medicine of the mind', *Perspectives on Science* (2012) 20, pp. 183–206, 184. See also Guido Giglioni, 'Philosophy according to Tacitus: Francis Bacon and the inquiry into the limits of human self-delusion', *Perspectives on Science* (2012) 20, pp. 159–182; Karl Wallace, *Francis Bacon on the Nature of Man: The Faculties of Man's Soul: Understanding, Reason, Imagination, Memory, Will, and Appetite*, Urbana: University of Illinois Press, 1967, esp. pp. 69–95; John L. Harrison, 'Bacon's view of rhetoric, poetry, and imagination', in Brian Vickers (ed.), *Essential Articles for the Study of Francis Bacon*, Hamden, CT: Archon Press, 1968, pp. 253–271; Eugene P. McCreary, 'Bacon's theory of the imagination reconsidered', *Huntington Library Quarterly* (1973) 36, pp. 317–326; John M. Cocking, 'Bacon's view of imagination', in Marta Fattori (ed.), *Francis Bacon: Terminologia e fortuna nel XVII secolo*, Rome: Edizioni dell'Ateneo, 1984, pp. 43–58; Marta Fattori, 'Phantasia nella classificazione baconiana delle scienze', in Fattori, *Francis Bacon: Terminologia e fortuna*, op. cit., pp. 117–137; Brian Vickers, 'Bacon and rhetoric', in Peltonen, op. cit. (58), pp. 200–231; Todd Butler, *Imagination and Politics in Seventeenth-Century England*, Aldershot: Ashgate, 2008, pp. 17–56.

86 Bacon, *Distributio operis*, OFB 11, pp. 34–35.

87 Bacon, *Novum organum* (Book 1, aph. 41 and 53), OFB 11, pp. 78–79, 88–89.

88 Bacon, *Novum organum* (Book 2, aph. 40), OFB 11, pp. 358–359.

89 Bacon, *Distributio operis*, OFB 11, pp. 32–33.

90 Bacon, *Novum organum* (Book 1, aph. 16), OFB 11, pp. 68–70.

91 Bacon, *Novum organum* (Book 1, aph. 20), OFB 11, pp. 70–71.

92 Bacon, *Novum organum* (Book 1, aph. 52), OFB 11, pp. 88–89 (my tr.).

93 Bacon, *Novum organum* (Book 1, aph. 48), OFB 11, pp. 84–85.

Res).<sup>94</sup> He identifies the mind's leap to imaginary causes, which it erroneously regards as better known to nature, as 'the Roote of all error'. Men, he explains, 'haue made too vntimely a departure, and to [*sic*] remote a recesse from particulars'.<sup>95</sup> The mind short-cuts the labour of traversing the ground of particulars, climbing steadily from particulars to lesser axioms and then to middle axioms, arriving at the highest and most general axioms 'last of all'. Instead, it immediately 'rushes up from the sense and particulars to axioms of the highest generality'.<sup>96</sup> Bacon refers to this 'impetuous and premature' way of proceeding, whereby the mind jumps and flies up to the highest axioms, by the term '*Anticipations of Nature*'.<sup>97</sup>

A number of scholars, including Peter Urbach and Stephen Gaukroger, argue that Bacon's notion of *anticipatio* is strongly indebted to the Epicurean idea of *prolepsis*.<sup>98</sup> Yet as A.A. Long explains, *prolepsis* refers to 'general concepts or mental pictures produced by repeated sense impressions which are both clear and similar in kind. They persist after particular sensations cease and constitute a record of our experience of the world'.<sup>99</sup> For the Epicureans, then, *prolepsis* is an indispensable part of sensory functioning. Epicurean *prolepsis* thus differs significantly from Bacon's notion of *anticipatio*, denoting an undesirable tendency to leap to premature conclusions. As Urbach himself acknowledges, Bacon's *anticipatio* was 'different in many ways' from Epicurus' *prolepsis* and 'he also added many details completely absent from any account we have from Epicurus'.<sup>100</sup> In fact, Bacon's account seems to have more in common with the Stoics, who, as Richard Bett points out, 'condemned the holding of opinions, by which was meant assenting to a non-cognitive impression'.<sup>101</sup> Bett also notes that, according to Sextus Empiricus, the Stoics viewed opinion 'as a mark of folly and moral failing. The "folly" seems to consist, more specifically, in rashness or precipitancy'.<sup>102</sup> Sextus explains that 'the wise man', by contrast, 'will in all cases suspend judgement'.<sup>103</sup>

94 Bacon, *Novum organum* (Book 1, aph. 124), OFB 11, pp. 186–187. For Bacon's appropriation of this Aristotelian notion see Aryeh Kosman, *Virtues of Thought*, Cambridge, MA: Harvard University Press, 2014, pp. 150–153; Antonio Pérez-Ramos, *Francis Bacon's Idea of Science and the Maker's Knowledge Tradition*, Oxford: Oxford University Press, 1989, p. 96.

95 Bacon, *Advancement of Learning*, OFB 4, p. 84.

96 Bacon, *Novum organum* (Book 1, aph. 19), OFB 11, pp. 70–71.

97 Bacon, *Novum organum* (Book 1, aph. 26), OFB 11, pp. 74–75.

98 Peter Urbach, *Francis Bacon's Philosophy of Science: An Account and a Reappraisal*, La Salle, IL: Open Court, 1987, pp. 37–38; Stephen Gaukroger, *Francis Bacon and the Transformation of Early-Modern Philosophy*, Cambridge: Cambridge University Press, 2001, p. 118. See also Rees, 'Commentary', OFB 11, p. 506.

99 A.A. Long, *Hellenistic Philosophy: Stoics, Epicureans, Sceptics*, Berkeley: University of California Press, 1986, p. 23.

100 Urbach, op. cit. (98), p. 37.

101 R. Bett, 'Carneades' *Pithanon*: a reappraisal of its role and status', *Oxford Studies in Ancient Philosophy* (1989) 7, pp. 59–94, 70.

102 Bett, op. cit. (101), p. 70 n. 25. See Sextus Empiricus, *Against Logicians*, I.157 (ed. and tr. R.G. Bury), LCL 291, Cambridge, MA: Harvard University Press, 1935, pp. 84–87. On seventeenth-century translations of the writings of Sextus see Charles Larmore, 'Scepticism', in Daniel Garber and Michael Ayers (eds.), *The Cambridge History of Seventeenth-Century Philosophy*, 2 vols., Cambridge: Cambridge University Press, 1998, vol. 2, p. 1145.

103 See Sextus, op. cit. (102), pp. 84–87.

Similarly, the Greek anthologist Stobaeus reports that the Stoics characterized inferior men by their 'precipitancy'.<sup>104</sup> According to Stobaeus, the Stoics associated precipitate assent with ignorance. Furthermore, they identified ignorance with insanity, understood as 'unstable and fluttering' impulses:

they say that every inferior person is mad, because he is in a state of ignorance about himself and about things concerning him, which is madness. Ignorance is the vice that is opposite to prudence, and when it generates unstable and fluttering impulses [ἀκαταστάτους καὶ πτοιώδεις ... τὰς ὁρμὰς] in relation to something, it is madness [μανίαν]. This is why they describe madness in this way: it is fluttering ignorance [ἄγνοιαν πτοιώδη].<sup>105</sup>

The Stoic ideas of precipitate assent and 'fluttering ignorance' bear a striking resemblance to Bacon's characterization of *anticipatio* as 'the premature and precipitate onrush of the intellect and its tendency to jump the gun and fly off towards the generalities and principles of things'.<sup>106</sup> There is, he says, 'an impatience of doubt, and hast to assertion without due and mature suspension of judgement'.<sup>107</sup> For Bacon, as for the Stoics, precipitate assent (*anticipatio*) leads to ignorance and insanity. The haste with which the intellect soars to lofty generalizations is a consequence of the imagination which substitutes the ideal for the real. Confronted with an epistemological impasse, the mind resorts to flights of fancy, speculation and pure guesswork. Men thus become victims of delusion and the result is madness.

We can now explain why Bacon identifies the frenetic pursuits of the hyperactive imagination as the root cause of error and delusion. In the simplest terms, the imagination takes over the work of the intellect. The powerful and expansive imagination, faced with the intellect's inability to penetrate nature's secrets, feigns knowledge. The mind, free and unfettered from experience and particulars, unwittingly succumbs to the tyranny of the imagination. In his psychology, Bacon adopted a triadic classification of the faculties.<sup>108</sup> This tripartite scheme derived from the Spanish physician Juan Huarte de San Juan, who in his *Examen de ingenios para las ciencias* (1575) argued for a division of the mind into the closely related faculties of imagination, memory and understanding.<sup>109</sup> Likewise, Bacon holds that the mind has just three faculties –

104 Stobaeus 2.111, 18–112, 8 (SVF 3.548, part) (ed. and tr. A.A. Long and D.N. Sedley), *The Hellenistic Philosophers*, vol. 1: *Translations of the Principal Sources with Philosophical Commentary*, p. 256 (G5); see also commentary, p. 258.

105 Stobaeus 2.68, 18–23 (SVF 3.663), op. cit. (104), p. 256 (I); see also commentary, p. 259.

106 Bacon, *Novum organum* (Book 1, aph. 64), OFB 11, pp. 100–101.

107 Bacon, *Advancement of Learning*, OFB 4, p. 31.

108 Bacon's account of the mind's impediments is based on a psychology that associates types of knowledge with their corresponding cognitive faculties. As one would expect given his strategy of dispersal, Bacon does not provide a systematic psychology. Bacon scholars are indebted to the pioneering study of Wallace, op. cit. (85). Wallace, as Lisa Jardine, *Francis Bacon: Discovery and the Art of Discourse*, Cambridge: Cambridge University Press, 1974, p. 94 n. 1, notes, 'collected together Bacon's scattered pronouncements on faculty psychology'. For an overview of Renaissance psychology and a discussion of Renaissance concepts of the soul see Katherine Park and Eckhard Kessler, 'The concept of psychology', in Charles B. Schmitt, Quentin Skinner, Eckhard Kessler and Jill Kraye (eds.), *The Cambridge History of Renaissance Philosophy*, Cambridge: Cambridge University Press, 1988, pp. 455–463; and Katherine Park, 'The organic soul', in Schmitt *et al.*, op. cit., pp. 464–484.

109 Juan Huarte, *Examen de ingenios* [The Examination of Men's Wits] (tr. Richard Carew) (from the Italian version by Camillo Camilli), London, 1594, pp. 51–68. See also Stuart Clark, *Vanities of the Eye*:

memory, imagination and reason – and that ‘there cannot be others or any more than these’. From these ‘three fountains’ spring the three divisions of human learning: history, poetry and philosophy.<sup>110</sup>

Ideally, the faculties of the intellect would operate within their respective ambits and not trespass on one another’s domains, but in reality they overlap and do not remain within fixed boundaries. As Bacon describes the intellectual process, all knowledge begins with ‘sense, which is the door of the intellect’. The individual objects of sense make an impression on the sense via the spirits in the sense organs. Next, ‘The images of those individuals – that is, the impressions which they make on the sense – fix themselves in the memory, and pass into it in the first instance whole as it were, just as they come’. The intellect then ‘proceeds to review and ruminates’ on these, and it is here that the real trouble begins.<sup>111</sup> The mind, ‘exercising its true function, puts together and divides their portions’, since ‘single individuals have something in common with each other and, on the other hand, something distinct and manifold’. There are, however, two possibilities: ‘this composition and division takes place either according to the mind’s own way of acting’ or ‘according to the very evidence of things, and according as they truly reveal themselves in nature’.<sup>112</sup> When the mind is left to its own devices, the distorting influence of the imagination means that it does not reflect things as they really are in nature.

Bacon explains that ‘the imagination performs the office of an agent or messenger’ in two domains, ‘the judicial and the ministerial’. In the judicial sphere, ‘sense sends all kinds of images [*idola*] over to imagination for reason to judge of’, and then in the ministerial sphere, the sphere of action, imagination communicates the judgements of reason to the will and passions so that the ‘decree’ can be executed. However, in both the judicial and the ministerial domains, this apparently clear-cut relationship between the faculties is disrupted because imagination overpowers reason. As Bacon puts it, the imagination is not ‘simply and only a messenger; but it is either invested with or usurps no small authority in itself, besides the simple duty of the message’.<sup>113</sup> Errors occur in intellectual matters because the imagination takes over in the judicial sphere. The production of knowledge, the centrally important feature of the intellectual process, is ruined by a tyrannous imagination. Unlike the work of reason, the play of imagination ‘commonly exceeds the measure of nature, joining at pleasure things which in nature

*Vision in Early Modern European Culture*, Oxford: Oxford University Press, 2007, p. 42. Malcolm K. Read, *Juan Huarte de San Juan*, Boston: Twayne, 1981, p. 7, highlights the influence and currency of Huarte’s ideas, noting, ‘His work was translated into all the major European languages, including Latin, and ran into numerous editions’. For Huarte’s influence on Bacon see Wallace, op. cit. (85), p. 68, who remarks that both thinkers consider the faculties to be closely interlinked; H.J. de Vleeschauwer, ‘Autour de la classification psychologique des sciences: Juan Huarte de San Juan, Francis Bacon, Pierre Charron, d’Alembert’, *Mousaion* (1958) 27, pp. 20–65; Grazia Tonelli Olivieri, ‘Galen and Francis Bacon: faculties of the soul and the classification of knowledge’, in D.R. Kelley and R.H. Popkin (eds.), *The Shapes of Knowledge from the Renaissance to the Enlightenment*, Dordrecht: Kluwer Academic, 1991, pp. 61–81, 69.

110 Bacon, *Descriptio globi intellectualis*, OFB 6, pp. 98–99. This discussion also occurs in the later *De augmentis* (Book 2, Chapter 1), SEH 1, p. 495 (Latin)/SEH 4, p. 293 (tr.).

111 Bacon, *De augmentis* (Book 2, Chapter 1), SEH 1, pp. 494–495 (Latin)/SEH 4, pp. 292–293 (tr. modified).

112 Bacon, *Descriptio globi intellectualis*, OFB 6, pp. 96–99.

113 Bacon, *De augmentis* (Book 5, Chapter 1), SEH 1, p. 615 (Latin)/SEH 4, pp. 405–406 (tr.).

would never have come together, and introducing things which in nature would never have come to pass'. The imagination puts together an image of the world as it pleases, 'just as Painting likewise does'.<sup>114</sup> Fuelled by a powerful desire to know and frustrated by the impenetrable darkness of matter, the imagination ignores the limitations of sense and, as in poetry or painting, 'strays and makes up what it likes'. Whereas reason is 'bound to things', imagination is 'released from such ties' and is therefore 'constrained by no law and necessity of nature or matter'.<sup>115</sup>

We can now understand Bacon's conviction that the imagination is the root of madness. Imagination overpowers reason, with the result that the mind 'faithlessly implants and intermixes its own nature with the nature of things when sorting out and devising its notions'.<sup>116</sup> But people are unaware of this and mistake fictions for reality. They think that man is 'the common measure and mirror of nature' when in fact the mind 'like an uneven mirror' distorts the light of nature. They have mistakenly put their trust in the mind's natural capacities, not realizing that the frenetic imagination causes mayhem when it trespasses on reason's domain. Wallace points out that an account of mental functioning 'presented faculty by faculty, can be misleading if it implies that Bacon believed that man's powers had definite boundaries, each power to be located in its own pigeonhole'.<sup>117</sup> The partitioning of the faculties in Bacon's triadic mental model allows him to draw a theoretical distinction between the work of memory, reason and imagination. In reality, however, although Bacon sees segregation as desirable, the faculties do encroach on one another's territory. This is because the mental faculties are motions of a subtle but 'corporeal and material substance' known as *spiritus*.<sup>118</sup> To fully grasp Bacon's doctrine of error, we need to examine his materialist understanding of the faculties.

### The 'mental motions' of spirit

Scholars are divided on the issue of Bacon's materialism, particularly as it relates to the human mind. Sorana Corneanu, for example, argues that Bacon did not identify mental operations with the motions of the spirit. According to Corneanu, he 'attributed the higher mental activities in man (memory, imagination and reason) to the rational soul and understood them to stand in a complex relationship with the motions of the material vital spirit of man'.<sup>119</sup> Rees found the evidence contradictory but concluded that 'on balance

114 Bacon, *De augmentis* (Book 2, Chapter 1), SEH 1, p. 494 (Latin)/SEH 4, p. 292 (tr.).

115 Bacon, *Descriptio globi intellectualis*, OFB 6, pp. 96–97.

116 Bacon, *Distributio operis*, OFB 11, pp. 34–35.

117 Wallace, op. cit. (85), p. 132. Similarly, Vickers, op. cit. (85), p. 220, comments that the faculties are 'in a continuously fluctuating relationship', and Butler, op. cit. (85), p. 23, remarks, 'Structural fixity becomes difficult to accommodate within this fluid mental picture'.

118 Bacon, *De augmentis* (Book 4, Chapter 3), SEH 1, p. 610 (Latin)/SEH 4, p. 401 (tr.).

119 Sorana Corneanu, 'Francis Bacon on the motions of the mind', in Guido Giglioni, James A.T. Lancaster, Sorana Corneanu and Dana Jalobeanu (eds.), *Francis Bacon on Motion and Power*, Dordrecht: Springer, 2016, pp. 201–229, 205. See also the introduction by Giglioni, who writes that 'although reason itself is not material for Bacon (as it would be for a genuinely Stoic or Hobbesian thinker), it is nevertheless perennially confronted with matter'. Guido Giglioni, 'Introduction: Francis Bacon and the theologico-political reconfiguration of desire in the early modern period', in Lancaster, Giglioni *et al.*, op. cit., p. 14. This paper, by contrast,

Bacon does appear to assign some of the higher faculties in man to the activity of the vital spirit'.<sup>120</sup> Elsewhere he went further, suggesting that 'Bacon probably thought that human voluntary motion, sensation, sense, imagination, memory, and even reason were all products of vital spirit operating in the nerves and ventricles of the brain'.<sup>121</sup> I argue that Bacon did indeed attribute all mental operations to the motions of material vital spirit. He was a materialist in that he treated all phenomena, including mental activity, as modes and motions of matter. As he declared in the *Novum organum*, Book 2, Aphorism 2, 'nothing really exists in nature besides individual bodies, carrying out pure, individual acts according to law' – a remark repeated almost verbatim by the arch-materialist Thomas Hobbes.<sup>122</sup>

My claim that Bacon ascribes all mental faculties to vital spirit echoes Wallace, who regards the different faculties as modulations of spirit:

A faculty ... was not an entity to Bacon; it was a mode of behavior, a distinctive movement of spirit. When it received a name, say the understanding, the label designated a certain modulation of spirit activity – the physical basis of all organic life – that seemed to be different from another modulation of spirit, say the reason.<sup>123</sup>

Wallace holds that all 'faculties or powers had as their vehicle the motions of spirits. Each faculty modulated, shaped, and figured spirit movement in ways peculiar to it'. In his terms, 'Thinking is like a radio carrier wave which is modulated according to the tasks it does. The faculties are types of modulation'.<sup>124</sup> Furthermore, Wallace makes the crucial observation that 'the ranges of modulation overlap'.<sup>125</sup> The radio-wave analogy is also helpful for understanding Bacon's doctrine of error: when modulations overlap,

argues that reason, along with memory and imagination, is material for Bacon, as it was for the Stoics and Hobbes.

120 Graham Rees, 'Francis Bacon's biological ideas: a new manuscript source', in Brian Vickers (ed.), *Occult and Scientific Mentalities in the Renaissance*, Cambridge: Cambridge University Press, 1984, pp. 297–314, 302. At p. 313 n. 30 Rees suggests that 'the whole question of Bacon's view of the human faculties needs to be looked at again'.

121 Rees, op. cit. (38), p. 41.

122 Bacon, *Novum organum* (Book 2, aph. 2), OFB 11, p. 202: 'in Natura nihil vere existat praeter Corpora indiuidua, edentia actus puros indiuiduos ex lege'. In a manuscript thought to have been written between 1637 and 1640 (National Library of Wales, MS 5297), Hobbes writes, 'The original and sum of knowledge stands thus: there is nothing that truly exists in the world but single individual bodies producing single and individual acts or effects from law, rule or form and in order or succession', in *Critique du De Mundo de Thomas White* (ed. J. Jacquot and H. Whitmore Jones), Paris 1973, Appendix 2, p. 449. In discussing this passage, Noel Malcolm, *Aspects of Hobbes*, Oxford: Clarendon Press, 2002, p. 30, notes that 'in another early manuscript, probably also written in the 1630s, he [Hobbes] had begun to apply these principles to the construction of a system of psychology in which all change was to be accounted for in terms of mechanical causation (the "Short Tract")'. For Bacon's general influence on Hobbes see Robin Bunce, 'Thomas Hobbes' relationship with Francis Bacon: an introduction', *Hobbes Studies* (2003) 16, pp. 41–83; Bunce, 'Hobbes's forgotten natural histories', *Hobbes Studies* (2006) 19, pp. 77–104.

123 Wallace, op. cit. (85), p. 132. Olivieri, op. cit. (109), p. 62, emphasis in original, takes a similar view, arguing that Bacon believed 'one should examine the faculties of the soul from a *natural* point of view'.

124 Wallace, op. cit. (85), p. 57. Graham Rees, 'Francis Bacon and *spiritus vitalis*', in Marta Fattori and Massimo Bianchi (eds.), *Spiritus: Ivo Colloquio Internazionale del Lessico Intellettuale Europeo*, Rome: Edizione dell'Ateneo, 1984, p. 277, comes close to this interpretation when he asks, 'Are some at least of the higher human faculties to be regarded as mere "ripples" in the *spiritus vitalis*?'

125 Wallace, op. cit. (85), p. 132.

the result is interference and distortion. The distortion of reality, which lies at the heart of the doctrine of idols, results from overlapping motions of spirit. The idols of the tribe are common to the entire human race because they derive from the material spirit that constitutes the human mind. The fluid and dynamic interactions among the 'mental motions' of spirit mean that the mind is always subject to interference from the imagination, which distorts reality as it 'mingles its own nature with the nature of things'.<sup>126</sup>

An examination of Bacon's views on the materiality of the higher faculties leads us to consider his doctrine of the soul. Space limitations preclude a full treatment of this topic here, and so the following will focus on only those aspects directly related to Bacon's doctrine of error. In his discussion of the human soul in Book IV of the *De augmentis scientiarum* (1623), Bacon states that the sensible soul (i.e. vital spirit) 'must clearly be regarded as a corporeal substance'. It is 'a breath (I say) compounded of the natures of flame and air, having the softness of air to receive impressions, and the vigour of fire to propagate its action'.<sup>127</sup> He writes that the sensible soul is 'clothed with the body, and in perfect animals residing chiefly in the head, running along the nerves, and refreshed and repaired by the spirituous blood of the arteries; as Bernardinus Telesius and his pupil Augustinus Donius have in part not altogether unprofitably maintained'.<sup>128</sup> Bacon's decision to mention Doni as well as Telesio in his discussion of the soul is highly significant because while Telesio's account was more ambiguous, Doni clearly attributed all mental faculties, including reason, to the one material soul or spirit.<sup>129</sup> In his *De natura hominis* (1581) Doni plainly states that *spiritus* 'not only moves and senses, but seems able to do other things too ... clearly it imagines, recalls, understands, reasons and remembers'.<sup>130</sup> He was thus quite explicit that reason (along with memory and imagination) was a function of *spiritus*, not the incorporeal rational soul. This identification of the soul with *spiritus* was, as D.P. Walker points out, 'not only revolutionary philosophy, but also highly unorthodox theology. The few thinkers who took this step were most of them wildly heretical'.<sup>131</sup> Doni's work is

126 Bacon, *Novum organum* (Book 1, aph. 127), OFB 11, pp. 80–81, 190–191.

127 This bears a striking resemblance to the Stoic notion of the human soul as a material *pneuma*, a volatile compound of air and fire.

128 Bacon, *De augmentis* (Book 4, Chapter 3), SEH 1, p. 606 (Latin)/SEH 4, p. 398 (tr.).

129 For Doni's theory of *spiritus* see *De natura hominis libri duo* [Basel, 1581] (Lat. ed. and Italian tr. Luigi De Franco), *L'eretico Agostino Doni, medico e filosofo cosentino del '500*, Cosenza: Pellegrini Editore, 1973, esp. pp. 324–349, 402–411. On Doni's identification of spirit and soul, and the role of the preface and peroration in protecting him from charges of heresy, see *L'eretico Agostino Doni, medico e filosofo cosentino del '500*, pp. 185–186; D.P. Walker, *Spiritual and Demonic Magic from Ficino to Campanella* (reprint of the 1958 edition), University Park: Pennsylvania State University Press, 2000, pp. 193–194; Jan Prins, 'Walter Warner (ca. 1557–1643) and his notes on animal organisms', PhD thesis, University of Utrecht, 1992, pp. 91–95; Noel Brann, *The Debate over the Origin of Genius during the Italian Renaissance*, Leiden: Brill, 2002, pp. 384–385; and Fabio Tutrone, 'The body of the soul: Lucretian echoes in the Renaissance theories on the psychic substance and its organic repartition', *Gesnerus* (2014) 71, pp. 204–236.

130 Doni, op. cit. (129), p. 346 (Latin)/(my tr.): 'non tantum movet et sentit, sed videtur alia quoque posse ... videlicet imaginatur, recordatur, intelligit, ratiocinatur, memoria tenet'.

131 D.P. Walker, 'Francis Bacon and *spiritus*', in Allen G. Debus (ed.), *Science, Medicine and Society in the Renaissance*, 2 vols., London: Heinemann, 1972, vol. 2, pp. 121–130, 125. Doni fled religious persecution in Italy, then Basel. On Doni's life see De Franco, op. cit. (129), pp. 15–47.

important because it shows that ‘the absorption of soul by spirit, was in fact possible and could be asserted in a religious context’.<sup>132</sup>

In a striking passage in the *De augmentis*, Bacon presents his interpretation of the myth of Pan as an example of what he terms ‘Paraboliical Poesy’ in natural philosophy. Here, he clearly indicates that he shares Doni’s materialist position on the soul:

Pan delights in the Nymphs, that is, the souls; for the souls of the living are the delight of the world. And with good reason he is called their commander, for each of them follow their own nature as a guide, and around him dance and lead the round with infinite variety, each after the manner of its old-established custom, and with unceasing motion. And so one of the more recent thinkers has acutely reduced all the faculties of the soul to motion, and censured the pride and precipitancy of a number of the ancients who, looking upon and contemplating memory, imagination and reason with eyes too hastily fixed, have neglected the cogitative power which holds first place. For he who remembers, or even recalls, thinks; and he who imagines, similarly thinks; and he who reasons certainly thinks. Finally, the soul, whether admonished by sense or left to itself, whether in the functions of the intellect or the affections and will, leaps according to the modulations of its thoughts; and this is that dance of the Nymphs.<sup>133</sup>

Commenting on this passage, Robert Ellis notes that the recent thinker to whom Bacon refers is Doni, who ‘is altogether a materialist’.<sup>134</sup> Given that Doni’s views were widely considered heretical, Bacon’s favourable reference to Doni’s reduction of ‘all the faculties

132 Walker, *op. cit.* (129), p. 195.

133 Bacon, *De augmentis* (Book 2, Chapter 13), SEH 1, p. 528 (my tr.): ‘At Pana oblectant *Nymphae*, *Animae* scilicet; *deliciae* enim mundi *Animae* viventium sunt. Hic autem merito illarum imperator, cum illae naturam quaeque suam tanquam ducem sequantur, et circa eum infinita cum varietate, veluti singulae more patrio, saltent et choreas ducant, motu neutiquam cessante. Itaque acute quidam ex recentioribus facultates animae omnes ad Motum reduxit, et nonnullorum ex antiquis fastidium et praecipitationem notavit, qui memoriam et phantasiam et rationem defixis praepropere oculis intuentes et contemplantes, Vim Cogitativam, quae primas tenet, praetermiserunt. Nam et qui meminit, aut etiam reminiscitur, cogitat; et qui imaginatur similiter cogitat; et qui ratiocinatur utique cogitat: denique *Anima*, sive a sensu monita, sive sibi permissa, sive in functionibus intellectus, sive affectuum et voluntatis, ad modulationem cogitationum saltat; quae est illa *Nympharum* tripudiatio’. Spedding *et al.* translate *anima* as ‘spirit’, with the exception of the third use of the term, where Bacon refers to Doni’s position. The translation of *anima* as ‘soul’ throughout was preferred by Gilbert Wats, Peter Shaw and Wallace. See *Of the Advancement and Proficiency of Learning* (tr. Gilbert Wats), Oxford, 1640, sig. P3r; *The Philosophical Works of Francis Bacon* (ed. and tr. P. Shaw), 3 vols., London, 1733, vol. 1, p. 62; Wallace, *op. cit.* (85), p. 30 n. 29. The second half of this passage (including the reference to Doni) is omitted from the fable of Pan in the earlier *De Sapientia veterum*, SEH 6, p. 639 (Latin)/p. 712 (tr.). For an alternative reading of this passage see Corneanu, *op. cit.* (119), p. 214 n. 28, who maintains that although it ‘sounds as materialist as one so inclined would hope for; yet it is in fact perfectly compatible’ with the view that Bacon regards the higher mental activities as functions of the incorporeal rational soul.

134 Ellis, SEH 1, p. 528 n. 1. Although there is general agreement that Bacon is indebted to Doni for his concept of *spiritus*, most commentators stop short of attributing Doni’s materialist account of the higher mental faculties to Bacon. A full treatment of this topic lies beyond the scope of this paper since it requires a detailed analysis of Bacon’s doctrine of the soul and the influence of the Italian naturalists (Pomponazzi, Fracastoro, Telesio and Doni) with respect to both strategy and content. For a detailed comparative study of Bacon’s and Doni’s theories of spirit see Benedino Gemelli, *Aspetti dell’atomismo classico nella filosofia di Francis Bacon e nel Seicento*, Florence: Olschki, 1996, pp. 99–139. See also Rees, *op. cit.* (120), p. 313 n. 39; Rees, *op. cit.* (38), pp. 76–77 n. 30; Prins, *op. cit.* (129), pp. 95–97; Tutrone, *op. cit.* (129), pp. 204–236.



of the soul to motion' is daring, to say the least.<sup>135</sup> Bacon, too, attributes the cogitative power to the concentration of spirit in the ventricles of the brain, for which he uses the Telesian term 'university of spirit' (*universitas spiritus*).<sup>136</sup> The mental faculties – memory, reason and imagination – are modulations of the one corporeal spirit. This view underpins Bacon's stated intention in the *Novum organum* to analyse 'the mental motions of memory, composition and division, judgement, and the rest, just as much as I would of hot and cold, or light, or vegetation, or the like'.<sup>137</sup> Like Doni, he asserts the unity of the sensible soul as material substance or subtle spirit, subject to physical investigation.<sup>138</sup>

Another major influence on Bacon was the physician Girolamo Fracastoro.<sup>139</sup> In his dialogue *Turrius, sive de intellectione* (published posthumously in the *Opera omnia* of 1555), Fracastoro takes a vigorously naturalistic approach to the intellect and, as Spencer Pearce argues, 'To many of his contemporaries his view of cognition as a series of relatively simple processes applied to the material images of things that affect the soul by way of the senses, the spirits, and the brain, would have appeared highly reductive and materialistic'.<sup>140</sup> Of particular relevance to Bacon's doctrine of error, the *Turrius* contains a lengthy discussion of the 'pathology'

135 It is no coincidence that Bacon makes this claim in a passage demonstrating the use of parabolic poesy in natural philosophy. Here, as in *De sapientia veterum* and *De principiis atque originibus*, the myths serve as camouflage, allowing him to present his own views as the recovery of lost ancient wisdom. See, for example, Rees, 'Introduction', OFB 6, p. xxix, who refers to 'the *prisca sapientia* that he [Bacon] pretended to find in the ancient fables'. For a more detailed account see Timothy H. Paterson, 'Bacon's myth of Orpheus: power as a goal of science in *Of the Wisdom of the Ancients*', *Interpretation* (1989) 16, pp. 427–444, who argues that Bacon feigned belief in the existence of an ancient wisdom hidden in the myths. For the alternative view that Bacon really believed in mythology as a repository of ancient wisdom see Rhodri Lewis, 'Francis Bacon, allegory and the uses of myth', *Review of English Studies* (2010) 61, pp. 360–389.

136 According to Bacon, 'sense and everything else that depends on it' are limited to creatures with integrated branching networks which 'feed back' to the cerebral concentration of spirit. For Bacon's concept of *universitas spiritus* see *De vijs mortis*, OFB 6, pp. 318–319, 342–343; *Abecedarium nouum naturae*, OFB 13, pp. 188–189; *Historia vitae & mortis*, OFB 12, pp. 304–305. Bernardino Telesio, *De rerum natura*, V, 12, 14 (ed. Luigi De Franco), vol. 2, Cosenza: Casa del Libro, 1971, pp. 274, 298–300. On Telesio's concept of *universitas spiritus* see Guido Giglioli, 'The first of the moderns or the last of the ancients? Bernardino Telesio on nature and sentience', *Bruniana et Campanelliana* (2010) 16, pp. 69–87, esp. 76–78.

137 Bacon, *Novum organum* (Book 1, aph. 127), OFB 11, pp. 190–191. Compare Hobbes's argument that mental motions 'have their causes in sense and imagination, which are the subject of *physical* contemplation'. Thomas Hobbes, *De Corpore* (Part 1, Chapter 6), in *The English Works of Thomas Hobbes of Malmesbury* (ed. Sir William Molesworth), 11 vols., London: J. Bohn, 1839–1845, vol. 1, pp. 72–73, emphasis in original. For Bacon's natural philosophical inquiry into 'mental motions' see also *De augmentis* (Book 3, Chapter 4 and Book 4, Chapter 3), SEH 1, pp. 561, 607 (Latin)/SEH 4, pp. 357, 398–399 (tr.); *Sylva sylvarum*, esp. century 10, SEH 2, pp. 640–672; *Catalogus historiarum particularium*, OFB 11, p. 481; *Filum labyrinthi sive inquisitio legitima de motu*, SEH 3, p. 640.

138 Bacon, *De augmentis* (Book 4, Chapter 3), SEH 1, p. 607 (Latin)/SEH 4, pp. 398–399 (tr.).

139 As I will discuss elsewhere (*Francis Bacon's Science of Magic*, in preparation), Fracastoro's *De sympathia et antipathia rerum* (1546) and *Turrius, sive de intellectione* contain a treasure trove of themes, topics, concepts and modes of argument that Bacon appropriates, including a strictly natural-philosophical psychology.

140 Spencer Pearce, 'Nature and supernature in the dialogues of Girolamo Fracastoro', *Sixteenth Century Journal* (1996) 27, pp. 111–132, 118.

of the intellect, in which Fracastoro argues that ‘the first deception occurs in the *phantasia*’.<sup>141</sup>

With the above background we can begin to understand how Bacon conceived of a physical basis for the conflict between the faculties of imagination and reason. Building on his theory of matter, Bacon treats the mental faculties as functional modalities of the vital spirit. He rejects the Galenic view that ‘the intellectual faculties (imagination, reason, and memory)’ reside in the ‘respective ventricles of the brain’ and thus are spatially separated from one another.<sup>142</sup> Rather, his position is similar to that of Huarte: ‘that all the powers are united in every severall ventricle [of the brain], and that the understanding is not solely in the one, nor the memory solely in the other, nor the imagination in the third ... but that this union of powers is accustomedly made in mans body’.<sup>143</sup> Bacon conceives of the cogitative power as a dynamic union of motions, and his interpretation of Pan’s dancing nymphs conveys the ceaseless energetic motion of spirit. The ‘mental motions’, like all Bacon’s motions of matter, compete with one another for ascendancy. In the *Novum organum* he likens this struggle among motions to a wrestling match, and Brian Vickers’s reference to ‘a constant *psychomachia*’ within the mind is therefore entirely apt.<sup>144</sup> Bacon views the mind as at war with itself – the mental faculties wrestle for dominance, with devastating consequences for natural inquiry. What happens to the ‘immediate informations of the sense’ depends on whether they come under the dominion of reason or of imagination, but since these faculties are motions of the one spirit, they are in constant competition with one another. Bacon considers the imagination to be the most powerful faculty, and for this reason he is deeply suspicious of it in certain contexts.<sup>145</sup> He recognizes its potential for good and for harm. In his treatment of rhetoric, for example, he discusses the ‘beneficent role’ of the imagination, as Vickers argues.<sup>146</sup> But in the pursuit of knowledge Bacon is adamant that the imagination is the ‘the Roote of all error’ and entirely

141 Fracastoro, *Turrius oder über das Erkennen/Turrius sive de intellectione*, 194 A (ed. and tr. Michaela Boenke), Munich: Wilhelm Fink Verlag, 2006, p. 172/(my tr.): ‘prima deceptio in phantasia fit’. For more on Fracastoro’s naturalistic account of mental operation see Spencer Pearce, ‘Intellect and organism in Fracastoro’s *Turrius*’, in C.E.G. Griffiths and R. Hastings (eds.), *The Cultural Heritage of the Italian Renaissance: Essays in Honour of T.G. Griffiths*, Lewiston, Queenston and Lampeter: Edwin Mellen Press, 1993, pp. 235–270, esp. 239; Pearce op. cit. (140), pp. 116–118; Michaela Boenke, *Körper, Spiritus, Geist: Psychologie vor Descartes*, Munich: Wilhelm Fink Verlag, 2005, pp. 74–119.

142 Bacon, *De augmentis* (Book 4, Chapter 1), SEH 1, p. 586 (Latin)/SEH 4, p. 378 (tr.).

143 Huarte, op. cit. (109), pp. 54–55, quoted in Wallace, op. cit. (85), p. 68.

144 Bacon, *Novum organum* (Book 2, aph. 48), OFB 11, pp. 382–417. Vickers, op. cit. (85), p. 220. Vickers is speaking here specifically of Bacon’s theory of rhetoric and the way in which ‘persuasion functions ... against the passions’, but the point applies more generally.

145 Similarly, in Cartesian psychology the imagination plays a central and fundamental role in mental life. See Dennis Sepper, *Descartes’s Imagination: Proportion, Images, and the Activity of Thinking*, Berkeley: University of California Press, 1996.

146 Vickers, op. cit. (85), p. 218. There is a tendency in the secondary literature to confuse Bacon’s comments about the role of the all-powerful imagination in different contexts – for example, magic, mathematics, natural philosophy, religion and rhetoric. In some contexts it is beneficial to fortify and exalt the imagination, while in others, such as philosophy, it must be restrained. For more on this contentious issue see the literature cited in n. 85 above.

pernicious.<sup>147</sup> Errors and delusions arise because the power of the imagination is such that it gets the upper hand and overpowers reason, with the result that all our speculations are 'mere madness'.

For Bacon, it is highly significant that the mental faculties are motions of spirit because it means that the mind's propensity for error has a material source in man's physical constitution and cannot simply be eliminated. The mind's tendency to leap from particulars to general axioms has its origins in the material spirit, which 'leaps according to the modulations of its thoughts'. The imagination, conceived as a modulation of the one spirit, cannot be excluded in any straightforward manner since it is part and parcel of our mental apparatus. The innate idols 'are rooted in the very nature of the intellect' because they have their origins in the motions of *spiritus*. Bacon's theory of idols and his views on the materiality of the mind are thus intimately connected, and this in turn has serious implications for his method. There is a common misunderstanding that, as John Dewey puts it, Bacon thought it possible simply 'to free the mind from these idols'.<sup>148</sup> Perez Zagorin, for example, holds that 'Bacon was convinced that the idols in all four categories had to be renounced and eliminated as far as possible in order to free the human understanding'.<sup>149</sup> Certainly Bacon saw the elimination of the idols as desirable, but he did not believe that the mind could be freed from something inherent to its physical nature.<sup>150</sup> On the contrary, his method aims to bind and constrain the mind's free and spontaneous movements.<sup>151</sup> He was utterly convinced that

147 This is why Bacon is so wary of mathematics. As he explains in the *De augmentis* (Book 3, Chapter 6), 'of all natural forms (such as I understand them) Quantity is the most abstracted and separable from matter', and thus mathematics panders to the flighty imagination. He observes that 'it being plainly the nature of the human mind, certainly to the extreme prejudice of knowledge, to delight in the open plains (as it were) of generalities rather than in the woods and inclosures of particulars, the mathematics of all other knowledge were the goodliest fields to satisfy that appetite for expatiation and meditation'. SEH 1, p. 576 (Latin)/SEH 4, p. 370 (tr.).

148 John Dewey, 'Factors and trends in the modern moral consciousness' (1932), in *Ethics, The Later Works of John Dewey*, vol. 7: 1925–1953: 1932, *Ethics* (ed. Jo Ann Boydston), Carbondale: Southern Illinois University Press, 2008, pp. 135–158, 145.

149 Perez Zagorin, 'Francis Bacon's concept of objectivity and the idols of the mind', *BJHS* (2001) 34, pp. 379–393, 389. Bacon says that only the idols of the theatre can be entirely eradicated (see n. 150 below). Zagorin (op. cit., p. 389 n. 46) adds in a footnote, 'The most that could be done with [the innate idols] ... was to point them out so that their insidious effect on the mind could be identified and overcome'. See also Murphy and Traninger, who argue in Kathryn Murphy and Anita Traninger (eds.), *The Emergence of Impartiality*, Leiden: Brill, 2014, p. 7, that 'Bacon's Idols are clearly intended to free the mind from bias and prejudice, and to establish a state of mind apt for the judgement of truth'.

150 See Bacon's clear statement in *Partis instaurationis secundae delineatio & argumentum*, SEH 3, p. 551 (my tr.) that even if someone were 'most willing to demand impartiality of himself, and forswear as it were every prejudice, nevertheless it is by no means proper on that account to have confidence in such a disposition of the mind. For no one commands his intellect by the choice of his own will'. See also *De augmentis* (Book 5, Chapter 4): only the idols of the theatre 'may be rejected and got rid of ... The others absolutely take possession of the mind, and cannot be wholly removed', SEH 1, p. 643 (Latin)/SEH 4, p. 431 (tr.).

151 As Paolo Rossi, *Philosophy, Technology, and the Arts in the Early Modern Era* (tr. S. Attanasio), New York: Harper and Row, 1970, p. 160, puts it, 'The products of the "free" mind are but "idols," namely ineffectual and arbitrary opinions', and 'only where the human mind forsakes its state of arbitrary freedom (i.e., the state of being "left to itself") will it be able to attain true knowledge of nature. Bacon's use of the language of binding was deliberate, signalling a contrast to the mind's free play and reminiscent

the mind, left to its own devices, could never arrive at true knowledge of nature. In fact, he often warns that the more intelligent a person is, the more likely they are to go astray.<sup>152</sup> When we understand the material source of the mind's tendency to error, we can appreciate the need for a radical solution, namely a new method of inquiry that leaves little to men's wits. The method was designed 'to curb all jumping and flying up'; in other words, to keep the capricious imagination out of philosophy.<sup>153</sup>

### People 'bewitched'

Having explained the 'corrupt complexion of the mind' in terms of the innate idols of the tribe and cave, Bacon goes on to consider how language and philosophical doctrine reinforce errors, thereby compounding the madness. In addition to the idols of the tribe and cave which are inherent in our physical constitution, he identifies idols of the market and theatre which enter from without. These 'extrinsic' idols are, however, just as devastating in their effects.<sup>154</sup> The idols of the market arise from the shared use of language. They are assimilated from infancy and become permanently lodged in the mind because they are the terms in which we think and reason. Like the idols of the tribe and cave, the idols of the market 'absolutely take possession of the mind, and cannot be wholly removed'.<sup>155</sup> The extrinsic idols of the theatre, by contrast, 'have migrated into the minds of men either from the dogmas and sects of the philosophers or from misguided laws of demonstration'.<sup>156</sup> This idol alone can be completely 'rejected and got rid of'.

From Bacon's perspective, the whole cultural sphere, including language, is polluted. The idols of the market derive from 'the tacit agreement of men concerning the imposition of words and names'.<sup>157</sup> They gradually steal into the mind from childhood on, because 'infants, when they learn to speak, are compelled to drink in and imbibe an

of a long-standing response to lunacy. For example, see *Distributio operis*, OFB 11, p. 28 (Latin)/(my tr.): 'For there an adversary is bound and constrained by disputation; here, by nature, by work' ('Illic enim aduersarius Disputatione vincitur & constringitur; hic Natura, Opere'). The verb *constringere* was used to refer to the binding of an insane person – in Roman law lunatics had to be restrained. Binding and constraining was also a favourite trope of Cicero's, e.g., *Tusc. Dis.*, Book 2, Chapter 21, sect. 48: 'If the part of the soul, which I have described as yielding, conducts itself disgracefully ... let it be fettered and tightly bound [*vinciatur et constringatur*] by the guardianship of friends and relations'. Cicero, *Tusculan Disputations* (tr. J.E. King), LCL 141, Cambridge, MA: Harvard University Press, 1927, pp. 202–203.

152 Bacon, *Novum organum* (Book 1, aph. 61), OFB 11, pp. 96–97. See also *Redargutio philosophiarum*, SEH 3, p. 572 (Latin)/PFB, 118 (tr.): 'the more intelligent a man is, if he too soon deserts the light of nature, that is to say, the enquiry into particulars and the evidence drawn therefrom, the more steeply does he plunge into the obscure and tortuous recesses and caverns of the imagination and the more difficult does he make it to get out'.

153 *Novum organum* (Book 1, aph. 104), OFB 11, pp. 162–163. See also Wallace, op. cit. (85), p. 162: 'Had the imagination no role in scientific discovery and in facilitating insight? It played no part'.

154 Bacon, *Distributio operis*, OFB 11, pp. 34–35.

155 Bacon, *De augmentis* (Book 5, Chapter 4), SEH 1, p. 643 (Latin)/SEH 4, p. 431 (tr.).

156 Bacon, *Distributio operis*, OFB 11, pp. 34–35.

157 Bacon, *De augmentis* (Book 5, Chapter 4), SEH 1, pp. 643, 645 (Latin)/SEH 4, pp. 431, 433 (tr.).

unfortunate cabala of errors'.<sup>158</sup> Words themselves are 'another source of illusion' which do 'violence to the human understanding'.<sup>159</sup> He explains that they derive

from the mutual agreement and association of the human race ... For men associate through conversation, but words are applied according to the capacity of ordinary people. Therefore shoddy and inept application of words lays siege to the intellect in wondrous ways. Nor do the definitions and explanations with which learned men have in some cases grown used to sheltering and defending themselves put things right in any way. Instead words clearly force themselves on the intellect, throw everything into turmoil, and side-track men into empty disputes, countless controversies and complete fictions.<sup>160</sup>

At the heart of Bacon's analysis is his claim that our notions 'are muddled, ill-defined, and rashly and roughly abstracted from things'.<sup>161</sup> Because the notions impulsively abstracted from things are confused, words bear no well-defined relation to reality. We have seen that the aim of inquiry is knowledge of 'the real dividing lines of nature', but the intellect, like 'an uneven mirror bends the rays of things according to its own shape and section'.<sup>162</sup> These false and illusory dividing lines then become more deeply etched in the mind because words are 'imposed according to common capacity, and divide things up on lines most obvious to the ordinary intellect'.<sup>163</sup> There is thus a close relation between the idols of the tribe and of the market. Words, Bacon says, 'are a kind of currency, which reflect vulgar opinions and preferences, for they combine and divide all things according to popular notions and acceptations, which for the most part are erroneous and thoroughly confused' owing to the meddling imagination.<sup>164</sup> We exchange this currency of words with our fellow human beings as if they signify something real in nature, when in fact the words merely signify conventional (faulty) notions. As he puts it in *The Advancement of Learning* (1605), they are nothing but 'the *Current Tokens or Markes of popular Notions of things*'.<sup>165</sup> It follows that if the notions are vague and ill-defined, then so too are the words we assign to them.

Bacon says that the idols of the market 'are the greatest nuisances of the lot' because they are extremely difficult to dislodge once they have dug themselves in. We cannot simply move illusory dividing lines 'the better to match them to nature'; words, according to Bacon, 'turn and bend *their* power back upon the intellect'.<sup>166</sup> He likens the rebellion of words against reason to a Tartar's bow because the Tartar horsemen could fire their arrows behind them. 'The juggleries and enchantments of words', he writes, 'will in many ways seduce and forcibly disturb the judgement, and (after the manner of the

158 Bacon, *Cogitata et visa*, SEH 3, p. 599 (Latin)/(my tr.): 'ut etiam infantes cum loqui discant, infoelicem errorum cabalam haurire et imbibere cogantur'.

159 Bacon, *Cogitata et visa*, SEH 3, p. 599 (Latin)/PFB, p. 80 (tr.).

160 Bacon, *Novum organum* (Book 1, aph. 43), OFB 11, pp. 80–81.

161 Bacon, *Novum organum* (Book 1, aph. 60), OFB 11, pp. 92–95 (tr. modified).

162 Bacon, *Distributio operis*, OFB 11, pp. 34–35.

163 Bacon, *Novum organum* (Book 1, aph. 59), OFB 11, pp. 92–93.

164 Bacon, *Cogitata et visa*, SEH 3, p. 599 (Latin)/PFB, pp. 80–81 (tr. modified).

165 Bacon, *Advancement of Learning*, OFB 4, p. 110.

166 Bacon, *Novum organum* (Book 1, aph. 59), OFB 11, pp. 92–93, emphasis in original.

Tartar bowmen) shoot back at the understanding from which they proceeded'.<sup>167</sup> Like the Tartar arrows, words 'cast their rays, or stamp their impressions, on the mind itself'.<sup>168</sup> The idols of the market further entrench existing errors and introduce new ones. Bacon therefore concludes that 'this defect of language must be reckoned a serious and dangerous one'.<sup>169</sup>

This leaves the idols of the theatre, which are 'superinduced by corrupt theories or systems of philosophy, and false laws of demonstration'.<sup>170</sup> This is the only class of idol that can be entirely removed. In the *Novum organum* Bacon summarily dismisses all existing philosophies on the ground that since they are products of the imagination, they are all fictions:

the philosophies received and discovered are so many stories made up and acted out, stories which have created sham worlds worthy of the stage ... Nor ... do I mean this only of entire philosophies but also of the many principles and axioms of the sciences which have drawn their strength from tradition, credulity and carelessness.<sup>171</sup>

The received philosophies are stories, not philosophy, because they result from the free play of the imagination rather than the work of reason. Under the influence of their imaginations, philosophers have created 'sham worlds' and shunned the real world. Hence Bacon approves of Heraclitus' saying that men have 'looked for the sciences in their own little worlds and not in the big wide world that is common to all'.<sup>172</sup> As things stand, people are unaware that their minds are 'bewitched' by all manner of fictions and illusions, as 'ghosts' and 'phantasms'.<sup>173</sup> However, he insists that when minds are put in touch with reality, then that 'subtlety of disputations and of words' which has captivated men's thoughts will be revealed 'as a thing of play and a kind of spectre and enchantment'.<sup>174</sup> Thus Rawley commented in his prefatory letter to the posthumous *Sylva sylvarum* that Bacon sought a way 'to unloose men's minds, being bound, and, as it were, maleficate, by the charms of deceiving notions and theories'.<sup>175</sup>

In the context of discussing illusory philosophies, Bacon also highlights the deep-seated connection between imagination, pride and madness. He uses the term 'idol' in

167 Bacon, *De augmentis* (Book 5, Chapter 4), SEH 1, p. 646 (Latin)/SEH 4, p. 434 (tr. modified). See also *Advancement of Learning*, OFB 4, p. 117. On the Tartar horsemen see Kiernan, 'Commentary', OFB 4, p. 311.

168 The notion that words can radiate power is found in al-Kindi's *De radiis* and was later taken up by Roger Bacon. See David C. Lindberg (ed. and tr.), *Roger Bacon's Philosophy of Nature: A Critical Edition, with English Translation, Introduction, and Notes, of 'De multiplicatione specierum' and 'De speculis comburentibus'*, Oxford: Clarendon Press, 1983, p. xlv.

169 Bacon, *Cogitata et visa*, SEH 3, p. 599 (Latin)/PFB, p. 81 (tr.).

170 Bacon, *De augmentis* (Book 5, Chapter 4), SEH 1, p. 643 (Latin)/SEH 4, p. 431 (tr.).

171 Bacon, *Novum organum* (Book 1, aph. 44), OFB 11, pp. 80–83.

172 Bacon, *Novum organum* (Book 1, aph. 42), OFB 11, pp. 80–81. See n. 3 above.

173 For the idea that people are bewitched see Bacon, *De interpretatione naturae sententiae xii*, SEH 3, p. 786; *Novum organum* (Book 1, aph. 84), OFB 11, pp. 132–133; *Parasceue ad historiam naturalem*, OFB 11, pp. 462–463. For *larva* and *umbra* see, for example, *Descriptio globi intellectualis*, OFB 6, p. 104; *Phaenomena universi*, OFB 6, p. 2; *Novum organum* (Book 2, aph. 35), OFB 11, p. 310.

174 Bacon, *Redargutio philosophiarum*, SEH 3, p. 583 (Latin)/PFB, p. 130 (my tr.).

175 William Rawley's letter 'To The Reader' appended to *Sylva sylvarum*, SEH 2, p. 335. See also Bacon, *Parasceue ad historiam naturalem*, OFB 11, pp. 452–453.

part because of its immediate association with cultic worship. With good reason, Michèle Le Doeuff urges us not to lose sight of the 'cultic dimension' of the idols whereby they are venerated and apotheosized.<sup>176</sup> They are neither straightforward fallacies nor the mere appearances of things; their referents have become the objects of worship and fanatical devotion. The allusion to idolatry indicates the superstitious worship of false gods and the demeaning and dishonouring of the true God. The Baconian idols divert attention from the truth, not about God but about nature. Bacon identifies a human tendency to self-deification, and he argues that pride 'has brought men to such a pitch of madness [*dementiae*] that they prefer to commune with their own spirits rather than with the spirit of nature'.<sup>177</sup> He observes that 'in inquisition of nature they have ever left the oracles of God's works, and adored the deceiving and deformed imagery which the unequal mirrors of their own minds have represented unto them'.<sup>178</sup>

Plato is subjected to scathing criticism on the ground that his philosophy displays the worst excesses of contemplative thinking. Platonism is an imaginary system that inflates self-importance and induces pride. Behind the pride that refuses to grapple with natural phenomena 'stands another exalted but deceitful view, from which it draws its force, to wit, the doctrine that truth is the native inhabitant of the human mind, not something that comes into it from outside'. According to Bacon, the 'true name' of this error is the 'alienation of the mind' (*alienatio mentis*); it is 'an aberration of mind, loss of reason, delirium'.<sup>179</sup> When Plato 'lyingly said that truth dwelt in the human mind as a native and not a migrant from elsewhere', and taught men 'in the name of contemplation to wallow in their own blind and most confused idols', he 'committed a capital fraud'.<sup>180</sup> This 'divorce from particulars' is the ruination of philosophy, and Bacon describes it as among 'the darkest idols of the mind'.<sup>181</sup> More dangerous still, Plato fortified his philosophy with religion, 'For the worst thing is the *Apotheosis* of error; and, when reverence sides with rubbish, we should regard it as a plague on the intellect'.<sup>182</sup> Human

176 Michèle Le Doeuff, 'Hope in science', in William A. Sessions (ed.), *Francis Bacon's Legacy of Texts: The Art of Discovery Grows with Discovery*, New York: AMS Press, 1990, pp. 9–24, 15. See also Dana Jalobeanu, 'Idolatry, natural history and spiritual medicine: Francis Bacon and the neo-Stoic Protestantism of the late sixteenth century', *Perspectives on Science* (2012) 21, pp. 207–226.

177 Bacon, *Redargutio philosophiarum*, SEH 3, p. 574 (Latin)/PFB, p. 120 (tr.).

178 Bacon, *Valerius Terminus*, SEH 3, p. 224.

179 Bacon, *Cogitata et visa*, SEH 3, p. 600 (Latin)/PFB, p. 82 (tr.). This is the definition of *alienatio mentis* as it is used in medical language. See Charleton T. Lewis and Charles Short, *A Latin Dictionary*, Oxford: Clarendon Press, 1879, reprinted 1966, p. 84. For examples see Celsus, *De medicina*, Book 4, Chapter 2, in *On Medicine*, vol. 1: *Books 1–4* (tr. W.G. Spencer), LCL 292, Cambridge, MA: Harvard University Press, 1935, pp. 362–363; Caelius Aurelianus, *De morbis chronicis*, Book 1, Chapter 5, in *Caelius Aurelianus: On Acute and on Chronic Diseases* (ed. and tr. I. Drabkin), Chicago: The University of Chicago Press, 1950, pp. 534–535.

180 Bacon, *Temporis partus masculus*, SEH 3, pp. 530–531 (Latin)/(my tr.): 'Verum cum veritatem humanae mentis incolam veluti indigenam nec aliunde commigrantem mentireris, animosque nostros, ad historiam et res ipsas nunquam satis applicatos et reductos, averteres, ac se subingredi, ac in suis caecis et confusissimis idolis volutare contemplationis nomine doceres, tum demum fraudem capitalem admisisti'.

181 Bacon, *Cogitata et visa*, SEH 3, p. 601 (Latin)/PFB, p. 82 (tr.).

182 Bacon, *Novum organum* (Book 1, aph. 65), OFB 11, pp. 102–103. See also *Temporis partus masculus*, SEH 3, p. 531; *Descriptio globi intellectualis*, OFB 6, pp. 132–133.

pride in the inherent divinity of the intellect has ‘ruined all by conferring the title sacred on certain fleeting meditations instead of reserving it for the divine signature on things’.<sup>183</sup> Platonic contemplation is nothing but a communing with one’s own spirits; it is a form of primitive divination based on an unreal sense of our innate divinity. So, despite his induction and concern for forms, Plato is more a poet than a philosopher, and he contaminates philosophy with theology.<sup>184</sup> No wonder that in the preface to the *Novum organum*, Bacon castigates those who ‘have done terrible damage to philosophy and the sciences’ through excessive pride or overconfidence.<sup>185</sup> The intersection of philosophical nonsense and hubristic pride is the height of folly. He describes in highly uncomplimentary terms how ‘men flatter themselves and fall over each other in their admiration, or adoration almost, for the human mind’.<sup>186</sup> Although the root cause of error is the hyperactive imagination, ‘the real truth’, he declares, ‘is that the obstacle to the course I propose lies not in its obscurity or its difficulty, but in human pride’.<sup>187</sup>

It remains to consider Bacon’s refutation of syllogistic demonstration, a form of reasoning which, he argues, can only manipulate what is already known and thus serves merely to reinforce existing errors. The ‘evil’ disposition of the intellect to leap ‘is made worse by dialectic used for the sake of ostentatious disputations’.<sup>188</sup> He describes ‘depraved demonstrations’ as ‘like the castles and strongholds of the *Idols*’ and maintains that ‘those which we have in dialectic work so as virtually to enslave and surrender the world to human thought, and human thought to words’.<sup>189</sup> Bacon’s dislike of syllogistic reasoning derives from his belief that men’s notions are confused because they are rashly abstracted from sense impressions. He exposes syllogistic demonstration as a ‘sleight of hand’, pointing out that

the syllogism is made up of propositions, propositions of words, and words are the tokens and signs of notions. Thus, if the very notions of the mind (which are as the soul of words and the basis of this whole fabric and structure) are ineptly and recklessly abstracted from things, and vague, insufficiently delimited and circumscribed, and indeed rotten in many ways, everything collapses.<sup>190</sup>

Syllogistic demonstration can only lead to knowledge if the notions are true, since notions are the foundation of all syllogizing. If the notions themselves are confused abstractions, then the words are ill-defined and misleading with regard to reality, and the propositions which are made out of words are faulty and illusory. The maxim ‘garbage in, garbage out’ encapsulates Bacon’s critique of the syllogism. Because syllogistic demonstrations build on popular notions, they lack a solid foundation and construct nothing but castles in the air. Hence Bacon says of dialectic that

183 Bacon, *Redargutio philosophiarum*, SEH 3, p. 585 (Latin)/PFB, p. 133 (tr.).

184 Bacon, *Cogitata et visa*, SEH 3, pp. 601–602 (Latin)/PFB, p. 83 (tr.).

185 Bacon, *Novum organum* (Preface), OFB 11, pp. 52–53.

186 Bacon, *Distributio operis*, OFB 11, pp. 34–35.

187 Bacon, *Redargutio philosophiarum*, SEH 3, p. 574 (Latin)/PFB, p. 120 (tr.).

188 Bacon, *Novum organum* (Book 1, aph. 20), OFB 11, pp. 70–71.

189 Bacon, *Novum organum* (Book 1, aph. 69), OFB 11, pp. 108–109.

190 Bacon, *Distributio operis*, OFB 11, pp. 30–31. See also *De augmentis* (Book 5, Chapter 2), SEH 1, p. 621 (Latin)/SEH 4, p. 411 (tr.).



this remedy comes too late to a cause already lost once the mind has been invaded by the habits, hearsay and depraved doctrines of daily life, and beset by the emptiest of *Idols*. Thus ... the art of dialectic bolts the stable door too late and cannot recapture the horse, and does more to entrench errors than to reveal the truth.<sup>191</sup>

'The deliberations of a syllogism are', as Stanley Fish points out, 'defensive rather than exploratory; it is committed from the beginning to something that is assumed to be true ... and will admit evidence only in support of it'.<sup>192</sup> Given that our notions are confused, and given that everything which follows the arrival at a notion is therefore wrong, syllogism cannot put things right. In Bacon's view, the syllogism 'has done more to establish and shore up errors than open the way to truth' since it relies on notions which are themselves a product of the mind's erratic sallies.<sup>193</sup> This is the thinking behind Bacon's bold claim in his introductory address to the *Novum organum* that 'there never was the slightest hope that the errors which have flourished and will forever flourish would (if the mind were left to itself) put themselves right one after another either by native force of intellect or the help and support of dialectic'.<sup>194</sup> It is also the reason why he says that Aristotle 'composed a kind of art of madness and enslaved us to words'.<sup>195</sup> In the case of the syllogism, 'the medicine just cannot cope with the disease, and is not even free of disease itself'.<sup>196</sup> Bacon sees that words, theories, pride and syllogistic reasoning exacerbate errors arising from the interference of the imagination. Hence he proclaims that the Instauration 'is really a lawful end and termination of limitless error'.<sup>197</sup>

### The 'machine of the intellect'

In the *Novum organum*, Bacon uses a striking analogy to convey the present condition of universal madness:

let us stop briefly and look at this example as in a mirror: let us suppose (if you will) that some gigantic obelisk had to be moved to grace a triumph or some such splendid occasion, and men set about the task with their bare hands, would not a disinterested bystander regard that as an act of complete madness? And madder still if they upped the number of workers, and expected that to do the trick? And would he not declare that they were yet more insane if they went on to sort the weak from the strong and vigorous, and only use the latter, and expected to achieve their aim in that way? And would he not exclaim that they were only labouring to show that there was method in their madness if, not content with their progress, they appealed last of all to the art of gymnastics and called up men with their hands, arms and sinews well oiled and medicated as that art prescribed? Yet in intellectual matters men are driven by much the same mad impulse and uselessly concerted efforts when they hope for great things from the massed ranks and concurrence of minds or from their excellence and acuity, or when they strengthen the sinews of the mind with dialectic (which may be seen as a type of

191 Bacon, *Novum organum* (Preface), OFB 11, pp. 52–55.

192 Fish, *op. cit.* (47), p. 152.

193 Bacon, Preface to the *Instauratio magna*, OFB 11, pp. 18–19.

194 Bacon, *Instauratio magna* preliminaries, OFB 11, pp. 2–3.

195 Bacon, *Temporis partus masculus*, SEH 3, p. 530 (Latin)/(my tr.): 'artemque quandam insaniae componere, nosque verbis addicere'.

196 Bacon, Preface to the *Instauratio magna*, OFB 11, pp. 18–19.

197 Bacon, Preface to the *Instauratio magna*, OFB 11, pp. 24–25.

mental gymnastics). But meanwhile (if you reckon it right) they do not leave off using the naked intellect however much attention and effort they expend.<sup>198</sup>

Since the mad are oblivious to their pathological condition, the obelisk image invites the reader to take a step back and observe the current situation from the perspective of a spectator. In Bacon's view, 'the frail and crippled faculty of human intellect' is simply not up to the task of inquiry, and to attempt to solve this problem by collaborative efforts, superior intellects or 'mental gymnastics' in the form of dialectic only adds to the madness.<sup>199</sup> Having pointed out the prevailing madness in the preface to the *Novum organum*, he proceeds in Book 1 to present the theory of idols, which explains how and why this situation has come about. His doctrine of error reveals that 'the naked intellect' lacks the capacity to penetrate nature's hidden depths, and the current antics of philosophers only compound the problem.

One might expect that Bacon's doctrine of error would lead to pessimism and despair, but he regards it as a source of optimism and hope. Although 'the intellect left to itself and running free' can never provide a true reflection of reality, his new method of inquiry offers an alternative to the free and spontaneous mind.<sup>200</sup> His diagnosis of the causes of madness leads him to conclude that, as he puts it, 'There remains but one way to health and sanity: to do the whole work of the mind all over again, and from the very outset the mind should not be left to itself but be constantly controlled, and the business done as though by machines'.<sup>201</sup> When we understand Bacon's doctrine of error, we can understand the thinking behind his new method or 'machine of the intellect'.<sup>202</sup> He is committed to the notion that mental functioning can be indefinitely improved by a kind of methodological segregation of the faculties. Although the idols of the tribe and cave are innate and cannot be eliminated, they can be circumvented. He achieves this by outsourcing aspects of sense, memory and reason, the first in the natural and experimental history, the second in the tabularizing of instances, and the third in the process which he calls 'legitimate *Induction*'. These constitute his 'three ministrations: the ministration to sense, the ministration to memory, and the ministration to mind or reason', which he conceives as an alternative to the unaided intellect.<sup>203</sup>

Briefly, the method entails that sense data from the natural and experimental history are registered in ordered tables of discovery. Whereas the unassisted mind is bewildered and distracted by a dizzying array of phenomenal experiences, the tables present sense data 'marshalled in such a way that the intellect can get to work on them'.<sup>204</sup> The

198 Bacon, *Novum organum* (Preface), OFB 11, pp. 54–55 (tr. modified). An earlier version of this passage may be found in *Redargutio philosophiarum*, SEH 3, p. 581 (Latin)/PFB, p. 128 (tr.). For a discussion of the obelisk analogy see Rees, 'Introduction', OFB 11, p. li.

199 Bacon, *Phaenomena universi*, OFB 6, pp. 4–6.

200 Bacon, *Novum organum* (Book 2, aph. 10), OFB 11, pp. 214–215.

201 Bacon, *Novum organum* (Preface), OFB 11, p. 54/(my tr.): 'Restat vnica salus, ac sanitas, vt opus Mentis vniuersum de integro resumatur; ac Mens, iam ab ipso principio, nullo modo sibi permittatur, sed perpetuo regatur; ac res, veluti per machinas, conficiatur'.

202 Bacon, *Abecedarium nouum naturae*, OFB 13, pp. 172–173; *Inquisitio legitima de motu in Commentarius solutus* (copied 27 July 1608), SEH 3, p. 625.

203 Bacon, *Novum organum* (Book 2, aph. 10), OFB 11, pp. 214–217.

204 Bacon, *Novum organum* (Book 2, aph. 10), OFB 11, pp. 214–215.

mind is prevented from 'running free' and forced to 'buckle down to the organised assistance made ready by these tables'.<sup>205</sup> Thus the tables keep the mind bound to reality so that it cannot 'bounce and fly up from particulars to remote and almost the most general axioms'.<sup>206</sup> During the inductive phase of inquiry, the tables of presence, absence and degree deal with abstract impressions (themselves derived from sense impressions immediately received from individual objects of sense). What remains is the judgement of presence or absence of the targeted quality and the subsequent cautious exercise of the intellect in devising encompassing axioms – immediately put to the test by experiment. Bacon's eliminative induction performs the work of reason: composition and division take place 'according to the very evidence of things, and according as they truly reveal themselves in nature'. Hence while the *Novum organum* aims 'to expound the doctrine of improving and perfecting the use of reason in the investigation of things', it does so by exteriorizing the function of reason in the form of tables of comparison, thus excluding definitively any interference by imagination in the processing of the relevant data.<sup>207</sup>

We can now see what Bacon means when he says, 'Men are very far from realising how strict and disciplined a thing is research into truth and nature, and how little it leaves to the judgment of men'.<sup>208</sup> Bacon's intellectual machine effectively takes over the work of the mind.<sup>209</sup> As he writes in the *Novum organum*, his plan is 'to reject for the most part the work of the mind that follows upon sense; in fact I mean to open up and lay down a new and certain pathway from the perceptions of the senses themselves to the mind'.<sup>210</sup> The Baconian method provides an alternative external pathway from sense perceptions to the mind so that the intellect can be 'governed and guarded' at all times.<sup>211</sup> Henceforth philosophy will not depend 'only or mainly on the powers of the mind'.<sup>212</sup> Bacon knew, however, that this was hardly an enticing

205 Bacon, *Novum organum* (Book 1, aph. 102, Book 2, aph. 10), OFB 11, pp. 160–161, 214–215.

206 Bacon, *Novum organum* (Book 1, aph. 104), OFB 11, pp. 160–161. This aspect of the method was well understood by Glanvill, who writes that 'the main *intendment*' of the Royal Society was 'to erect a well-grounded *Natural History*, which takes off the *heats of wanton Phansie*, hinders its *extravagant excursions*, and ties it down to *sober Realities*'. Joseph Glanvill, *Plus Ultra, or, The Progress and Advancement of Knowledge since the Days of Aristotle*, London: Printed for James Collins, 1668, pp. 89–90.

207 Bacon, *Distributio operis*, OFB 11, pp. 28–29. This vindicates Wallace's claims that neither imagination nor reason plays any functional role in the *Novum organum*: 'another omission [in addition to the faculty of imagination] is striking. Bacon excludes mention of the reason from the *Novum Organum*. Had reason as a faculty no specific role in scientific invention? Seemingly not'. Wallace, *op. cit.* (85), p. 163. Similarly, Briggs, *op. cit.* (55), p. 9, maintains that 'the inductive method is a machine that displaces the faculty of choice'.

208 Bacon, *Redargutio philosophiarum*, SEH 3, p. 573 (Latin)/PFB, p. 119 (tr.).

209 This is the meaning of Bacon's well-known claim that his method 'almost levels men's wits [*exaequat fere ingenia*]'. It effectively disables the mind's spontaneous movements, outsourcing its work to a machine which promises to do a far superior job, so that 'little be left to sharpness and force of wits, but that wits and intellects be put on much the same footing'. *Novum organum* (Book 1, aphs. 61, 122), OFB 11, pp. 96–97, 184/(my tr.). As Rhodri Lewis, 'Francis Bacon and ingenuity', *Renaissance Quarterly* (2014) 67, pp. 113–163, 153–154, argues, 'Bacon never viewed the exercise of *ingenium* as an end in itself or believed that it had a role to play in logical inquiry'.

210 Bacon, *Novum organum* (Preface), OFB 11, pp. 52–53.

211 Bacon, *Novum organum* (Book 2, aph. 10), OFB 11, pp. 214–215.

212 Bacon, *Novum organum* (Book 1, aph. 95), OFB 11, pp. 152–153.

prospect since it required people to surrender their freedom to speculate.<sup>213</sup> People would only be willing to subject their minds to ‘harsh laws and severe discipline’ if they understood the causes of error and its devastating consequences. His diagnosis of universal madness, which he traced to the unbridled imagination, was to act as a wake-up call. He hoped that men would cease to ‘mistakenly admire and magnify the powers of the human mind’ and instead accept ‘true helps’ in the form of his new method.<sup>214</sup> Only then, when the mind’s contact with reality was restored, would madness finally give way to sanity.

### John Locke on universal madness

Understanding Bacon’s diagnosis of madness and its causes is important both because he conceived of his method as an antidote to insanity and because this feature of his thinking seems to have made a considerable impact on later philosophers. Neil Wood and Peter Anstey argue that Bacon had a significant influence on Locke’s thinking.<sup>215</sup> Anstey notes that ‘after Boyle, Bacon was the best represented writer in natural philosophy in Locke’s library’, and Locke ranked Bacon among the ‘great discoverers of truth, and advancers of knowledge’.<sup>216</sup> Locke’s views on the subject of madness were extremely influential, but his debt to Bacon deserves further investigation.<sup>217</sup> Such an inquiry promises to advance our understanding of the relationship between Locke’s doctrine of error and what Roy Porter terms ‘a massively influential theory of madness’, which he suggests Locke may possibly have formulated ‘by way of afterthought’.<sup>218</sup> However, when viewed in the light of Bacon’s diagnosis of universal madness, the essential connection between Locke’s theory of error and his ideas on madness can be clearly discerned. Like Bacon, Locke sought to ‘trace this sort of Madness to the root it springs from, and so explain it, as to shew whence this flaw has its Original in very sober and

213 Bacon acknowledges ‘the Naturall hatred of the minde against necessity and Constraint’. *Advancement of Learning*, OFB 4, p. 152.

214 Bacon, *Novum organum* (Book 1, aph. 9), OFB 11, pp. 66–67.

215 Neal Wood, ‘The Baconian character of Locke’s “Essay”’, *Studies in History and Philosophy of Science* (1975) 6, pp. 43–84, 82: ‘the evidence is compelling that Locke is a Baconian, and that the *Essay concerning Human Understanding* is fundamentally Baconian, whether directly or indirectly derivative’. See also Peter R. Anstey, ‘Locke, Bacon, and natural history’, *Early Science and Medicine* (2002) 7, pp. 65–92.

216 Peter R. Anstey, *John Locke and Natural Philosophy*, Oxford: Oxford University Press, 2011, p. 49. John Locke, ‘Mr. Locke’s Reply to the Right Reverend the Lord Bishop of Worcester’s Answer to his Second Letter’, in *The Works of John Locke*, 10 vols, 12th edn, London: Thomas Tegg, 1823, vol. 4, pp. 402–403.

217 On the general influence of Locke’s ideas see, for example, John W. Yolton, *The Locke Reader: Selections from the Works of John Locke with a General Introduction and Commentary*, Cambridge: Cambridge University Press, 1977, pp. 8–9; Roy Porter, *Enlightenment: Britain and the Creation of the Modern World*, London: Allen Lane, 2000, p. 62. On madness specifically see Porter, *Mind-Forg’d Manacles: A History of Madness in England from the Restoration to the Regency*, Cambridge, MA: Harvard University Press, 1987, p. 191, who remarks that ‘Locke’s formulations [on madness] proved extraordinarily influential throughout the eighteenth century’; James Whitehead, *Madness and the Romantic Poet: A Critical History*, Oxford: Oxford University Press, 2017, pp. 79–81.

218 Porter, *Mind-Forg’d Manacles*, op. cit. (217), p. 190.

rational Minds, and wherein it consists'.<sup>219</sup> He regards madness as a condition that 'universally infects Mankind', and while he acknowledges that it may seem 'harsh' to use the term '*Madness*', he insists that 'opposition to Reason deserves that Name, and is really Madness'.<sup>220</sup> Locke, as Louis Charland observes, maintains that 'we must be forthright about the universal presence of, and propensity for, madness in the general population, if we are to arrive at a true account of its nature and fully understand its "Roots"'.<sup>221</sup>

In a well-known passage in *An Essay Concerning Human Understanding* (1689), Locke describes madness in terms that echo Bacon:

*mad Men* ... do not appear to me to have lost the Faculty of Reasoning; but having joined together some *Ideas* very wrongly, they mistake them for Truths; and they err as Men do, that argue right from wrong Principles. For by the violence of their Imaginations, having taken their Fancies for Realities, they make right deductions from them.<sup>222</sup>

Locke considered the imagination to be the most powerful mental faculty and he identified it as the source of madness, writing in his journal years earlier that 'Madnesse seemes to be noething but a disorder in the imagination, and not in the discursive faculty'.<sup>223</sup> Locke notes that when the imagination works on ideas stored in the memory, it 'joyne[s] severall Ideas together which we never observed to exist together'. Thus he recognizes the power of the imagination to alter ideas in the memory: 'the imagination, not being tied to any pattern', has the freedom to add 'what colours, what Ideas it pleases'. Madness results because the mind mistakes those ideas 'supplied only by the phansy' for 'those Ideas which come immediately by the senses from externall objects soe that the minde takes one for tother[,] its own imaginations for reality'.<sup>224</sup> This bears a striking resemblance to Bacon's view that the root cause of madness and error is the deceptive power of the imagination that 'intermixes its own nature with the nature of things'. People mistakenly think that the mind provides a true reflection of reality, when in fact the image is distorted because the imagination 'exceeds the measure of nature, joining at pleasure things which in nature would never have come together'. Furthermore, scholars have drawn attention to the fact that Locke was a physician as well as a philosopher and was therefore interested in the physiology of the brain and the functions of animal spirits. Jess Keiser argues that, for Locke, 'the root of

219 John Locke, *An Essay Concerning Human Understanding* (1689), Book 2, Chapter 33, Section 3 (ed. Peter H. Nidditch), Oxford: Clarendon Press, 1975, p. 395.

220 Locke, op. cit. (219), Book 2, Chapter 33, Section 4, p. 395. Louis C. Charland, 'John Locke on madness: redressing the intellectualist bias', *History of Psychiatry* (2014) 25, pp. 137–153, 142, remarks that Locke 'is obviously concerned with the fact that describing persons whose thinking only opposes reason to a minimal degree as "mad" rings of hyperbole and risks causing serious prejudice'.

221 Charland, op. cit. (220), p. 142.

222 Locke, op. cit. (219), Book 2, Chapter 11, Section 13, p. 161.

223 Locke, *Journal*, 5 November 1677, in John Locke (1632–1704), *Physician and Philosopher: A Medical Biography; With an Edition of the Medical Notes in His Journals* (ed. Kenneth Dewhurst), London: Wellcome Historical Medical Library, 1963, p. 89. See also Charland, op. cit. (220), p. 143. Compare Locke's comment that the imagination 'usurps the dominion over all the other facultys of the minde' with Bacon's claim that imagination can 'usurp' reason's authority in its rightful domain. Locke, *Journal*, 22 January 1678, p. 101.

224 Locke, *Journal*, 22 January 1678, in John Locke, op. cit. (223), p. 101.

madness could be located in the body and brain. More specifically, Locke contended that madness's propensity to both blind and confuse the understanding was a result of animal spirits carving smooth pathways into the corporeal mind'.<sup>225</sup>

Nor do the similarities end here. Locke also says that the mad 'argue right from wrong Principles'; that is, they reason correctly from false premises, 'having taken their Fancies for Realities'. To illustrate this point, he invites us to consider the following case: 'you shall find a distracted Man fancying himself a King, with a right inference, require suitable Attendance, Respect, and Obedience'.<sup>226</sup> In other words, a man who falsely believes he is a king may reason correctly from that false premise that he ought to be treated as a king, and thus arrive at a false conclusion. We have seen that Bacon makes a similar point when he discusses how syllogistic reasoning serves only to entrench error. He rejects syllogistic demonstrations not on the ground that they do not work, but rather on the ground that since our notions are confused, everything that follows the arrival at a notion is wrong, and so syllogism cannot put things right. In Bacon's terms, dialectic 'comes too late to a cause already lost' because the syllogism merely builds on faulty notions, but cannot challenge them nor discover anything new. In *Of the Conduct of the Understanding* (published posthumously in 1706) Locke praises Bacon for recognizing that traditional logic 'has done more to establish and shore up errors than open the way to truth'.<sup>227</sup> He too argues that '*Syllogism*, at best, is but the Art of fencing with the little Knowledge we have, without making any Addition to it'.<sup>228</sup> Like Bacon, he points out that it is perfectly possible to reason correctly from false beliefs, but that all that follows will also be false. Consequently, as Charland puts it, 'the delusions – wrong, or false beliefs – of the mad often have a fixed, permanent, character, and are not easily dislodged by reasoning or other means'.<sup>229</sup> For this reason, Locke says it is important 'to take care that the first impressions we settle upon our minds be conformable to the truth and to the nature of things, or else all our meditations and discourse there upon will be noe thing but perfect raveing'.<sup>230</sup> The solution for Locke, as for Bacon, is not syllogism but 'haveing often recourse to ones memory and tying downe the minde strictly to the recollecting things past precisely as they were', which 'may be a meanes to check those extravagant or turning flights of the imagination'.<sup>231</sup> Furthermore, just as Bacon says that the idols of the cave 'originate from the peculiar nature of the individual, both body and soul, as well as from education, custom and accident', Locke holds that the 'wrong Connexion in our Minds of *Ideas*' becomes 'cemented' through 'Education',

225 Jess Keiser, 'What's the matter with madness? John Locke, the association of ideas, and the physiology of thought', in Chris Mounsey (ed.), *The Idea of Disability in the Eighteenth Century*, Lewisburg: Bucknell University Press, 2014, pp. 49–70, 49. See Locke's comments on the 'Trains of Motion in the Animal Spirits', Locke, op. cit. (219), Book 2, Chapter 33, Section 6, p. 396.

226 Locke, op. cit. (219), Book 2, Chapter 11, Section 13, p. 161.

227 John Locke, *Of the Conduct of the Understanding*, 5th edn (ed. Thomas Fowler), Oxford: Clarendon Press, 1901, p. 4; quoting Bacon, Preface to the *Instauratio magna*, OFB 11, pp. 18–19.

228 Locke, op. cit. (219), Book 4, Chapter 17, Section 6, p. 679.

229 Charland, op. cit. (220), p. 144.

230 Locke, *Journal*, 5 November 1677, in Locke, op. cit. (223), p. 89. Compare with Bacon, 'all our choice meditations, speculations and controversies are mere madness'.

231 Locke, *Journal*, 22 January 1678, in Locke, op. cit. (223), p. 101.

'Custom' and 'Chance'.<sup>232</sup> And in the same way that Bacon's idols of the market highlight the deceptive power of words that merely reflect '*popular Notions of things*', Locke argues, 'If we consider, in the Fallacies, Men put upon themselves, as well as others, and the Mistakes in Men's Disputes and Notions, how great a part is owing to Words, and their uncertain or mistaken Significations, we shall have reason to think this is no small obstacle in the way to Knowledge'.<sup>233</sup>

In short, Locke appears to have been heavily influenced by Bacon's ideas about madness and error. The analysis presented here supports Wood's claim that 'much of Locke's account of the sources of error of the human understanding seems to have been inspired by Bacon's doctrine of the idols'.<sup>234</sup> Locke embraced key features of Bacon's doctrine of error, including his view that universal madness was an immediate consequence of the unruly imagination. Moreover, like Bacon, he understood that calling attention to madness was a necessary step towards finding a remedy. In Locke's terms, 'if this [madness] be a Taint which so universally infects Mankind, the greater care should be taken to lay it open under its due Name, thereby to excite the greater care in its Prevention and Cure'.<sup>235</sup>

A focus on Bacon's diagnosis of universal cultural insanity allows us to appreciate the ruthless, radical daring of his doctrine of the four idols. His comprehensively destructive critique of contemporary learning is a razing of the ground preparatory to a new beginning. Understanding the disabling impact of the idols in the inner and outer worlds allowed Bacon to devise a method to countermand or outflank the effect of the idols as much as possible and remove the taint of imaginative contagion from experimentally based natural inquiry. This new edifice of learning and culture would rest securely on the foundations of a dynamic indestructible matter matched with a materialist psychology. This would be the Great Instauration.

232 Locke, op. cit. (219), Book 2, Chapter 33, Sections 5–18, pp. 395–401. See also Charland, op. cit. (220), pp. 145–146.

233 Locke, op. cit. (219), Book 3, Chapter 9, Section 21, pp. 488–489. On this connection between Bacon and Locke see Brian Vickers, 'Analogy versus identity: the rejection of occult symbolism, 1580–1680', in Vickers (ed.), *Occult and Scientific Mentalities in the Renaissance*, Cambridge: Cambridge University Press, 1984, pp. 95–163, 111.

234 Wood, op. cit. (215), p. 80.

235 Locke, op. cit. (219), Book 2, Chapter 33, Section 4, p. 395.