

# TRINITARIAN ROOTS OF FRANCIS BACON'S PRAGMATISM<sup>1</sup>

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From his earliest publications until his last, Francis Bacon displayed an intense interest in theological and religious issues, and expressed this interest in both public and private. On the other hand, he has long been recognized for his proposals for a grand reform and reconstruction of natural philosophy, in which experience, observation, experiment, and technological implementation of abstract claims all took center stage.<sup>2</sup> This practical bent has often neatly been encapsulated in the slogan derived from Bacon himself, 'knowledge is power.' The many and interesting connections between these two sets of interests – the theological and the natural philosophical – have not gone unnoticed by scholars;<sup>3</sup> however, one central component of Bacon's pragmatic approach to natural philosophy that was deeply influenced by his theological concerns has remained unexplored. The equation between knowledge and power, so well known, in fact developed out of Bacon's conception of the Christian Trinity, and out of the relationship between the Trinity and humanity's pursuit of knowledge about nature. It is the task of this essay to trace the development of this connection from the beginnings of Bacon's literary career until its end.

## I

The broad strokes of Bacon's basic theological commitments were present in the reformation Europe of his day.<sup>4</sup> Despite deep disagreements, the various major confessions of Christianity in the sixteenth and seventeenth centuries, particularly those of what became known as Catholic and magisterial Protestant, shared a number basic beliefs. Those relevant to our discussion include most obviously Trinitarianism, but in addition, virtually all mainline Christians believed that there was a special relationship between human beings and God; that in the distant past there had been a fall from grace on the part of the first human beings which had in turn been a corrupting influence on all future generations; and, finally, that at some point in time, sooner or later, there would be a final judgment by God. In sum, these basic ingredients of Bacon's core theological commitments were widely shared by Christians of all but the most radical stripes before, during, and after his time. It is rather the way in which he combined these beliefs with his felt calling to reform knowledge in general and natural philosophy in particular that was unique and in some ways unprecedented.

Beyond the basic theological commitments shared by almost all Christians of his era canvassed above, there are elements of Bacon's particular life situation and family that help explain why a religion centered on scripture as the primary avenue to salvation and spiritual illumination was so important to his world view. Bacon's mother, Anne Bacon (born Anne Cooke), was a well known humanist intellectual best known for her English translation, published just a few

years after her son Francis' birth, of John Jewel's *Apology for the Church of England*.<sup>5</sup> Her predilection for controversial, 'hotter' Protestant preachers was well known during her lifetime,<sup>6</sup> and her raising of Francis included religion at its center. Bacon's maternal grandfather, Anthony Cooke, was instrumental in the education of Edward VI, and was a Marian exile. Bacon's deep religiosity, and especially his lifelong obsession with scripture, are certainly of a piece with his family background. It is not, then, entirely unsurprising that his first publication included a series of commentaries on scriptural passages.

Bacon's literary career began in 1597 with the publication of a volume including the earliest edition of his *Essays*, combined with two other short tracts: the *Colours of Good and Evil*, and the *Meditationes Sacrae*. The last of these consists of a series of short biblical passages followed by Bacon's explication of them, and is the only of the three tracts penned in Latin. Two key themes from the *Meditationes* will return and evolve in his 1605 *Advancement of Learning* and then further in the 1620 *Novum organum*: first, his understanding of the distinction in unity between the three chief divine attributes, and, second, the centrality of love or charity to true and saving Christianity.<sup>7</sup>

In his commentary on Matthew 22:29 ('Erratis, nesquientes Scripturas, neque potestatem Die,'<sup>8</sup> which in the later *Advancement of Learning* Bacon translates as 'You err, not knowing the Scriptures, nor the power of God'<sup>9</sup>), he interprets the passage as an injunction to recognize two kinds of expression of divinity, the one relating to God's will and the other relating to God's power:

This canon is the mother of all canons against heresies. There are two causes of heresy: ignorance of God's will, and ignorance or superficial contemplation of God's power. God's will is revealed more through the scriptures, *examine them*; God's power is revealed more through the creatures, *contemplate them*.<sup>10</sup>

According to the line of thought that Bacon will develop in the coming years but which is only nascent in the *Meditationes*, natural philosophy consists essentially of a kind of obedience to God's command as expressed in Matthew 22:29, and the kind of information delivered from the study of nature relates most closely to God's power.<sup>11</sup> In addition, Bacon interprets this passage as enjoining us to study God's word in the form of the scriptures, which provide information about God's will. As we shall see, in the *Advancement of Learning*, Bacon will come to frame God's power and God's will as divine attributes that correspond to persons of the trinity.

Returning to his examination of Mark 7:37 in the *Meditationes*, we find that Bacon focuses on the way in which Jesus manifested divine power, emphasizing a close association between divine power and divine beneficence:

God the word, in the miracles he brought forth. . .wished only to do that which was inspired by kindness and grace. . .The spirit descended upon him in the form of a dove. . .the spirit of Jesus was the spirit of a dove. . .Jesus the Lamb of God was without anger or judgment. Every one of his miracles concerned the human body, and all his doctrines concerned the human soul. The human body needs food, protection from the environment, and care. He brought together a multitude of fish in nets so that he could give richer nourishment to the people. . .and he overcame the winds that threatened the sailors. He gave movement to the lame, light to the blind, voice to the mute, health to the infirm, clean flesh to the lepers, and sound mind to the possessed. No miracle of judgment, all of kindness.<sup>12</sup>

The claim that universal and selfless love lies at the core of saving Christianity is offered in his interpretation of Job 31:29 and of Matthew 9:13. In his interpretation of the passage from Job,

he remarks that the highest form of love is reached when 'evil overtakes one of your enemies, and the deepest recesses and chambers of your heart are weighed down and constricted, and you do not rejoice as if it were the day of judgment and your vindication had arrived.'<sup>13</sup> His interpretation of Matthew 9:13 (augmented by James 1:27 and 1 John 4:20) similarly emphasizes selfless love:

*I want mercy, and not a sacrifice. . .the refutation of hypocrites is accomplished when they are sent from the works of sacrifice to the works of mercy. This is the origin of that saying the spotless and immaculate religion, close to God and the father, is this: to visit the widows and the orphans in their tribulations. And there is also this saying: why do you not love your brother whom you can see as you love your God whom you cannot see?*<sup>14</sup>

Unsurprisingly, the centrality of love to Christianity and thereby to the reform of knowledge (and institution of human power) will remain of key import to Bacon in his later works. It will be linked to the project of a reform of natural philosophy, first in embryonic form in the *Advancement of Learning*, and later full-blown in the *Novum Organum*. The close association between the expression of divine power and the expression of divine love will return in the *Advancement of Learning*, and be explicitly related to the attributes and persons of the deity, along with the topic of the fall.<sup>15</sup> Indeed, it is crucial to Bacon's mature program of natural philosophy, which reached its culmination in the *Novum Organum*, that universal and selfless love is the central moral message of Christianity. Moreover, he will link the centrality of love to the doctrine of the *imago dei* and the trinity, such that neither knowledge nor power are possible without selfless love.

## II

The collection of texts including the 1597 *Meditationes* represented Bacon's first foray into literary life; the 1605 *Advancement of Learning* was the product of the years of experience gained in the interim seventeen years. And yet there are unmistakable continuities between the two works such that we see concepts broached in the *Meditationes* repeated, expanded, and developed in the later work. For instance, in the *Advancement*, Bacon returns to the topic of the divine attributes and persons. As part of the vast intellectual geography constructed in the *Advancement*, he presents the subject of 'divinity' as divided into the four topics of faith, manners, liturgy, and government. He begins with the claim that '*Faith* containeth the Doctrine of the Nature of GOD, of the attributes of GOD, and of the workes of GOD; The nature of GOD consisteth of three persons in vnitie of GOD-head.'<sup>16</sup> In the subsequent discussion of sin under the heading of manners, he claims that

Sinne in the matter and subiect thereof is deuided according to the Commandements, in the forme thereof it referreth to the three persons in deitie, Sinnes of Infirmite against the father, whose more speciall attribute is Power: Sinnes of Ignorance against the Sonne, whose attribute is wisdome: and sinnes of Malice against the Holy Ghost, whose attribute is Grace or Loue.<sup>17</sup>

For the moment, the important thing to notice is Bacon's explicit association of each person of the trinity with a certain divine attribute: power with the father, wisdom with the son, and love with the holy ghost.<sup>18</sup> We will see that over the course of the fifteen years following the publication of the *Advancement*, Bacon comes to envision the project of a reform of natural philosophy as not only the key to the advancement of learning in general, but further as part of the renewal

of the image of God in humanity, which image, like the original, has three core attributes: power, knowledge, and love.<sup>19</sup> That is to say, Bacon will come to see the kind of knowledge he recommends, namely that with practical import, as only achievable by scientific investigators who carry a certain kind of moral disposition. This disposition is one he originally equated with universal love in the *Meditationes*, and he returns to this theme in the *Advancement*, marking it as the core of Christian moral doctrine.

Indeed, in the *Advancement*, Bacon already presents the project of the reform of learning in relation to the *imago dei*, with a special emphasis on the centrality of love. In his discussion of moral philosophy, he argues that

onely loue doth exalt the mind, and neuerthelesse; at the same instant doth settle and *Compose* it. So in all other excellencyes though they aduance nature yet they are subject to Excesse. Onely Charity admitteth noe *Excesse*; for soe we see, aspiring to be like God in power, the Angells transgressed and fel: *Ascendam, & ero similis altissimo*: By aspiring to be like God in knowledge man transgressed and fell. *Eritis sicut Dii scientes bonum & malum*; But by aspiring to a similitude of God in goodnesse or loue, neyther Man nor Angell euer transgressed or shall transgresse. For vnto that imitation we are called, *Diligite inimicos vestros, Benefacite eis qui oderunt vos, & orate pro persequentibus & Calumniantibus vos vt sitis filii patris vestri qui in caelis est, qui solem suum oriri facit super bonos & malos, & pluit super justos & injustos*. So in the first platfourme of the diuine Nature itself. . .and the sacred Scriptures [speak] thus, *Miscericordia ejus super omnia opera ejus*.<sup>20</sup>

It marking out one of the chief dangers inherent in knowledge untempered by love, Bacon remarks that

Knowledge. . .if it bee taken without the true correctiue thereof, hath in it some Nature of venome or malignitie, and some effects of that venome which is ventositie or swelling. This correctiue spice, the mixture whereof maketh knowledge so soueraigne, is Charitie, which the Apostle immediatly addeth to the former clause, for so he saith, *Knowledge bloweth up, but Charitie buildeth up*; not vnlike vnto that which hee deliuereth in another place: *If I spake (sayth hee) with the tongues of men and Angels, and had not Charitie, it were but as a tinkling Cybmall*; not but that it is an excellent thinge to speake with the tongues of Men and Angels, but because if it bee seuered from Charitie. . .it hath rather a sounding and vnworthy glorie, than a meriting and substantiall vertue.<sup>21</sup>

The numerous criticisms of the ancients and the scholastics (among others) to be found in the pages of the *Advancement* typically involve a criticism of the moral character of the epistemic agents under criticism. While Bacon offers some glancing arguments for why there should be such a close connection between the moral character of an epistemic agent and their success (or lack thereof) in the pursuit of knowledge, it is only with the later *Novum Organum* that we get a set of rather specific arguments for why this should be the case.

Around the same time that Bacon was preparing the *Advancement of Learning* for publication, he also penned *A Confession of Faith* (only published posthumously). In this short work can be found a number of clues that help illuminate his program in the *Advancement*, especially with regards to the topics of the trinity and the *imago dei*. The brief introductory paragraph of *A Confession of Faith* ends with the following: ‘That God as he is eternally almighty, only wise, only good, in his nature, so he is eternally Father, Son and Spirit, in persons.’<sup>22</sup> Here is a succinct statement of Bacon’s association between divine attributes and persons in the Trinity, and this formula is the one integrated, as we have seen, into the *Advancement*. Moreover, the topic of the *imago dei* is also one he discusses in relation to the fall in the *Confession*: ‘God created

Man in his own image, in a reasonable soul, in innocence, in free-will, and in sovereignty. . . - upon the fall of Man, death and vanity entered by the justice of God, and the image of God in man was defaced.'<sup>23</sup> According to this line of thought, humanity before the fall was rational and intelligent, was free and powerful, and was morally untainted. Thus humanity possessed three attributes corresponding to the divine model, and, in addition, these attributes were disfigured as a result of the fall. The case that Bacon will spell out in detail in the late *Novum Organum* is one he believes consists essentially in the partial recovery of the original image of God in humanity, as will become evident. The claim in the *Advancement* that 'only loue doth exalt the mind, and neuerthelesse; at the same instant doth settle and *Compose* it' will be the key to understanding his argument that the only kind of knowledge that will deliver the practical benefits he recommends is knowledge which can be acquired by a mind of a certain tenor, namely one inflamed with a love that is in imitation of the holy ghost. In addition, such a mind will of necessity be one that directs all of the fruit of its pursuits to the betterment of humankind.

### III

Bacon's most complete articulation of both his methodological program for natural philosophy, as well as a number of examples of its application, comes in his 1620 *Novum Organum*. Already in the preface the reader finds Bacon's Trinitarianism highlighted, as he dedicates his entire program

to God the Father, God the Word, and God the Spirit, we pour out our most humble and burning prayers, that being aware of the hardships of the human race and of this terrible life of sojourn where we pass through few and wicked days, may they think us worthy to endow, through our hands, the human family with special new dispensations.<sup>24</sup>

When we look closer at the third aphorism containing the equation of knowledge and power, we find Bacon claiming that 'human knowledge and power coincide, because ignorance of the cause means the effect is lost as well. . . because the image of the cause in contemplation corresponds to the rule in operation.'<sup>25</sup> He will take many pains in the remainder of the work to argue that natural knowledge which warrants the name requires a mind that is capable of dwelling on particulars long and deeply enough to extract valid general claims. Such a mind additionally must be capable of eventually rising from particulars to true generalities and abstractions, and, finally, capable of returning again to particulars in order to use the knowledge gained through the first two stages to implement technologies that will improve the lot of humanity.

The reasons why Bacon believes that only an investigator of a certain moral temperament will be suitable to carry out his new science are evident in his critiques of various schools of received knowledge. He claims first that a mind incapable of dwelling on particulars will bring forth false generalities; second, that a mind incapable of rising from particulars will eventually be limited in its ability to make true predictions of future particulars outside of the scope of current observation and experimentation; and third, that a mind incapable of descending from abstractions back to concrete technological implementation will not have any knowledge capable of empirical confirmation. Bacon epitomizes this line of thought in the ninety-fifth aphorism in the *Novum Organum*:

Those who have practiced the sciences have been either empirics or dogmatists. The empirics are ants who foolishly find and gather together many things, while the rationalists foolishly manufacture spider webs out of their own substance. The true middle way is that of the bee,

who draws forth material from the flowers of the field and garden, and yet transforms and arranges this material by its own capacity.<sup>26</sup>

Both his critiques of received natural philosophy as well as his positive methodological strictures are based on the notion that the styles of investigation favored by the empirics and dogmatists are the result of the lack of the sort of universal love he had long ago presented in the *Meditationes* and in the *Advancement*. Indeed, just as he emphasizes charity in the *Meditationes*, he presents his empiricism as an expression of humility. In the *Novum Organum* Bacon contrasts his method to that of the rationalist, claiming that he himself ‘looks for knowledge not, through arrogance, in the small chambers of human cleverness, but submissively in the greater world.’<sup>27</sup> The connection to the fall is implicit when he further writes,

I, however, am not founding or consecrating some Capitol or Pyramid to human pride, but am establishing a holy temple in the human intellect according to the model of the world, and so it is that model which I follow.<sup>28</sup>

The capacity to rise above particulars is also emphasized in the *Novum organum*, and is evident in his critiques of alchemy and ‘the mechanics’. He argues that

the best of them [experiments of the mechanics] give little information to the intellect, hardly assisting it and revealing almost nothing. For the Mechanic is in no way troubled about the inquisition of truth, and so no energy is direct to anything outside of his work, to which he applies his mind and reaches out his hand.<sup>29</sup>

In his criticism of the alchemists he claims that they

almost always turn aside to practice with overhasty and unseasonable enthusiasm. . .and so it is that, in the manner of Atlanta, they fall from the way in order to pick up the golden apple, while at the same time, in truth, they break away from the course and let victory slip from their hands.<sup>30</sup>

Finally the litmus test for a knowledge claim must be its fruitfulness, or else it is without value or validity. Of course, the fact that, for Bacon, knowledge lacks value if it cannot be translated into benefits for humankind itself is made intelligible by the light of his belief in the centrality of love to the partial recovery of the *imago dei*, a process that signals the coming of the end of the world and the final judgment. That all of this ties back in to the fall is apparent in the last paragraph of the *Novum Organum*, in which Bacon opines that ‘humanity through the fall lost both its state of innocence and its power over the creatures.’<sup>31</sup> But he has already argued throughout the *Novum Organum* that the power over the creatures is one that can only be obtained through a knowledge inspired by universal love and charity. In this way, Bacon’s pragmatism has its roots in his Trinitarianism, in tandem with his beliefs about the fall and the *imago dei*.

Francis Bacon’s work is often associated with the development not only of natural science but also of a thoroughly secularized modern worldview in which knowledge claims are divorced from traditional theological justification, but this association is historically insupportable. As we have seen, the doctrine of the Trinity, a doctrine central to the vast majority of Christians not only historically but in the present day as well, had a deep and essential influence on Bacon’s understanding of the project of a renovated, ‘modern’ natural philosophy. If many of his successors decided to abandon this kind of approach, it is not for want of example in Bacon’s work.

## Notes

1 I am grateful to conversations with Dan Garber and Alexander Nehamas about many of the topics covered in this essay. Additional thanks to Benedicte Veillet and an anonymous referee for helpful style suggestions.

2 See the classic studies in Benjamin Farrington, *Francis Bacon: Philosopher of Industrial Science* (New York: Haskell House Pub., Ltd., 1973) and 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). See also Peter Urbach, *Francis Bacon's Philosophy of Science: An Account and a Reappraisal* (La Salle, Ill.: Open Court, 1987); and Antonio Perez-Ramos, *Francis Bacon's Idea of Science and the Maker's Knowledge Tradition* (Oxford: Clarendon Press, 1988).

3 See, for example, Benjamin Milner, 'Francis Bacon: The Theological Foundations of Valerius Terminus,' *Journal of the History of Ideas* 58.2 (1997), pp. 245–64; Steven Matthews, *Theology and Science in the thought of Francis Bacon* (England: Ashgate, 2008); and Stephen A. McKnight, *The Religious Foundations of Francis Bacon's Thought* (Missouri: University of Missouri Press, 2006).

4 See Diarmaid MacCulloch, *The Reformation* (New York; London: Viking, 2004); Steven Ozment, *The Age of Reform 1250–1550: An Intellectual and Religious History of Late medieval and Reformation Europe* (New Haven: Yale University Press, 1980); and Alister McGrath, *Intellectual Origins of the European Reformation* (Oxford, UK; Malden, MA: Blackwell Publishing, 2004).

5 Lisa Jardine and Alan Stewart, *Hostage to Fortune: The Troubled Life of Francis Bacon* (London: Victor Gollancz, 1998); Mary Ellen Lamb, 'The Cooke Sisters: Attitudes toward Learned Women in the Renaissance,' in Margaret P. Hannay, (ed.), *Silent but for the Word: Tudor Women as Patrons, Translators, and Writers of Religious Works* (Kent, OH: Kent State University Press, 1995).

6 She advocated for them (as later her son Francis did) and had them preach privately in the Bacon home.

7 While the focus of this essay will be on these three major works as representative of the three major stages of Bacon's career as a public intellectual (and indeed they were his most widely known), I will have occasion to mention other texts that help shed light on the major works.

8 *SEH* VII, p. 240. Where available, quotations are from Francis Bacon, *The Oxford Francis Bacon*, Graham Rees and Lisa Jardine, (gen. eds.), 15 vols., (Oxford: Clarendon Press, 1996-) (hereafter *OFB*), with additional reference to the corresponding texts in Francis Bacon, *The Works of Francis Bacon*, Collected and Edited by James Spedding, Robert Leslie Ellis, and Douglas Denon Heath, (London, 1857–74) (hereafter and above *SEH*) with volume followed by page number. Note that the *OFB* is not completed, and in some instances only the *SEH* reference will be given.

9 *OFB* IV, p. 37; *SEH* VI, 144.

10 *SEH* XIV, p. 78, 'Canon iste mater omnium canonum adversus haereses. Duplex erroris causa, ignoratio voluntatis Dei, et ignoratio vel levior contemplation potestatis Dei. Voluntas Dei revelatur magis per scripturas, *Scrutamini*; potestas magis per creaturas, *Contamplamini*'. All translations are my own. I have benefited from consultation with various extant translations, including those in *OFB* and *SEH*, as well as those in Francis Bacon, *The New Organon*. Edited and translated by Lisa Jardine and Michael Silverthorne, (Cambridge; New York: Cambridge University Press, 2000); and 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).

11 Because of the unity in distinction involved in the persons of the Trinity, all three persons and thus all three attributes are thought by Bacon to be involved in all God's works; nevertheless he recognizes a broad distinction of degree of expression of attribute. See also note 16 below.

12 *SEH* VII, pp. 233–4. 'Deus verbum in miraculis quae edidit. . .nil facere voluit quod non gratiam et beneficentiam omnino spiraret. . .Descendit super eum spiritus in forma columbae. . .spiritus Jesus, spiritus columbinus. . .Jesus Agnus Dei sine ira et iudiciis. Omnia ejus miracula circa corpus humanum, et doctrina ejus circa animam humanam. Indiget corpus hominis alimento, defensione ab externis, et cura. Ille multitudinem piscium in retibus congregavit, ut uberiorem victum hominibus praeberet. . .Ille ventos quod navigantibus minarentur corripuit. Ille claudis motum, caucis lumen, mutis sermonem, languidus sanitatem, leprosis carnem mundam, daemoniacis animum integrum, mortuis vitam restituit. Nullum miraculum iudicii, Omnia beneficentiae.'

13 *SEH* VII, p. 235: 'malum aliquod inimicum tuum deprehendat, et tu in interioribus cellulis cordis grave-ris et angustieris, nec, quasi dies ultionis et vindicate tuae advenisset, laeteris.'

14 *SEH* VII, p. 238: '*Misericordiam volo, et non sacrificium*. . .redargutio hypocritarum est, ut ab operibus sacrificii remittantur ad opera misericordiae; unde illud, *Religio munda et immaculata apud Deum et patrem*

*haec est, visitare pupillos et viduas in tribulatione eorum; et illud, Qui non diligit fratrem suum quem vidit, Deum quem non vidit quomodo potest diligere?*' The two other passages referred to are James 1:27 and 1 John 4:20.

15 While in the *Meditationes* Bacon presents the miraculous as evincing divine love, later he will come to focus more on the inward turning of the heart toward uprightness as the clearest expression of divine love. Indeed, by around 1604 he comes to see all miracles as only important insofar as they serve the ultimate task of salvation.

16 *OFB* IV p. 190; *SEH* III, p. 488.

17 *OFB* IV p. 191; *SEH* III, p. 489.

18 While the distinction between the persons and attributes is essential, it is equally essential to recall that there is always a unity undergirding the distinction. So, for example, Bacon in the *Advancement* continues to hold that nature more clearly reveals God's power and the scriptures his will, and even repeats the passage from Matthew 22:29. But he also notes that within nature can be recognized three dimensions that correspond with the three persons and attributes: 'in the Masse of the Matter [of creation] to the father, in the disposition of the forme to the Sonne, and in the continuance and consuervation of the being to the Holy spirit' *OFB* IV p. 190; *SEH* III, p. 488–9.

19 Even in the *Advancement* we find the following comment, which Bacon removed from the Latin translation intended for an international audience: '*Martin Luther* conducted (no doubt) by a higher providence. . . had vnderaken against the Bishop of *Rome*, and the degenerate traditions of the Church. . . And we see before our eyes, that in the age of our selues, and of our Fathers, when it pleased God to call the Church of *Rome* to account, for their degenerate manners and ceremonies: and sundrie doctrines, obnoxious, and framed to vphold the same abuses: At one and the same time, it was ordayned by the diuine providence, that there should attend withall a renouation, and new spring of all other knowledges' *OFB* IV pp. 21, 37; *SEH* III, pp. 282, 300. Moreover, the famous apocalyptic motto from Daniel 12:4 on the frontispiece of the *Novum Organum* ('Multi pertransibunt et augebitur scientia') was already in place on the frontispiece of the *Advancement*.

20 *OFB* IV p. 155; *SEH* III, pp. 443. The biblical quotations are from, in order, Isaiah 14:14, Genesis 3:6, Matthew 5:34–35, and Psalms 144:9.

21 *OFB* IV p. 7; *SEH* III, p. 266.

22 *SEH* VII, p. 219.

23 *SEH* VII, pp. 221–2

24 *OFB* XI pp. 20, 22; *SEH* I, p. 208: 'ad Deum Patrem, Deum Verbum, Deum Spiritum, preces fundimus humillimas, & ardentissimas, vt humani generis aerumnarum memores, & peregrinationis istius vitae, in qua dies paucos & malos terimus; nouis suis Eleemosynis, per manus nostras, familiam humanam dotare dignentur.'

25 *OFB* XI p. 64; *SEH* I, p. 242: 'Scientia & Potentia humana in idem coincidunt, quia ignoratio causae destituit effectum. . . quod in Contemplatione, instar causae est; Id in Operatione, instar Regulae est.'

26 *OFB* XI p. 152; *SEH* I, p. 306: 'Qvi tractauerunt Scientias, aut Empirici, aut Dogmatici fuerunt. Empirici, formicae more, congerunt tantum & vtuntur; Rationales, araneorum more, telas ex se conficiunt; Apis verò ratio media est, quae materiam ex floribus horti & agri elicit, sed tamen eam propriâ facultate vertit & digerit.'

27 *OFB* XI p. 24; *SEH* I, p. 210: 'non per arrogantiam in humani Ingenij cellulis, sed submissè in mundo maiore quaerat.'

28 *OFB* p. 180; *SEH* I, p. 325: 'Nos autem non Capitolium aliquod aut Pyramidem hominum superbiae dedicamus aut condimus, sed Templum sanctum ad exemplar Mundi in intellectu humano fundamus. Itaque exemplar sequimur.'

29 *OFB* XI p. 156; *SEH* I, p. 309: 'summa eorum quae ad Intellectus informationem maximè faciunt, & iuuant detegitur inopia. Mechanicus enim de veritatis inquisitione nullo modo sollicitus, non ad alia, quam quae operi suo subseruiunt, aut animum erigit, aut manum porrigit.'

30 *OFB* XI pp. 110, 112; *SEH* I, pp. 225–6: 'semper ferè studio praepropero & intemptiuo, deflectunt ad praxin. . . Ita fit, vt more *Atalantae*, de viâ decedant ad tollendum aureum pomum; interim verò cursum interrumpant, & victoriam emittant è manibus.'

31 *OFB* XI p. 446; *SEH* I, p. 538: 'Homo enim per lapsum & de Statu Innocentiae decidit, & de Regno in Creaturas.' For an interesting discussion of the theme of domination of nature in Bacon, see the classic study in Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution*, (San Francisco: Harper & Row, 1980), as well as the extensive discussion of her work in *Isis*, 97 vol. 3 (2006), pp. 485–533.