

## Work, Creation, and Sabbath in the Thought of Francis Bacon

Francis Bacon (1561-1626) is best known today for the change he helped effect in the natural sciences, moving them away from a passive contemplation of nature for the intellectual delight of the individual philosopher, and instead encouraging the sciences to become a communal exercise of multiple individuals working together for the betterment of the human condition.<sup>1</sup> Bacon believes that science or “natural knowledge” so redirected can even reverse much of the damage done to “man’s estate” from the effects of the Fall from Grace. In a famous passage from his *Novum Organon* (1620) he writes:

*Man by the Fall fell at the same time from the state of innocence and from his dominion over creation. Both of these losses, however, can even in this life be in some part repaired; the former by religion and Faith, the latter by arts and sciences. For creation was not by the curse made altogether and forever a rebel, but in virtue of that covenant 'In the sweat of thy face thou shalt eat bread' it is now by various labours at length, and in some measure subdued to the supplying of man with bread: That is to the uses of human life.*<sup>2</sup>

Scientific inquiry, properly guided and conducted, can subdue nature and also produce “infinite new commodities”<sup>3</sup> to re-establish our dominion over nature. For this undertaking, Bacon conceives of himself as the guide (NO I 32, p. 39). A guide is needed since, in Bacon’s view, the Fall corrupted both the mind and its object, nature, with the consequence that all existing natural knowledge is false. In addition, one of the effects of the Fall is the tendency for the mind to work upon itself, which can never restore our power over nature. Bacon’s remedy for this is to pattern natural philosophy after God’s work in the original creation. In this effort, there is clearly implied a theory of both divine and human work, which I want to explore in this paper.

Elucidating this implicit concept of work in Bacon’s thought will help address the question of how the return to a prelapsarian state may even be a possibility for fallen humanity. I will show that Bacon conceives of that state as “Sabbath”, which by

---

<sup>1</sup> Stephen GAUKROGER, *Francis Bacon and the Transformation of Early-Modern Philosophy*, Cambridge University Press, Cambridge, England, 2001, p. 221.

<sup>2</sup> James SPEDDING—Robert Leslie ELLIS—Douglas Denon HEATH, editors, *The Works of Francis Bacon*, 15 volumes, Boston 1860-64, Vol. I, pp. 538-539. References to primary texts are given in the body of the paper except in their first occurrence and this edition is referred to as “Works”. These volumes are available in digital form from the library of the University of Pennsylvania at this site: <http://onlinebooks.library.upenn.edu/webbin/metabook?id=worksfbacon>

References to the *New Organon* (NO) include the Book volume (in Roman numerals) and the aphorism, in this case NO II 52, plus page number to the edition by Lisa JARDINE and Michael SILVERTHORNE, editors, Cambridge University Press, Cambridge, England, 2000.

<sup>3</sup> “In Praise of Knowledge” in *Of Tribute*, Brian VICKERS, *Francis Bacon: The Major Works*, Oxford University Press, Oxford, England, 1996, p. 34. This edition is cited in the main essay as “MW”. See also the *Valerius Terminus* and the phrase “the endowment of man’s life with new commodities” (Works VI 36), where Bacon also speaks of the “amplification of the power and kingdom of mankind over the world” (*ibid.*).

definition excludes work as we have historically experienced it. Bacon believes that Sabbath is attainable only after we impose order on nature, which he refers to as “subduing” and “vexing” nature. And I will claim that the notion of work, though never developed properly by Bacon, underlies much of his thought and scientific project. More specifically, we can find four ideas in Bacon’s thought regarding work: Sabbath, God’s work of creation, the work of the corrupted and fallen intellect, and the work of the intellect corrected and guided by Bacon’s method. My hope is that bringing these concepts to light will deepen our understanding of Bacon’s thought.

## I. Bacon’s Interpretation of the Original State of Man

We can best examine Bacon’s ideas about repairing the effects of the Fall and about the ultimate need for work by following his distinctive reading of the first chapters of *Genesis*, as this describes the original condition to which Bacon thinks science can in some measure return us. In *The Advancement of Learning* (1605), he writes:

*After the creation was finished, it is set down unto us that man was placed in the garden to work therein; which work so appointed to him could be no other than work of contemplation; that is, when the end of the work is but for exercise and experiment, not for necessity; for there being no reluctance [effort] of the creature, nor sweat of the brow, man’s employment must of consequence have been matter of delight in the experiment, and not matter of labour for the use. (Works VI 138, MW 149)*

In this passage, Bacon departs both from the classical teaching on contemplation, by adding the element of work, and from the Christian exegetical tradition on the nature of the work in the Garden, by inserting the element of contemplation. Regarding the former, Bacon seems to borrow, and then confuse, the concepts of *poiesis*, *praxis*, and *theoria* from Aristotle’s *Nicomachean Ethics*. For Aristotle argued that *poiesis* has its end not in itself but in a product, a feature which makes it inferior to *praxis* (EN 1140a1-24). *Praxis* has human action as its end (EN 1140b5) which seems to correspond to Bacon’s language of “exercise and experiment”. *Theoria* or contemplation is not described by Aristotle in terms of work but rather in terms of leisure (EN 1177b22). It has no end other than itself, and its superiority to the political and productive ways of life stems exactly from its lack of a product or of utility. Bacon is clearly using the word “contemplation” differently from Aristotle.

What does Bacon mean by the word “contemplation”? The earliest announcement of his life’s philosophical ambition is Bacon’s letter to his uncle and benefactor, Lord Burghley, thought to be written in 1592. Here the young Bacon reveals his “vast contemplative ends” and states that he is taking “all knowledge” as his province (MW 20). From this early document, through to his mature writings on the proper and improper ways to pursue natural knowledge, Bacon consistently uses the word “contemplation” to mean either an inquiry into the workings of nature,<sup>4</sup> which involves intellectual work, or

---

<sup>4</sup> See e.g. *Advancement of Learning*, Works VI 133, MW 147, and its two paths of contemplation, which Vickers calls a reference to Hesiod, MW 599; *Valerius Terminus*, Works VI 73; “Praise of Knowledge” in

reflection on the order of nature, which he describes as Sabbath (MW 360 citing *Genesis* 1:31). He further ties the work of contemplation to his belief that the proper end of knowledge is the “benefit and use of life”.<sup>5</sup> There does not seem to be in Bacon’s thought any room for a notion of things done for their own sake, in Aristotle’s sense, or of contemplation having no other benefit than the philosopher’s happiness.<sup>6</sup>

This is seen in an earlier passage in *The Advancement of Learning*, where, right after calling Aristotle the “dictator” of the schoolmen, Bacon writes:

*For the wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, and is limited thereby; but if it work upon itself, as the spider worketh his web, then it is endless, and brings forth indeed cobwebs of learning, admirable for the fineness of the thread and work, but of no substance or profit* (Works VI 122, MW 140).

In this passage, the requirement for “profit” shows the distance from contemplation in the Aristotelian sense. Bacon means by “contemplation” here the active work of the mind in the inquiry into nature. He interprets the work of *Genesis* 2:15 as an intellectual operation whereby Adam would have seen the creation in a way that was both joyful to him and reflective of the Creator.<sup>7</sup> Since the Fall, however, we are subject to limitations on our knowledge, one of which is that “we don’t presume by contemplation of nature to attain to the mysteries of God.” (Works VI 95, MW 124).

Regarding Bacon’s departure from the exegetical tradition, we can best see this by the contrast with the interpretations of this same passage offered by Augustine and by Calvin. For Calvin, cultivating the garden is a condition for man’s being given the earth. He writes, “men were created to employ themselves in some work, and not to lie down in inactivity and idleness. This labor, truly, was pleasant, and full of delight, entirely exempt from all trouble and weariness...”<sup>8</sup> Augustine feigns surprise that God would make the first man do the hard labor of agriculture even before the sin.<sup>9</sup> His response is that the

---

*Of Tribute*, MW 35. See also *The Great Instauration* in Rose-Mary SARGENT, editor, *Francis Bacon: Selected Philosophical Works*, Hackett Publishing, Indianapolis, Indiana, 1999, p. 67, p. 70. This work is cited in the body of the article as SPW.

<sup>5</sup> Works VIII 44, SPW 75; cp. Works VI 134, MW 147 on the “relief of man’s estate”; also Works VI 36 on “the endowment of man’s life with new commodities” and the “infinite new commodities” in *Of Tribute*, MW 34, and NO I 81, p. 66.

<sup>6</sup> In Book II of *The Advancement of Learning*, Bacon rejects the superiority of contemplation in Aristotle’s sense, saying the reasons for it “private” and its practice turns us into “lookers on” (Works VI 314, MW 246-247).

<sup>7</sup> James A.T. LANCASTER, “Francis Bacon on the Moral and Political Character of the Universe”, in Guido GIGLIONE, editor, *Francis Bacon on Motion and Power*, Springer Verlag, Basel, Switzerland, 2016. Lancaster argues that for Bacon, Adam had the power to see “the goodness that was embedded in the fabric of creation”, p. 243.

<sup>8</sup> John CALVIN, *Commentary on the First Book of Moses called Genesis*, translated by Rev. John KING, 1847, p. 77. Reprinted by Christian Classics Ethereal Library, Grand Rapids, Michigan, USA and available online at <https://www.ccel.org/ccel/calvin/calcom01.pdf> (last accessed 20.9.2017).

<sup>9</sup> AUGUSTINE, *On the Literal Meaning of Genesis*, Book VIII, in Edmund HILL, O.P., editor and translator, *On Genesis*, New City Press, Hyde Park, New York, 2004, pp. 356-357.

work provided such “uplift of spirit” that not to work would be a punishment. He further states that the work satisfied man’s willing spirit by contributing to the flourishing of God’s creation. So we see that neither Augustine nor Calvin feel the need to interpret *Genesis* 2:15 as anything other than work, more specifically agriculture. Only Bacon introduces the notion of contemplation. All three agree that work in the Garden could not have been arduous, but Bacon minimizes the extent of physical labor. He continues the passage on work in the Garden with this statement:

*Again, the first acts which man performed in Paradise consisted in the two summary parts of knowledge; the view of creatures and the imposition of names* (Works VI 138, MW 149-150).

Here Bacon completely omits any reference to physical work and restricts Adam to two intellectual operations.

In emphasizing Adam’s mental acuity and activity, Bacon is placing himself in a tradition of thinkers who ascribed to the first man a set of vastly superior intellectual powers which become damaged with the Fall.<sup>10</sup> Peter Harrison has shown that “the myth of Adam and the idea of a Fall were ubiquitous features of seventeenth century discussions of knowledge and its foundations, particularly in the English context.”<sup>11</sup> With the revival of Augustinian thought in the sixteenth century,<sup>12</sup> Reformed theologians such as Melancthon and Calvin came to put greater emphasis on the consequences arising from original sin. One way to underscore the gravity of the sin was to elaborate the extent of Adam’s pre-lapse intellectual powers. This was done by retrieving the notion of Adam’s encyclopedic knowledge and almost superhuman powers which were described in writers such as Philo Judeus and others from the first century on. Harrison sums up prevailing ideas of Adam’s powers in this way: “Thus the first man was also virtually omniscient, [and] had vision that could encompass the whole of the earth at once....Adam’s knowledge extended not only to the natural world but to the contingent events of history...”<sup>13</sup> Adam’s naming of the animals is interpreted to mean both the power to command wild beasts and the ability to see the essences of things.<sup>14</sup>

As it relates to the immediacy and extent of Adam’s knowledge, Bacon largely accepts this tradition of thought, while avoiding some of its extremes and excesses (such as the idea that Adam was gigantic in size). Like the Reformers answering the Catholic objection, “Where was your church before Luther?”<sup>15</sup>, Bacon presents his natural

---

<sup>10</sup> Lancaster (2016) finds this belief already in Bacon’s early fragment *Of the Colours of Good and Evil* (1597), where the young Bacon suggests that Adam had a ‘universal knowledge of the nature of things’ p. 243.

<sup>11</sup> Peter HARRISON, *The Fall of Man and the Foundations of Science*, Cambridge University Press, Cambridge, England, 2007, p. 248.

<sup>12</sup> *Ibid.*, pp. 52-88.

<sup>13</sup> *Ibid.*, p. 25.

<sup>14</sup> Bacon expressly makes this identification in *The Advancement of Learning*: calling “the pure knowledge of nature and universality” the same knowledge by light of which “man did give names to other creatures in Paradise” (Works VI 92, MW 123).

<sup>15</sup> Harrison (2007), p. 118.

philosophy not as an innovation<sup>16</sup> but as a return to the powers of our original state.<sup>17</sup> Writing on the “true ends of knowledge” in his early scientific work, *Valerius Terminus* (1603), Bacon states: “it is a restitution and reinvesting (in great part) of man to the sovereignty and power (for whensoever he shall be able to call the creatures by their true names he shall again command them) which he had in his first state of creation” (Works III 220). As we have seen, included in Bacon’s notion of Adam’s sovereignty and command is the absence of physical work.

Returning to the early chapters of *Genesis*, Bacon continues to stress intellection over physical activity even after the Fall when he interprets the story of Cain and Abel. Bacon reads this story as an “image of the two estates, the contemplative state and the active state” (Works VI 138, MW 150). God’s favor goes not to the farmer Cain but to the shepherd Abel, whom Bacon calls “a lively image of a contemplative life” due to his leisure, his resting by pasturing in a single place, and his view of the heavens (*ibid.*). This is a further departure from Augustine’s and Calvin’s reading that stressed the agricultural character of the work done by the first humans.

We now can see the emphasis Bacon places on contemplation as the original meaning of human work. It is important to remember the difference in contemplation pre- and post-Fall, namely that in the former case, there is no need for effort and no requirement for it to bear fruit. It is the Fall that originates the need for contemplation to become useful for only in this way can it help repair the consequences of the sin. The Proem to Bacon’s *De Interpretatione Naturae* includes a tribute to whoever can be “the benefactor indeed of the human race, the propagator of man’s empire over the universe, the champion of liberty, the conqueror and subduer of necessities.”<sup>18</sup> Work, understood as labor by the sweat of one’s brow, is one of those necessities.

## II. Bacon’s Notion of Sabbath as Freedom from Work and Necessity—Day Seven

Since the intellectual actions of Adam are not “work” properly speaking, it seems that Bacon conceives of the pre-Fall state as one of perpetual Sabbath. It is clear that he associates success in his project of “reconstruction of the sciences” (SPW 81) with Sabbath. At the end of Part I of the *Great Instauration* (1620) he utters this prayer:

*Therefore do thou, O Father, who gave the visible light as the first fruits of creation, and did breathe into the face of man the intellectual light as the crown and consummation thereof, guard and protect this work, which coming from thy goodness returneth to thy glory. Thou, when thou turned to look upon the works*

---

<sup>16</sup> The word “novelty” at this time had a negative connotation when applied to knowledge. See Harrison (2007), p. 90. As a result, Bacon speaks of his philosophy as new only in terms of the *Novum Organon* as a better tool to replace the *Organon* of Aristotle.

<sup>17</sup> It is worth calling attention to the difference in interpretation of our original state between Catholic and Reformed theologians. For the Catholic Church, the powers Adam enjoyed prior to the Fall came from supernatural grace which was then withheld post-lapse. For many Reformed thinkers, these powers were natural to Adam. Hence their loss had the effect of increasing the perceived cost of the sin, but also of holding open the possibility of being regained somehow. See Harrison (2007), p. 158.

<sup>18</sup> Works VI 447. Spedding dates this text to 1603. See his preface at Works VI 431.

*which thy hands had made, saw that all was very good<sup>19</sup> and did rest from thy labours. But man when he turned to look upon the work which his hands had made, saw that all was vanity and vexation of spirit, and could find no rest therein. Wherefore if we labour in thy works with the sweat of our brows, thou will make us partakers of thy vision and thy Sabbath. Humbly we pray that this mind may be steadfast in us, and that through these our hands, and the hands of others to whom thou shall give the same spirit, thou will vouchsafe to endow the human family with new mercies (Works VIII 53-54, SPW 85).*

It is evident that Bacon is modeling his entire scientific project on the work of creation.<sup>20</sup> “Sabbath” here then does not mean a day of rest once in the week. Rather it denotes the perpetual freedom from necessity enjoyed after the completion of the work. That is, he envisions an enduring state in which there is no need for manual labor, on the order of what he thinks Adam enjoyed in the Garden, and he names this as Sabbath. In addition, Bacon treats Sabbath as the culmination and enjoyment—and not simply the cessation--of activity. He writes:

*So in the distribution of days, we see the day wherein God did rest and contemplate his works, was blessed above all the days wherein he did effect and accomplish them (Works VI 137, MW 147).*

Here contemplation is *not* a form of work, such as it was for Adam before the Fall.<sup>21</sup> After the Fall, this kind of Sabbath is lost to us, so that works of man, to this date in Bacon’s view, produce only vanity and vexation. It is an effect of the Fall that we no longer work in the way God worked at the world’s creation. And this effect accounts for the vast quantity of natural philosophy which is false and needs to be replaced with a new way of undertaking intellectual work. When the mind does not know how to engage with the particulars of nature, it inclines towards generalities<sup>22</sup> which is the mind working on itself, and which yields the “cobwebs of learning” from the passage cited above. But there is a second possibility, which is the mind acting on the model of God’s work in creation. In his essay on “Great Place” and echoing the prayer just cited, Bacon writes: “For if a man can be partaker in God’s theatre [that is, activity], he shall likewise be partaker of God’s rest.” Bacon then quotes in Latin the verse of *Genesis* 1:31 (“and God saw all that he had made...”) and adds “and then the sabbath” (MW 360).

### **III. Creating Light in the Darkness of Philosophy—Day One**

For Bacon, partaking in God’s work is only one of two options for the conduct of the mind. From the ancient times to those of Bacon’s contemporaries, the other method-- of

---

<sup>19</sup> Bacon here reads the “everything that He had made” of *Gen* 1:31 to mean the work of all six days and not just the work of the sixth day itself.

<sup>20</sup> In the *New Atlantis* Bacon’s ideal scientific society is called the House of the Six Days Works. Gaukroger (2001) writes that Bacon’s “restoration of man’s dominion over nature is spelled out in explicitly biblical terms” (p. 91).

<sup>21</sup> This shows Bacon’s inconsistent use of terms, that Adam could perform “the work of contemplation” and God could “rest and contemplate”.

<sup>22</sup> See NO I 19, p. 36.

the mind working on itself-- has prevailed. The correct model for us to follow in our work, however, is God's acts of creation in *Genesis* 1. Only when we more closely imitate God's original creation, will we begin to enjoy the prospect of genuine Sabbath.<sup>23</sup> Bacon writes "...[L]et us seek the dignity of knowledge in the arch-type or first platform, which is in the attributes and acts of God..." (Works VI 136, MW 148). I now want to show how I think Bacon conceives of this imitation of the Creator, which in turn will answer the question of how we can repair the losses incurred from the Fall.

We have just seen that work for Bacon should culminate in Sabbath. There are two other elements to Bacon's reading of the hexameron in *Genesis*. First, there is the creation of light on the first day, distinct from "the two great lights" of the sun and moon, which are not created until the fourth day (*Genesis* 1:16) And second, there is the creation of order from existing mass, to form everything that is, which culminates in the sixth day and creation of man. Bacon distinguishes between the "confused mass and matter of heaven and earth" which he says was "made in an instant" and "the order and disposition of that chaos or mass" which he states was the work of the six days of creation (Works VI 136, MW 149).

In Part I of the *Great Instauration*, Bacon faults all experimentation in natural philosophy thus far for seeking "experiments of Fruit, not experiments of Light" (Works VIII 31, SPW 72). He continues that the best course instead is to imitate "the divine procedure, which in its first day's work created light only and assigned it to one entire day; on which day it produced no material work, but proceeded to that on the days following" (*ibid.*).

Despite his requirement that philosophy produce things of benefit and profit, a large portion of Bacon's writings is concerned with a critique of knowledge in its current condition. I want to say that this exercise is for Bacon the equivalent of the first day of creation, producing nothing material but bringing to light the status of things and then laying the foundation for subsequent work of creation which will satisfy the requirement of utility. It is his shining a light on the "confused mass and matter" of natural philosophy. All of the natural knowledge to date, for Bacon, is the result of intellectual work done by a mind made innately defective by the Fall, working on a nature too subtle for such a mind to grasp (NO I 24, p. 37), and directed towards a false kind of Sabbath or rest.

In the letter to King James dedicating to him *The Great Instauration*, Bacon speaks of his life's work as "the kindling of this new light in the darkness of philosophy" and hopes that it will make these times famous after his death (Works VIII 24, SPW 68). In the *Valerius Terminus*, even though seventeen years younger, Bacon also expresses a concern that death will disrupt the furtherance of his work. He describes that work as "this new light" and sets out a glimpse of the whole project in the form of "some awaking note both of the wants in man's present condition and the nature of the supplies to be wished" (Works VI 50).

---

<sup>23</sup> Besides freedom from work this concept of Sabbath may also mean "the prolongation of life" (Works V 415, MW 488) or possibly immortality, something Bacon spent a great deal of time researching and called "that whereunto man's nature doth most aspire" (Works VI 168, MW 167). See Harrison (2007), p. 169.

On kindling this light, what Bacon finds is that “all the disputations of the learned never brought to light one effect of nature before unknown”, as he puts it in the early “Praise of Knowledge” section of the work *On Tribute* (1592). Foreshadowing the language of cobwebs of learning he will later use in *The Advancement of Learning*, Bacon calls the existing complex of knowledge “but a web of the wit”. (MW 34) Both the common notions of reason and the “knitting of them together” called the “art of reason” “rather cast obscurity than give light to the contemplation of nature” (MW 35).

In each of his major works on natural philosophy, Bacon makes an extraordinary claim: everything that has counted for knowledge to date is wrong and needs to be discarded.<sup>24</sup> This is not, as in Descartes, the conclusion of a thought experiment using hyperbolic doubt,<sup>25</sup> but a genuine conviction that the existing body of knowledge suffers from “distemper” (Works VI 117, MW 139) and “disease” (Works VI 121, MW 142). Bacon is able to make this summary judgment due to his conviction that the Fall corrupted both the mind and nature itself<sup>26</sup> so that no correspondence between them is yet possible. Only something as corrosive on a wholesale level as the Fall could account for the situation where the mind by default is defective and the object of the mind, namely the material world, is inherently deceptive. The preface to the *Great Instauration* captures both defects: “The human intellect left to its own course is not to be trusted” and “...[T]he universe to the eye of the human understanding is framed like a labyrinth, presenting as it does on every side so many ambiguities of way, such deceitful resemblances of objects and signs, natures so irregular in their lines, and so knotted and entangled” (Works VIII 32, SPW 72). (So much for the universe as *kosmos*!)

Bacon admits there have been inventions and discoveries, such as printing, artillery, and the compass, but states that these were “stumbled upon and lighted on by chance” (MW 36). But for him, “the entire work of the mind [needs to] be started over again” (NO Preface, p. 28) to accomplish “the work of advancing the boundaries of science” (Works VIII 29, SPW 71) and “to lay the foundation of...human utility and power” (Works VIII 36, SPW 75).

---

<sup>24</sup> In “The Praise of Knowledge” section of *On Tribute*, Bacon says everything comes from “the Grecians” or “the alchemists”. He faults the former as words without effect and the latter as accidental and deceptive, MW 35. Most of Book I of *The Advancement of Learning* is a critique of existing knowledge and defects of the mind. This is also true of Book I of *The New Organon*, especially in its treatment of the idols of the mind. *The Great Instauration* also describes the defects of the mind (“the entire fabric of human reason...is badly put together”—Works VIII 18, SPW 66) and rejects the Greeks as representing the “boyhood of knowledge” (Works VIII 26, SPW 69).

<sup>25</sup> See *Meditations on First Philosophy*, Meditation One (Adam-Tannery Vol.7 p. 17), where Descartes speaks of “demolishing everything completely and starting again from the foundations”. In the Seventh Set of Replies, Descartes likens this to turning over a basket of apples where some are rotten, and only putting back into the basket the ones seen to be sound. (A-T Vol. 7 p. 481).

<sup>26</sup> Harrison (2007) shows the origin of this idea in Calvin’s thought, pp. 60-61. Vickers (1996) in his commentary says Bacon unique among natural philosophers in believing this idea of nature’s corruption extended to the laws of physics, p. 564.



The corruption of the mind is best evidenced in Bacon's famous theory of the Idols.<sup>27</sup> While I think that all four types—those of the Tribe, Cave, Marketplace, and Theater are natural and inevitable, unless a corrective is taken--the Idols of the Tribe are of greatest interest because they are innate. Bacon says they “have their foundation in human nature itself” (NO I 41, p. 41) and he points out two of their key traits. First, the Idols of the Tribe arise because “the human understanding is of its own nature prone to suppose the existence of more order and regularity in the world than it finds” (NO I 45, p. 42). And in an early reference to what we today call confirmation bias, Bacon says, “The human understanding when it has once adopted an opinion (either as being the received opinion or as being agreeable to itself) draws all things else to support and agree with it” (NO I 46, p. 46)

Both of these defects are examples of what psychologists today would refer to as cognitive economy or ease.<sup>28</sup> But for Bacon, these traits of the mind are more than mental shortcuts. They are always pathways to erroneous conclusions. The cognitive economy for Bacon is actually a fallen desire for the intellect to find rest. One of the “distempers” of the mind recorded in *The Advancement of Learning* is that it is “too early” satisfied in the search for knowledge (Works VI 120, MW 139). Bacon faults “the over-early and peremptory reduction of knowledge into arts and methods” (Works VI 131, MW 145). A “peccant humour” (i.e., an unhealthy tendency) which Bacon identifies is the “haste to assertion without due and mature suspension of judgment” (Works VI 133, MW 147). In the *Novum Organon*, Bacon writes that “the mind longs to spring up to positions of higher generality, that it may find rest there.”<sup>29</sup> Besides providing a false rest, generalities are even more insidious because they appeal to our pride by which we exaggerate our state of knowledge (Works VI 74). But the understanding “is unquiet. It cannot stop or rest, and still presses onward, but in vain” (NO I 48, SPW 98). It makes its “greatest error of all” in mistaking the true end of knowledge, which is for “the benefit and use of man” and instead seeks “a couch, whereupon to rest a searching and restless spirit” (Works VI 134, MW 147).

Innately and inherently damaged by the Fall,<sup>30</sup> the restless, unquiet mind seeks a false kind of Sabbath, by moving too quickly from particulars to generalities (Works VI 67), by too greatly esteeming both its own powers (Works VI 132, MW 146) and the ideas of antiquity, and by too easily accepting received opinions (Works VI 129, MW 144). All natural knowledge to this point has selected that path of contemplation which is “plain and smooth in the beginning, and in the end impassible.”<sup>31</sup> Bacon calls all the intellectual

---

<sup>27</sup> Spedding in his notes to the preface of the *Valerius Terminus* details how this early work has a slightly different theory of Idols (Works VI 22).

<sup>28</sup> Daniel KAHNEMAN, *Thinking Fast and Slow*, Farrar, Straus and Giroux, New York, New York, 2011, pp. 59-70.

<sup>29</sup> NO I 20, p. 36. Compare with Chapter 14 of the *Valerius Terminus* where Bacon speaks of “easy and wild generalities” (Works VI 65).

<sup>30</sup> The Protestant reformers were able to reject the entire epistemologies of Aristotle and Thomas Aquinas for not taking the Fall into account and thus being based on “a false view of human nature”. See Harrison (2007) pp. 49-50.

<sup>31</sup> Works VI 133, MW 147. Compare with Works VIII 18-19, SPW 67.

effort based on this path “The Anticipations of Nature”.<sup>32</sup> All of this is intellectual work done by the corrupted mind working on itself.

The correct method for what Bacon calls the “Interpretation of Nature” (NO I 26, p. 38) is to begin with the other path to knowledge, which is “rough and troublesome in the entrance, but after a while fair and even” (Works VI 133, MW147). Because of the defects of this mind, however, this path has never been attempted.

*There are, and can, be only two ways to investigate and discover truth. The one leaps from the senses and particulars to the most general axioms...The other elicits axioms from sense and particulars, rising in a gradual and unbroken ascent to arrive at last at the most general axioms; this is the true way, but it has not been tried* (NO I 19, p. 36).

Bacon is advocating an entirely new form of intellectual work, one which has the potential to reach a state of genuine rest or Sabbath once the path becomes “fair and even.” It is to be a full-on *intellectual* effort, for the advancement of learning to the point that *physical* labor for the necessities of life is not needed.<sup>33</sup> This is in contrast to the prevailing fallen form of intellectual work which depend on what Bacon calls “the depraved and deep-rooted habits” of the mind,<sup>34</sup> and which offer nothing for the relief of our estate. To enact this task of repairing our dominion over nature to such an extent that we no longer need to work will itself require an enormous amount of work. That may seem contradictory at first, but the conflict results from the lack of a proper vocabulary of work. It requires a “severe and laborious” inquiry into truth.<sup>35</sup>

Bacon has to “deliver” learning “from the discredits and disgraces it hath received” as a propaedeutic to his own conduct of natural philosophy (Works VI 91, MW 122). By this work of light, Bacon says “a safe and convenient approach may be made to nature, and matter supplied of good quality and well prepared for the understanding to work upon” (Works VIII 50, SPW 83). The objections to learning—such as the claim that the desire

---

<sup>32</sup> NO I 26, p. 38. Chapter 15 of the *Valerius Terminus* is devoted to the problems of attempting knowledge through anticipation (Works VI 65).

<sup>33</sup> Hannah ARENDT, *The Human Condition*, University of Chicago Press, Chicago, Illinois, 1958. Arendt makes a helpful distinction between labor, as focused on satisfying the immediate needs of humans as organisms, and work, by which we make things to populate the world. She admits that this distinction is not overt in Western thought but says it is rather assumed (pp. 79-80). Labor is forced on us by necessity, work by utility (p. 177). Although Bacon uses of the word “labour” for both physical and intellectual work, he is consistent when speaking of work under the burden of necessity, which he thinks natural philosophy can improve or even eliminate. In this way he does correspond to Arendt’s distinction. See the Proem to *De Interpretatione Naturae* (Works VI 447), *Of Tribute* (MW 36), and *The Advancement of Learning* (Works VI 138, MW 149).

<sup>34</sup> NO Preface, Works I 238, SPW 89. Compare with MW 140 (Works VI 122) where Bacon, using theological language, calls the learning of the schoolmen “degenerate”.

<sup>35</sup> Works VI 121; MW 140. In the same passage Bacon complains about the laborious work of the schoolmen, showing that he is clearly working with two meanings of the same word. Peter Harrison (2007) notes that thinkers like Leibniz complained that the Baconian method was very labor intensive and not productive of anything you could not get to in a faster, easier way (pp. 242-243). It is noteworthy that Bacon’s method became identified with laborious effort almost to the point of tedium, but this is a different kind of labor from work by the sweat of the brow.

for too much knowledge led to the Fall<sup>36</sup>--and the dismal condition of the corpus of natural knowledge are the product of the intellectual work of the mind uncorrected of its innate tendencies towards error and unguided in its application. The result is the perpetuation of untested theories about the world, corrupted by contributions from human imagination, which have little to do with the world as it is.<sup>37</sup> In contrast, we have Bacon's project: "Hence this science takes its origin not only from the nature of the mind but from the nature of things."<sup>38</sup> Only thus can we avoid the generalities and cognitive errors which provide only a false kind of Sabbath.

#### IV Nature Subdued to Human Dominion--Days Two through Six

For the repair of the intellect, Bacon advises induction. "Formation of notions and axioms by true induction is certainly an appropriate way to banish idols and get rid of them" (NO I 40, p. 41). And "The only hope is true induction" (NO I 14, p. 35). With respect to the proper object of the mind, Bacon suggests going to nature as it is, and not as we imagine it to be.<sup>39</sup> When Bacon dismisses out of hand the entire history of natural philosophy, he is relying on more than the hitherto unacknowledged defects of the mind. He also accepts the idea that nature itself is corrupted in the Fall,<sup>40</sup> so that the mind unguided or uncorrected is not adequate for knowledge of nature. Prevailing approaches can never work since "the subtlety of nature far surpasses the subtlety of argumentation" (NO I 24, p. 37). Any science is bound to fail if pursued on the assumption that knowledge is the "*adaequatio rei et intellectus*"<sup>41</sup> since both the *res* and the *intellectus* are damaged by the Fall. In his *Confession of Faith* (c. 1603), Bacon writes that "upon the fall of man death and vanity entered by the justice of God, and the image of God in man was defaced, and *heaven and earth which were made for man's use were subdued to corruption by his fall.*"<sup>42</sup> We have already seen Bacon's reference to nature being made a "rebel" by the "curse". What exactly does the corruption of nature mean?

Bacon believes that in the prelapsal state, nature was subject to two laws governing the physical world and imposed by God's creative ordering, which control what Bacon calls

---

<sup>36</sup> See Works VI 92, MW 122. There are passages where Bacon seems to agree with this claim, such as MW 363 and Works VIII 36, SPW 75, and his remedy here is to associate the purpose of knowledge with charity, of which there can be no excess. In other places, Bacon distinguishes between the desire for knowledge of nature and the excess desire for moral knowledge, saying that only the latter occasioned the Fall (e.g. Works VI 92, MW 123).

<sup>37</sup> In William Rawley's 1627 introduction to Lord Bacon's posthumous *Sylva Sylvarum*, he refers to "a usual speech of his lordship's: That this work of his Natural History is the world as God made it, and not as man have made it; for it hath nothing of imagination" (Works IV 158).

<sup>38</sup> NO II 52, p. 220. Cp. NO I 127, p. 98.

<sup>39</sup> See the comment that the ancients "hunt more after words than matter" which Bacon calls the "first distemper of learning" (Works VI 119, MW 139).

<sup>40</sup> Lancaster (2016) argues that Bacon, through the influence of his Puritan mother, would have known this teaching of Calvin's which appears in *The Institutes* and in his commentary on *Genesis*. See pp. 233-234.

<sup>41</sup> Thomas AQUINAS, *De Veritate*, Q.1, A.1, Reply.

<sup>42</sup> Works XIV 51, MW 109; emphasis supplied.

“the appetites of matter”.<sup>43</sup> The first governs the appetites atoms and elements have of their own internal nature. The second refers to the appetites God imposes on all matter whatsoever regardless of the individual appetites, and includes the desires for combination and procreation. After the Fall, the law balancing these two goods is broken and matter loses its internal appetite toward order, now tending towards chaos.<sup>44</sup> This “double nature of good” in everything, namely a thing’s private good and its good “as a part of a member of a greater body”, can now conflict (Works VI 313, MW 246). Things incline towards their own good, despite the fact that the larger, corporate good is “the greater and the worthier” [*ibid.*]. In his “Confession of Faith”, Bacon writes of his belief that God:

*...created heaven and earth....and gave unto them constant and everlasting laws, which we call Nature, which is nothing but the laws of the creation, which laws nevertheless have had three changes or times, and are to have a fourth and a last. The first, when the matter of heaven and earth was created without forms; the second, the interim of each day’s work; the third, by the curse, which notwithstanding was no new creation, but a privation of the part of the virtue of the first creation, and the last, at the end of the world, the manner wherof is not yet revealed. So as the laws of Nature...began to be in force when God first rested from his works and ceased to create, but received a revocation in part by the curse, since which time they change not* (Works XIV 49-50, MW 108).

The effect of the “revocation” is that matter inclines towards its own good. Only the summary law of nature remains unchanged, which itself is kept in force by God’s Providence, but we are no longer sure if “man’s inquiry can attain to it” (Works VI 103, MW 197). It is the summary law of nature Bacon is thinking of when he often cites *Eccles 3:11* ‘*The work which God worketh from the beginning to the end*’ (e.g. Works VI 93, MW 123).

For Bacon, the imitation of God’s work in creation means re-asserting dominion over material nature. “Now we govern nature in opinions, but we are thrall to her in necessities. But if we would be led by her in invention, we should command her in action” (MW 36). Nature has been “subdued to corruption” (MW 109) but now needs to be “subdued to...the uses of human life” (NO II 52, SPW 189). When we do this, we move from Experiments of Light to Experiments of Fruit. Following the pattern of *Genesis 1*, this is the transition from the first day of creation, represented by the critique and the epistemology in Book I of *The Advancement of Learning*, to days two through six, where God’s work “has the style of a manufacture” (Works VI 137, MW 149), and which in Bacon’s design is Book II.<sup>45</sup> The proper way for the natural philosopher to

---

<sup>43</sup> See Guido GIGLIONI, *Mastering the Appetites of Matter: Francis Bacon’s Sylva Sylvarum*, [http://sydney.edu.au/science/hps/empiricism/downloads/Conference\\_2009/Embodied\\_Empiricism\\_09\\_Papers/Gigliani\\_Sylva\\_Sylvarum.pdf](http://sydney.edu.au/science/hps/empiricism/downloads/Conference_2009/Embodied_Empiricism_09_Papers/Gigliani_Sylva_Sylvarum.pdf) (20.9.2017). Giglioni speaks of Bacon’s “metaphysics of matter”, p. 2.

<sup>44</sup> Lancaster (2016) writes: “Because of the imbalance between material appetites which had resulted after the Fall, Bacon was emphatic that, while heaven and earth declared the omnipotence (*omnipotens*) of God, they could no longer reveal to us His will (*voluntas Dei*), p. 245.

<sup>45</sup> Book II is vastly expanded by Bacon when translated into Latin as *De Augmentis Scientiarum* (Works Vols. II-III). See also *Sylva Sylvarum* (Works Vols. IV-V). The applied science in these and other works is

respond to the physical world's corruption is to "vex" and challenge nature. Bacon's natural history is not of nature in its "natural" state (that was lost with the Fall), nor of nature as it now presents itself as "free and at large". Rather it is of nature "under constraint and vexed; that is to say, when by the art and the hand of man she is forced out of her natural state, and squeezed and moulded" (Works VIII 48).

The vexing of nature is an idea in Bacon which has been widely misinterpreted in terms of "torture".<sup>46</sup> All Bacon means by vexing nature is overriding corrupted matter's "appetites" for its own good, and imposing a larger good on matter. When nature is thus subject to our power, it becomes possible to impose an orientation towards order comparable to the one lost in the Garden. Bacon writes: "Nature exhibits herself more clearly under the trials and vexations of art than when left to herself."<sup>47</sup> In this way, the investigator into nature, far from being nature's tormenter, is instead sharing in God's creative work of bringing order to matter. By bringing order, the natural philosopher can undo some of the damage done to nature by the Fall and can in part repair our loss of dominion over nature.

## V Conclusion—Return to Sabbath

We have a glimpse of what this repair of our original state might look like in Bacon's unfinished and posthumous work *The New Atlantis* (1627). In the land of Bensalem, the inhabitants live in close harmony with nature, without arduous work needed for the necessities of life. Material labor in the sense of work "by the sweat of the brow" does not exist. There is plenty of food for all since the plants and trees "bear more speedily than by their natural course" (an example of nature vexed).<sup>48</sup> The main form of work recorded in this tale is scientific inquiry in "Solomon's House", which Bacon also calls "the College of the Six Days Works" (Works V 383, MW 471). This college has as its aim "the knowledge of Causes, and secret motions of things; and the enlarging of the bounds of Human Empire, to the effect of all things possible."<sup>49</sup> The inhabitants in this "land of angels" (Works V 369, MW 463) have both revelation, through the agency of St. Bartholomew (Works V 373, MW 465) and reason, put into action by Solomon's House "for the finding out of the true nature of things" (Works V 383, MW 471). The activity done here perfectly exemplifies the Baconian method and corresponds to the intellectual work discussed above, as properly reformed and guided. Those who pursue knowledge at Solomon's House have a privileged position in society, forming a kind of nobility, with

---

little read today but remains a large portion of Bacon's output and is mainly concerned with experiments for the vexing of nature.

<sup>46</sup> Peter PESIC, "Wrestling with Proteus: Francis Bacon and the 'Torture' of Nature", *Isis* Vol. 90, No. 1 (1999), pp. 81-94. Pestic provides a correction to the common misreading of Bacon's language on vexing or torturing nature.

<sup>47</sup> Works VIII 415; cp. Works VIII 48.

<sup>48</sup> Bacon writes that the plants are made more productive by "art greater much than their nature" (Works V 401, MW 482).

<sup>49</sup> Works V 398, MW 480. Given that Bensalem is a closed off island without a military force, "empire" here cannot be meant here in a political sense, but rather only as dominion over nature. In the *Valerius Terminus*, Bacon speaks of the "amplification of the power and kingdom of mankind over the world" (Works VI 36).

the highest rank being the “Interpreters of Nature” (Works V 411, MW 487).

It is interesting to note that in his utopia Bacon does not envision idleness and leisure, but rather robust scientific inquiry. This is because Bacon thinks of the investigation into nature as a form of contemplation, comparable to what Adam enjoyed in the Garden. It mirrors God’s contemplation of his creation in *Genesis* 1:31 and commences the true Sabbath that God enjoys and for which Bacon petitions in his opening prayer of the *Great Instauration* (Works VIII 53-54, SPW 85). A close understanding of the secrets of nature leads people to faith, as seen in the moral rectitude of the inhabitants of Bensalem. It is only “a little philosophy” which leads astray.<sup>50</sup> It is the meaning of being a partaker in God’s rest and Sabbath (MW 360) since for Bacon Sabbath is possible only after the completion of the work of creation.

In this paper, I have tried to show that the concept of work, though undeveloped by Bacon, is ingredient in much of his thought. Bacon’s entire project, of his vision of the ideal society, his reformation of knowledge, his critiques of all other philosophers, his theory of the idols of the mind, his advocacy of induction, and his applied experiments to regain dominion over nature, all operate on a comparison to God’s work in creation, and involve intellectual work, either of the “degenerate” (the history of natural philosophy to date) or the reformed kind (the Baconian project). That project can be undertaken to restore to us our original “dominion over creation” and our Sabbath, in which there is no necessity for manual work.

---

Michael T. Kane, Ph.D.

Collegium Institute for Catholic Thought and Culture

Philadelphia, USA

Mkane4811@gmail.com

---

<sup>50</sup> Works VI 33, MW 152; cp. Bacon’s essay “Of Atheism”, MW 371.

TESTO PROVVISORIO  
PROTETTO DA COPYRIGHT