

**The Book of Job and the Sex Life of Elephants: The Limits of Evidential Credibility  
in Eighteenth-Century Natural History and Biblical Criticism \***

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In October 1779 the renowned biblical scholar Johann David Michaelis (1717–1791) sent to his contacts in India several questions about natural history. These queries were of the utmost urgency and significance: Michaelis reported to the readers of his journal *Orientalische und Exegetische Bibliothek* that the answers would conclusively refute the arguments of none other than the best-known contemporary naturalist, Georges-Louis Leclerc, Comte de Buffon (1707–1788), author of the multi-volume *Histoire naturelle* and superintendent of the Cabinet du Roi and the Jardin du Roi in Paris. Michaelis, professor at the small university town of Göttingen in central Germany, was confident that the questions would confirm “what any connoisseur knows,” namely, that Buffon was “utterly unreliable” and that his *Histoire naturelle* was merely an “imagined novel about natural history.”<sup>1</sup>

The questions Michaelis deemed so important as to undermine the greatest authority on natural history all dealt with elephants. While some concerned trees and bushes eaten by Asian elephants, most queries directly addressed their sexual intercourse. These were some of the questions Michaelis distributed among missionaries and colonial administrators:

1. Has anyone in India seen the elephant in sexual intercourse? If so,
2. How do elephants copulate? Because this is indeed a controversial matter;
3. Is the male’s sexual organ very much enlarged in in the deed? How large does it approximately become?<sup>2</sup>

What did Michaelis, a sober biblical scholar and an expert on oriental languages, have to do with the sex life of elephants? What might have led him to wage a public scholarly war against Buffon? The solution to this puzzle lies in a remarkable dispute linking biblical scholarship and natural history in eighteenth-century Europe. The significant albeit now-forgotten debate over elephant copulation echoed well into the early nineteenth century: both the fourth edition of the *Encyclopædia Britannica* (1810) and a German zoological encyclopedia published in 1835 surveyed recent errors concerning the sex life of elephants. “Only in recent times,” the German compendium informed its readers, “was it was proven through observation” how this act occurred.<sup>3</sup> In the late nineteenth and the early twentieth centuries, the intensity and significance of this eighteenth-century debate gradually faded away from collective memory. For example, in 1981 Michel Foucault opened his lectures on subjectivity and truth at the Collège de

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<sup>1</sup> “Nachrichten von der Speise und Begattung der Elefanten, aus Ostindien,” item 317 in Johann David Michaelis, *Orientalische und Exegetische Bibliothek* (henceforth OEB), XXI (Frankfurt am Main, 1783), 149.

<sup>2</sup> Ibid., 150.

<sup>3</sup> Johann Christian Daniel von Schreber, *Die Säugethiere in Abbildungen nach der Natur mit Beschreibungen*, continued by Johann Andreas Wagner, vol. VI (Erlangen, 1835), 234; James Millar (ed.), *Encyclopaedia Britannica, or a Dictionary of Arts, Sciences, and Miscellaneous Literature*, 4<sup>th</sup> edition (Edinburgh, 1810), XII, 469.

France with an overview of anthropomorphizing accounts of the elephant from antiquity to the eighteenth century, which attributed to the pachyderm extraordinary conjugal fidelity. Foucault did not seem aware of the eighteenth-century controversy: for him, Buffon was the last representative of an immutable textual tradition rather than a participant in a dynamic debate raging across Europe and its colonies, from Paris and Göttingen to Colombo and the Cape of Good Hope.<sup>4</sup>

Although the debate did include exchanges between European scholars, missionaries, voyagers, and administrators overseas, it remained—for better or worse—a thoroughly European affair. On the ground, in southeastern India and Sri Lanka, much more nuanced exchanges of knowledge must have taken place: the protagonists of this controversy, however, made no serious attempt to investigate the place elephants occupied in indigenous belief systems concerning the natural world and supernatural entities. Local knowledge was appreciated only insofar as it corroborated European theories of elephants' behavior. As we shall see, the very admissibility of data provided by indigenous informants was a major bone of contention. What follows is, therefore, an overview of a European intellectual controversy and its contexts in eighteenth-century biblical studies and natural history. As suggested by Sujit Sivasundaram, a more robust and multilateral exchange concerning elephants emerged after a major expansion of British colonial power in India, which generated an intensive fusion between forms of local and European knowledge for military, economic, and missionary purposes.<sup>5</sup>

An analysis of a controversy over the sex life of elephants understandably invites a scholarly chuckle accompanied by a healthy measure of suspicion. It should be noted at the outset that this article highlights the much broader issues at stake. By framing the episode within Enlightenment debates over biblical interpretation and natural history, I shall explore changing criteria for the assessment of data concerning the natural world, the persistence of anthropomorphic attitudes to animals, and the role of allegory and empirical evidence in interpretations of Scripture. More generally, this account of the controversy should undermine some *idées reçues* concerning natural history and theology in the eighteenth century. For in this case it was the biblical scholar who insisted on a strictly empirical approach to the question at hand, while mobilizing a network of informants in South Asia to counter Buffon's arguments. The natural historian, by contrast, defended the use of analogy and probabilistic speculation.

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<sup>4</sup> Foucault, *Subjectivity and Truth: Lectures at the Collège de France, 1980–1981*, ed. Frédéric Gros, trans. Graham Burchell (London, 2017), 1–16; 25–37.

<sup>5</sup> Sivasundaram, "Trading Knowledge: The East India Company's Elephants in India and Britain," *The Historical Journal* 48.1 (2005), 27–63. For a later period, see Jonathan Saha, "Colonizing Elephants: Animal Agency, Undead Capital and Imperial Science in British Burma," *BJHS Themes* 2 (2017), 169–89. On a more reciprocal (if still asymmetrical) global construction of knowledge, see Sivasundaram, *Nature and the Godly Empire: Science and Evangelical Mission in the Pacific* (Cambridge, 2005); Kapil Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe* (Basingstoke, 2007); and Simon Schaffer, Lissa Roberts, Kapil Raj and James Delbourgo (ed.), *The Brokered World: Go-Betweens and Global Intelligence, 1770–1820* (Sagamore Beach, MA, 2009).

## I. THE ELEPHANT AS BEHEMOTH

The main occasion for Michaelis's fascination with all things elephantine was his translation of the Old Testament, whose first volume appeared in 1769. The enterprise began not with Genesis but rather with the Book of Job, accompanied by a rich commentary. Starting a new project of biblical translation with Job would not have surprised contemporary readers, for this book was the subject of considerable discussion and veneration in the eighteenth century. It was widely regarded as the oldest component of the Old Testament. One of its evident peculiarities was the rare appearance of Satan, whose direct confrontation with God seemed to reflect a perennial conflict between good and evil that had been manifest in ancient Near Eastern systems of belief, most notably in Manichean thought.

Moreover, the Book of Job was the subject of a lively eighteenth-century controversy concerning its overall meaning. The main question was whether Job's suffering and his confrontation with God were parables, allegories, or fictively adorned reflections of historical reality. In the years preceding Michaelis's translation, the debate was reinvigorated by a controversial interpretation of Job by William Warburton (1698–1779) in *The Divine Legation of Moses*; its first edition was published in several instalments between 1738 and 1742. This complex work by the Bishop of Gloucester argued that ancient Israel was a unique case of extraordinary providence that guaranteed a close match between obedience to the revealed law and temporal happiness. All other polities, according to Warburton, had to resort to divine rewards and punishments in an afterlife in order to maintain public order in this world. Given the thrust of *The Divine Legation*, it could not accommodate any inkling of an afterlife where the ancient Israelites were concerned. Warburton could not follow the traditional typological reading of Job, which saw the story as prefiguring Christ's coming and promising future rewards for present suffering (especially 19:25–27, where Job exclaims "I know that my redeemer lives"). On such a reading, the existence of an afterlife with divine rewards and punishments would have been revealed to the Israelites early on. Warburton, therefore, interpreted the Book of Job as an allegory concerning the actual suffering of the Jews following the Babylonian exile; its author was allegedly Ezra, who crafted from ancient traditions a tale about temporal restitution rather than redemption following a Last Judgment.<sup>6</sup>

While various critics immediately disputed Warburton's reading of Job, the controversy reached its peak in the well-publicized confrontation between Warburton and Robert Lowth (1710–1787), Bishop of Oxford and later London, who vehemently

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<sup>6</sup> Warburton, *The Divine Legation of Moses Demonstrated, on the Principles of a Religious Deist, from the Omission of the Doctrine of a Future State of Reward and Punishment in the Jewish Dispensation*, II.2 (London, 1742), 484–555.

criticized the Bishop of Gloucester's thesis. Well before his direct reply to Warburton, Lowth championed a very different view of the Book of Job. As part of his general appreciation of what he saw as sublime and poetic elements in the Old Testament, Lowth regarded Job as a reflection of poetic genius, relating largely historical events. Although its dialogues "have partaken largely of the embellishments of poetry" and the exordium (God's exchange with Satan) might well be considered fictive, Lowth insisted that he has "not been able to trace any vestige of an allegorical meaning throughout the entire poem." He criticized, therefore, "the immoderate affection of some allegorizing mystics for their own fictions."<sup>7</sup> This confident assertion was made in Lowth's *Lectures on the Sacred Poetry of the Hebrews*, which he delivered as the Oxford Professor of Poetry from 1741 to 1750 (and which was published in 1753 as *De sacra poesi Hebraeorum praelectiones* by the Clarendon Press).

The audience of one of Lowth's early lectures included the young Johann David Michaelis, who was duly impressed by the lecturer's application of general aesthetic criteria to the Old Testament—an interpretation that went beyond traditional approaches to Scripture. Michaelis later edited and annotated Lowth's *Lectures* in two volumes that were published in Göttingen in 1758 and 1761; this was the beginning of a long-lasting friendship and close collaboration.<sup>8</sup> The Book of Job was, however, the occasion of a rare disagreement between Lowth and his German protégé. Fully sharing Lowth's appreciation of the merits of ancient Hebrew poetry, Michaelis refused to follow in the bishop's footsteps and interpret Job as a sublime discussion of ethical topics, couched in pre-Mosaic style and reflecting non-Israelite (Idumean) customs and events. For Michaelis, the customs depicted in Job were common to different "Abrahamic" nations in the ancient Near East, and on the whole "the Book of Job is more instructive as a fable, than it could possibly be as a true history."<sup>9</sup> Michaelis opted for a middle way, seeing the Book of Job as the expression of a perpetual ethical conundrum as well as a representation of the Jews' afflictions and an attempt to offer them consolation.<sup>10</sup> Moreover, Michaelis insisted on the high probability that the Book of Job was authored by Moses himself.<sup>11</sup>

Since the English translation of Lowth's Latin *Lectures* included Michaelis's erudite commentary, the long footnote where he begged to differ from Lowth on the

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<sup>7</sup> Lowth, *Lectures on the Sacred Poetry of the Hebrews*, trans. G. Gregory (London, 1787), II, 357. On the Job controversy in England, see Jonathan Lamb, *The Rhetoric of Suffering: Reading the Book of Job in the Eighteenth Century* (Oxford, 1995), esp. 119–27; B. W. Young, *Religion and Enlightenment in Eighteenth-Century England: Theological Debate from Locke to Burke* (Oxford, 1998), 190–216.

<sup>8</sup> Lowth, *De sacra poesi Hebraeorum praelectiones academicae Oxonii habitae*, ed. Johann David Michaelis (Göttingen, 1758 and 1761). On their collaboration, see Avi Lifschitz, "Translation in Theory and Practice: The Case of Johann David Michaelis' Prize Essay on Language and Opinions (1759)", in *Cultural Transfer through Translation in Eighteenth-Century Europe*, ed. Stefanie Stockhorst (Amsterdam, 2010), 29–43.

<sup>9</sup> Lowth, *Lectures*, II, 363, 359.

<sup>10</sup> *Ibid.*, 363.

<sup>11</sup> *Ibid.*, 366–67. Cf. Michaelis's comments in Lowth, *De sacra poesi Hebraeorum*, II, 647–701.

Book of Job became the subject of criticism in its own right. Lowth's translator into English, George Gregory (1754–1808), sprang to the original author's defense, pointing out that some fictional elements did not necessarily render a work completely fictive. Even if a few events related in Homer's *Iliad* did not actually take place, this would not in itself be a sufficient reason to conclude that the Trojan War had never happened.<sup>12</sup> Gregory's translation of Lowth's *Lectures on the Sacred Poetry of the Hebrews*, accompanied by Michaelis's scholarly apparatus and the translator's replies to Michaelis's running commentary, is therefore a fascinating distillation of a hermeneutical debate conducted over several generations and reenacted within the text and the footnotes of a single edition.

Yet how is this scene of scholarly controversy relevant to Michaelis's profound interest in elephants? The answer can be found toward the end of the Book of Job, in chapter 40, where God boasts of his unsurpassed might and wisdom. One of the examples demonstrating divine omnipotence coupled with acumen is God's creation of two gigantic monsters whose destructive power he managed to neutralize. The sea monster is Leviathan, and the land is inhabited by the tremendous Behemoth. The latter's might is manifest in the opening verses of God's account of the beast, in Job 40:15–16 (in the King James Version): "Behold now behemoth, which I made with thee; he eateth grass as an ox. / Lo now, his strength is in his loins, and his force is in the navel of his belly."<sup>13</sup>

Ever since antiquity, debates had abounded over the identity of these biblical creatures: did they stand for existing animals, and if so, of which species?<sup>14</sup> Alternatively, could they stand for monsters of chaos overcome by God, as in similar Near Eastern myths? Were they allegories of disorder or evil?<sup>15</sup> While most early modern interpreters believed Job 40 did refer to actual animals, there was no consensus concerning their identity. The hermeneutic scene was divided between interpretations of Leviathan as a crocodile or a whale and of Behemoth as either a hippopotamus, a rhinoceros, or an

<sup>12</sup> Lowth, *Lectures*, II, 367–70.

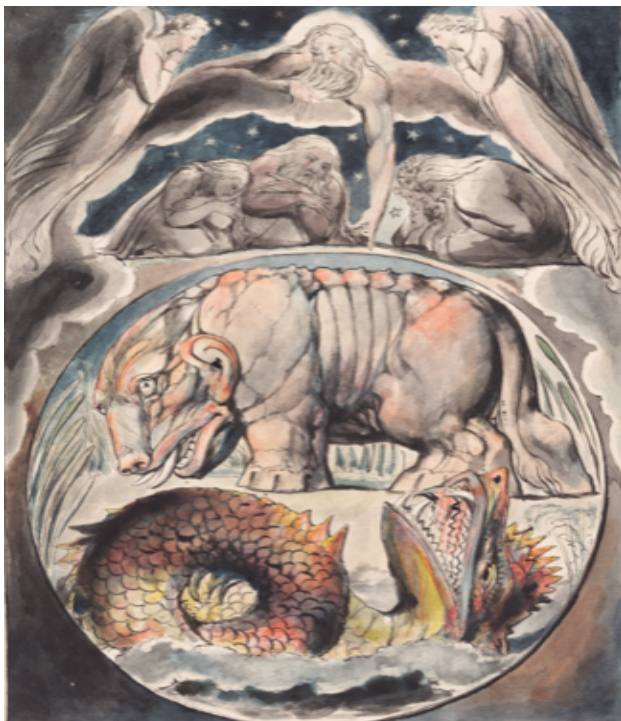
<sup>13</sup> In the original Hebrew:

הִנֵּה נָא בְּהֵמוֹת אֲשֶׁר עָשִׂיתִי עִמָּךְ חֲצִיר כֹּבֵקֵר יֹאכֵל:  
הִנֵּה נָא כָּחוֹ בְּמַתְנֵיוֹ וְאֹנוֹ בְּשִׁרְיָיו בְּטֶנוֹ:

<sup>14</sup> The controversy was partly generated by the irregular grammatical use of the term in Job. While Behemoth would usually be the plural form (-oth) of a large beast (*behemah*), in Job 40 the term seems to refer to a single creature (usually read as an intensive plural).

<sup>15</sup> Twentieth-century interpreters did not usually consider Behemoth and Leviathan as actual animals. Harry Torczyner (Naftali Tur-Sinai) suggested that the identification of Behemoth as a single creature was a rabbinic invention, erroneously taken up by later interpreters (Torczyner, *Das Buch Hiob. Eine kritische Analyse des überlieferten Hiobtextes* (Vienna and Berlin, 1920), 311–21). More recently, John Day concluded that Behemoth and Leviathan were versions of the chaos monsters common in Near Eastern mythologies (idem, *God's Conflict with the Dragon and the Sea: Echoes of a Canaanite Myth in the Old Testament* (Cambridge, 1985), 75–87; cf. Othmar Keel, *Jahwes Entgegnung an Ijob: Eine Deutung von Ijob 38–41 vor dem Hintergrund der zeitgenössischen Bildkunst* (Göttingen, 1978), 127–41). At the same time, attempts to identify Behemoth and Leviathan continued unabated: as late as the 1970s, the American water buffalo was cast in the role of Behemoth in B. Couroyer, "Qui est Béhémoth?", *Revue Biblique* 82 (1975), 418–43.

elephant. As we shall see, Michaelis argued for an elephantine Behemoth, presuming to conclude the long-standing debate. It is important to note, however, that most of his predecessors argued just as decisively that Behemoth must be a hippopotamus. The most prominent among them was Samuel Bochart (1599–1667), whose two-volume encyclopaedia of biblical zoology, *Hierozoicon* (1663), remained a central reference work throughout the eighteenth century. In its second section, Bochart provided several arguments to substantiate his view that Behemoth was definitely a hippopotamus.<sup>16</sup> For the rest of the seventeenth century and throughout the eighteenth, the idea of Behemoth as an elephant remained a minority opinion.<sup>17</sup> Dom Calmet (Antoine Augustin Calmet, 1672–1757) was a lonely eighteenth-century voice preceding Michaelis in casting the elephant in the role of Behemoth.<sup>18</sup> The enduring fascination with Behemoth, Leviathan, and their representation is apparent in William Blake's early nineteenth-century cycle of watercolor paintings of scenes from Job, one of which is fully dedicated to the imaginary beasts (fig. 1).



<sup>16</sup> Bochart, *Hierozoicon Sive bipertitum opus De Animalibus Sacrae Scripturae* (London, 1663), vol. I, book II, ch. 23, 247–48.

<sup>17</sup> See, for example, the discussion in Patrick Blair, "Osteographia Elephantina; or, A full and exact Description of all the Bones of an Elephant, which died near Dundee, April the 27<sup>th</sup>, 1706, with their several Dimensions," in Hans Sloane (ed.), *Philosophical Transactions. Giving Some Account of the Present Undertakings, Studies and Labours of the Ingenious in Many Considerable Parts of the World*, XXVII (London, 1712), 51–168 (esp. 57–58).

<sup>18</sup> Calmet, *Dictionnaire historique, critique, chronologique, géographique et littéral de la Bible*, I (Paris, 1722), 262–63; III (Paris, 1728), 228–30.

Fig. 1. William Blake, *Behold Now Behemoth, Which I Made With Thee (The Book of Job)*, 1821. An illustration of the Book of Job showing God pointing down at Behemoth and Leviathan, beasts of land and sea. Watercolor, black ink, and graphite on off-white antique laid paper. Harvard Art Museums/Fogg Museum, Bequest of Grenville L. Winthrop, 1943.415. Photo: Imaging Department © President and Fellows of Harvard College.

Johann David Michaelis's translation was unique in its resoluteness and conclusiveness. The pre-eminent orientalist of Göttingen did not opt for any equivocation concerning Behemoth: his own version of God's account of the beast started simply with "See the elephant, which I have created alongside you!" (*"Siehe den Elephanten, den ich neben dir geschaffen habe!"*).<sup>19</sup> The entire debate was thus assigned to the profuse endnotes of Michaelis's version of Job, where he had to explain why he did not expose his readers to the peculiar Hebrew term but rather predetermined the identity of the beast. For Michaelis, the essential reasons for this hermeneutic choice were directly linked to the elephant's sexual habits (fig. 2).

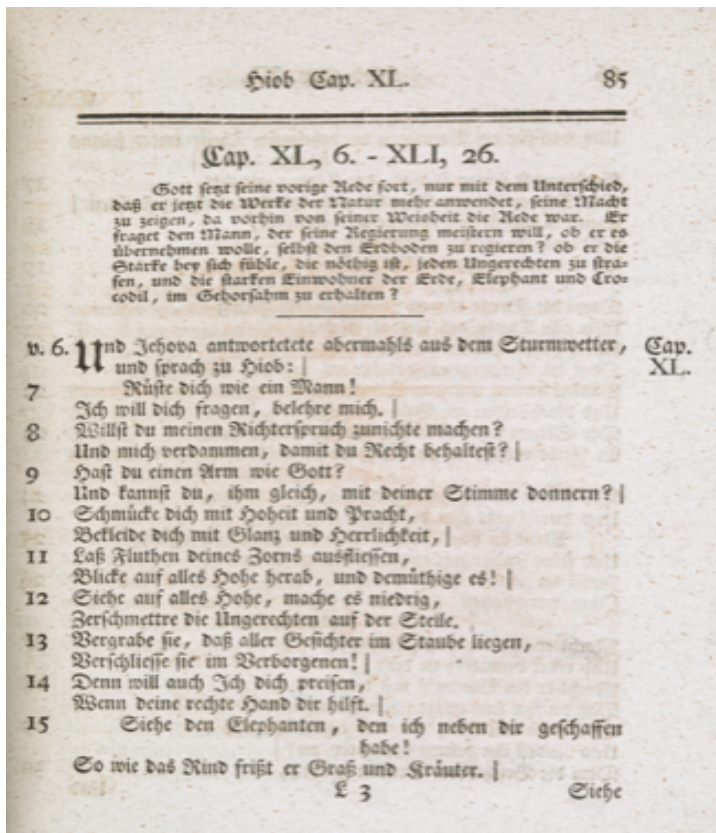


Fig. 2: Johann David Michaelis's translation of Job 40, where he replaces without trace the traditional Hebrew names Behemoth and Leviathan with the elephant and the crocodile (see verse 15 at the bottom of the page). In Michaelis, *Deutsche Uebersetzung des Alten Testaments, mit Anmerkungen für Ungelehrte. Der erste Theil, welcher das Buch Hiobs enthält*, 2<sup>nd</sup> edition (Göttingen and Gotha, 1773). © British Library Board: shelfmark 219.i.5-12, p. 85.

<sup>19</sup> Michaelis, *Deutsche Uebersetzung des Alten Testaments, mit Anmerkungen für Ungelehrte. Der erste Theil, welcher das Buch Hiobs enthält*, 2<sup>nd</sup> edition (Göttingen and Gotha, 1773), 85.



In the commentary, readers learned that the Hebrew term would sound uncomfortably alien to modern German ears; Michaelis ignored here, of course, the long history of Behemoth in European translations of the Bible, including the King James Version and Martin Luther's popular German translation.<sup>20</sup> Michaelis's unorthodox preference was exclusively based on behavioral traits. One would expect the gigantic beast to act destructively toward fellow creatures, including human beings, but God fortunately created Behemoth in such a way that its enormous size, power, and intelligence were combined with the most benign and peaceful inclinations—as well as a well-controlled sexual demeanor. The elephant was, according to Michaelis, the only large quadruped whose known attributes corresponded to God's account of Behemoth in the Book of Job.

This thesis led Michaelis to interpret another point quite differently from earlier translators. Verse 16 in Job 40 was rendered, for example, in the King James Version as "His strength is in his loins, and his force is in the navel of his belly," while Michaelis translated it as "See how strong his loins are; and how powerful the secret parts under his belly!" (*"Siehe, welche starke Lenden! Und was für ein Vermögen die geheimen Theile unter deinem Bauch haben!"*) The Göttingen orientalist clearly saw both parts of the verse, concerning the loins and the belly, as sexual references involving "the organs necessary for procreation."<sup>21</sup> Since he believed the entire description of Behemoth was meant to exhibit not only God's power but also his wisdom in designing Behemoth as a peaceful creature despite its dimensions, he saw the herbivorous and sexually modest elephant as the only candidate for this role. In order to buttress his identification of Behemoth as an elephant, Michaelis now had to discuss the robustness of the elephant's sexual organs and how they functioned. Drawing on past and contemporary accounts of elephant ethology, Michaelis did not shy away from commissioning brand new observations from overseas.

The strangest fact about the elephant, as Michaelis saw it, was that all major authors, from antiquity to the eighteenth century, argued it was the only animal never to

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<sup>20</sup> Martin Luther, like most earlier translators, simply transcribed the Hebrew word Behemoth, explaining it meant "all immense beasts" while actually referring to "the might of Satan and his servants among the godless hordes of the world." (*Biblia, Das ist, die gantze heilige Schrift Deudsch* (Wittenberg, 1544, 291v.)

<sup>21</sup> Michaelis, "Anmerkungen zu Hiob", in *Deutsche Uebersetzung*, 180 (translation and the commentary are separately numbered). This interpretation, as well as the identification of Behemoth as an elephant, were far from universally accepted; cf. Johann Georg Meintel, *Erklärung des Buchs Hiob, worinn die dunkel- und schwerscheinenden Stellen aller Capitel, nach der Uebersetzung des berühmten Herrn Hofrath Michaelis beleuchtet und erwogen, und der Grundtext mit seinen Puncten gerettet wird* (Nürnberg, 1771), 189–91. On earlier eighteenth-century German interpretations of Job, see Ulrich Groetsch, *Hermann Samuel Reimarus (1694–1768): Classicist, Hebraist, Enlightenment Radical in Disguise* (Leiden, 2015), 138–70; Wilhelm Schmidt-Biggemann, "Erbauliche versus rationale Hermeneutik. Hermann Samuel Reimarus' Bearbeitung von Johann Adolf Hoffmanns 'Neue Erklärung des Buchs Hiob'", in *Veröffentlichung der Joachim Jungius-Gesellschaft der Wissenschaften* 85, ed. Wolfgang Walter (Göttingen, 1998), 23–52.

have been observed while copulating. As Michaelis explained, “the elephant never copulates when he is not completely alone, which is why the naturalists are not in a position to provide any information on its copulation beyond the fact that no one has ever witnessed it. He is reputed to be vengeful when watched furtively”—but Michaelis noted here that such reports must be unreliable: if no one had ever watched elephants copulating, how could authors report about the elephant’s reaction once caught in the act?<sup>22</sup>

The absence of evidence about the sexual habits of elephants was traditionally interpreted as evidence for the absence of sexual mores common to all other beasts. Summarizing existing accounts of elephant behavior, Michaelis informed his readers that this was the only species to possess an elaborate, quasi-human sense of sexual modesty. Elephants never procreated in captivity because they were allegedly anxious about being watched either by fellow elephants or by their human masters. Hence, elephants in India and Sri Lanka were reported to forgo the strongest sexual drives due to their unique sense of shame and modesty. Michaelis argued that the term *Schaamteile* was not out of place for an animal capable of feeling shame so profoundly that it could overwhelm the most frenzied sexual heat—thereby explaining his decision to interpret what the King James translators had rendered as “the navel of his belly” as a reference to the elephant’s sexual organs.<sup>23</sup>

The sexual mores of the elephant were, therefore, key to Michaelis’s solution of the enigma that was the biblical Behemoth. The steadfastness with which he insisted on his identification of the sexually modest elephant with the biblical Behemoth might, however, seem rather problematic within the larger context of his translation project. In the introduction to his new version of the Old Testament, Michaelis claimed he was treading a middle path between slavish literal translation and free paraphrasing.<sup>24</sup> While noting he had taken great care to make his translation comprehensible to a modern German audience, Michaelis also tried to disabuse his readers of any expectation of smooth, contemporary language. In fact, he wished to present his readers with a slightly alienating idiom, so as to expose them to the “old oriental taste” rather than eighteenth-century sensibility. Michaelis thus opted for maintaining Hebrew “images and figures” when he could not find similar ones in German. He did so also in order to eschew confessionally contested terms: the renowned Göttingen scholar claimed he was addressing a multiconfessional public, including skeptics and heretics of all stripes—which was why the translation should reflect the taste, spirit, and language of the original.

<sup>22</sup> Michaelis, “Ammerkungen zu Hiob,” 180–81.

<sup>23</sup> Michaelis noted one could expect the size of the male member to match the overall magnitude of the elephant, but all available measurements provided evidence of an organ no larger than that of the much smaller horse. However, Michaelis argued that the organ must be larger in hotter climates and in the wild than in Europe or in captivity, where most elephants had been observed and measured. (Ibid., 181.)

<sup>24</sup> Michaelis. “Vorrede der ersten Ausgabe,” in *Deutsche Uebersetzung*, xix–xx.

First of all, if I paraphrased a highly controversial expression, I would impose my own ideas and belief upon the reader instead of faithfully transmitting the words of the Bible, our only source of insight, and letting him pass his own verdict. [In such a case,] I would be thinking within the reader's mind and in his place; if I actually ventured to do so, everyone of a different view of the faith must lose his trust in the translation, and it would become useless. I do not intend to infuse the Bible with any religious system whatsoever, not even the one I hold for true, but rather to leave the Bible in German, as far as possible, just as it is in Hebrew. In the case of such an important book, the common source of knowledge for all Christians (as different from one another as they are), I wish I could actually maintain the ambiguities and obscurities of the foundational text in controversial places without ever adding anything or making it better than it is.<sup>25</sup>

Michaelis's allegedly neutral stance was presented as a bulwark against skeptics: like most other pioneers of biblical criticism in eighteenth-century Europe, he believed that minute philological investigation would be the Bible's best defense against radical freethinkers. The latter must be able to find in Michaelis's translation anything and everything they would doubt in the original, for "the greatest impartiality (*die größte Unparteilichkeit*) will be the safest means to correct them [the heretics], if they would only read the work attentively, to the end, and with an investigative intention."<sup>26</sup>

Why, then, not leave Behemoth in peace and in transcribed Hebrew? Why did Michaelis replace it with a German elephant? Transcribing the Hebrew term, as his predecessors had done, might have better reflected Michaelis's attempt to make the alien culture of the ancient Near East shine through a modern German version. It could have also aligned more seamlessly with his argument about the importance of reproducing controversial terms in the original so as to preclude needless confessional debates. Moreover, the insistence on the precise identity of Behemoth and its explanation by reference to natural history appears to run contrary to Michaelis's earlier complaint against Lowth: one of the rare disagreements between the English author and his German editor concerned Lowth's conviction that the Book of Job reflected actual history, which Michaelis rejected in favor of nuanced allegory. If Job "is more effective as a fable than it could possibly be as a true history," as Michaelis argued in his comments on Lowth's *Lectures on the Sacred Poetry of the Hebrews*, what added value could be gained from an exclusive interpretation of Behemoth as a real-life elephant?<sup>27</sup>

A potential solution lies in Michaelis's attitude to scholarly inquiry, which he imbibed from Albrecht von Haller (1708–1777), his mentor at Göttingen in the late 1740s, and later elaborated later into a full-fledged academic credo. Contrary to the

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<sup>25</sup> Ibid., xxiv.

<sup>26</sup> Ibid., xxv.

<sup>27</sup> Lowth, *Lectures*, II: 359.

confessionally tinged scholarship of his ancestors, Michaelis emphasized the primacy of empirical evidence and its precedence over probabilistic hypotheses. As he made clear in his instructions to the scientific expedition sent by the Danish king to the Arabian peninsula in the 1760s, minute empirical investigation should trump all wondrous narratives and any sort of speculation. Michaelis's instructions insisted on disabusing the explorers—and all future readers—of daily habits of looking at the world. His main aim was to train and refocus the voyagers' gaze, instilling in them a certain discipline that would render their observations of greater scholarly use. Practically, for example, each member of the expedition had to note down in a special diary what he saw each day without prior discussion with his peers; this would allow European scholars to encounter new facts from different points of view. Confirmed by several witnesses, such discoveries could be all the more "reliably believed."<sup>28</sup>

Michaelis's overall commitment to historical and philological research was meant to vindicate the authenticity of the Bible by relating it to actual events, human habits, and natural history. Where the Old Testament was concerned, any hermeneutic effort necessarily meant being "forced to delve into the entire natural history and customs" of the Near East.<sup>29</sup> The effect of much of his scholarship, fully expressed in the immense edifice of Michaelis's commentaries on his translation, was indeed the alienation of the Bible from its eighteenth-century readers. As Jonathan Sheehan has argued, in the hands of Michaelis and his peers the Bible was transformed from a familiar text, usually read for personal salvation, into a cultural artefact—in this case, a mine of historical data about the fauna, flora, and human customs of the ancient Near East.<sup>30</sup> This project was the leitmotif of the Danish expedition to Arabia organized by Michaelis, as well as of his six-volume investigation of Mosaic legislation.<sup>31</sup>

While Lowth wished to rescue the Bible from its detractors by reintroducing it to wider audiences as a poetic masterpiece, Michaelis pursued a different path in the service of a similar aim. For him, the more profoundly the biblical text could be embedded within the contexts of the ancient Near East, the more easily it could be vindicated as the most ancient and reliable document. As long as the Book of Job reflected real customs,

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<sup>28</sup> Instruction 8 (unpaginated) in Michaelis, *Fragen an eine Gesellschaft gelehrter Männer, die auf Befehl Ihrer Majestät des Königes von Dänemark nach Arabien reisen* (Frankfurt am Main, 1762).

<sup>29</sup> Ibid., "Vorrede" (unpaginated).

<sup>30</sup> Jonathan Sheehan, *The Enlightenment Bible: Translation, Scholarship, Culture* (Princeton, NJ, 2005), esp. 182–217.

<sup>31</sup> Michaelis, *Mosaisches Recht* (Frankfurt am Main, 1770–1775). On his method and scholarship, see Sheehan, *Enlightenment Bible*, 182–217; Suzanne L. Marchand, *German Orientalism in the Age of Empire* (Cambridge, 2009), 36–42; Michael Legaspi, *The Death of Scripture and the Rise of Biblical Studies* (Oxford, 2010); and Avi Lifschitz, *Language and Enlightenment: The Berlin Debates of the Eighteenth Century* (Oxford, 2012), 96–117. On the expedition to Arabia: Thorkild Hansen, *Arabia Felix: The Danish Expedition of 1761–1767*, trans. James and Kathleen McFarlane (London, 1964); Stig Rasmussen (ed.), *Carsten Niebuhr und die Arabische Reise 1761–67* (Heide, 1986); Michael Carhart, *The Science of Culture in Enlightenment Germany* (Cambridge, MA, 2007), 27–68; Lawrence J. Baack, *Undying Curiosity: Carsten Niebuhr and the Royal Danish Expedition to Arabia, 1761–1767* (Stuttgart, 2014).

names, and locations, the main plot may well have never taken place and could be interpreted as a plausible fable. Like Thomas Aquinas long before him, Michaelis did not see a contradiction between, on the one hand, a naturalistic interpretation of Behemoth as an elephant, and, on the other, an allegorical-moralizing view of the Book of Job as a whole.<sup>32</sup>

A decisive identification of the land and sea monsters in Job 40 would thus better anchor the biblical text within its natural and historical settings, thereby upholding its authenticity—even if this ran against some of the hermeneutical principles Michaelis had set for his own translation.<sup>33</sup> Michaelis was willing to extend his pursuit of the best available data all the way to India and Sri Lanka, if this could undermine dubious hypotheses about the comportment of present-day Behemoth, the Asian elephant. Any report on elephants from the East Indies would, Michaelis believed, not only bolster his own exegesis but also place biblical criticism on a firmer and safer footing. To do so, the Göttingen orientalist had to contend with what he described as the century's most famous "imagined novel about natural history."

## II. BUFFON AND THE VIRTUOUS ELEPHANT

In his account of the absence of evidence on elephant copulation, Michaelis drew on Buffon's extensive description of the elephant in volume 11 of *Histoire naturelle*, first published in 1764. Buffon's account of the elephant was a compendium of all the information accumulated about the pachyderm ever since antiquity. Here too, the lack of evidence concerning copulation is highlighted alongside an emphasis on the intelligence, gentleness, and modesty of the elephant, which allowed Michaelis to present it so unequivocally as Behemoth. The elephant is presented by Buffon as first among all quadrupeds in his skills, intelligence, and moral attributes (fig. 3). Both Buffon and his assistant Daubenton, responsible for the description of the elephant's physiology that followed the main entry, mixed moral judgments with behavioral traits and corporeal measurements. Daubenton's account, for example, includes such observations as the following: "Given such an unfavourable appearance, who would recognise the most skilful and intelligent of all animals? The Author of Nature has installed, under the stupid

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<sup>32</sup> Thomas Aquinas, "Expositio super Iob ad litteram," trans. Brian Mulladay, ed. Joseph Kenny, available at <http://dhspriory.org/thomas/SSJob.htm#402> (accessed 16 October 2018). Cf. Carlos Steel, "Animaux de la Bible et animaux d'Aristote. Thomas d'Aquin sur Béhémoth l'éléphant," in *Aristotle's Animals in the Middle Ages and Renaissance*, ed. Carlos Steel, Guy Guldentops and Pieter Beullens (Leuven, 1999), 11–30.

<sup>33</sup> This tendency is already manifest at the outset of the Book of Job, where Michaelis simply replaced the obscure location of the story, the land of Uz, with "a graceful valley around Damascus." (*Deutsche Uebersetzung*, 1; "Anmerkungen zu Hiob," 1)

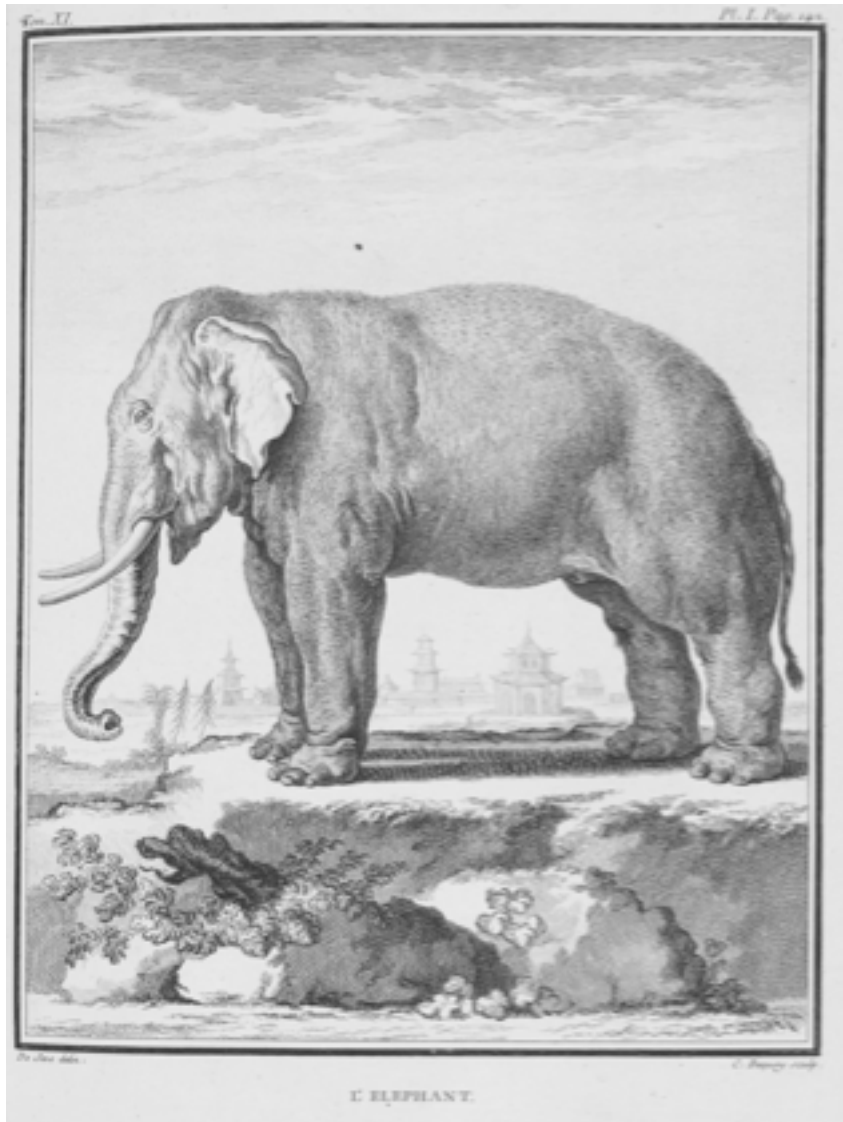


Fig. 3: Jacques de Sève, “The Elephant”, in Georges-Louis Leclerc, Comte de Buffon, *Histoire naturelle, générale et particulière*, vol. 11 (1764). © British Library Board: shelfmark 461.h.1-i.11, facing p. 142.

physiognomy of the elephant, an admirable instinct.”<sup>34</sup> Buffon juxtaposed ancient and early modern reports, all in agreement on the uncommon sociability and affectionate nature of elephants. Indeed, his account began by paraphrasing the opening of Pliny the Elder’s description of the elephant in his own *Natural History*.<sup>35</sup> While Buffon did not

<sup>34</sup> Buffon, *Histoire naturelle, générale et particulière, avec la description du Cabinet du Roi*, vol. XI (Paris, 1754 [misprint: this volume was published in 1764]), 95. Voltaire too referred to the elephant’s reasonableness and intelligence at the outset of his *Traité de métaphysique* (1734), but this controversial text was first published posthumously in the Kehl edition of 1784–85. See *Œuvres complètes de Voltaire*, eds. Theodore Besterman et al. (Geneva and Oxford: Voltaire Foundation, 1968–), XIV, 420.

<sup>35</sup> Pliny, *Natural History* III, ed. H. Rackham, Loeb Classical Library (Cambridge, MA, 1967), Book VIII, 2; Buffon, *Histoire naturelle* XI, 1–2.) Cf. Aristotle, *History of Animals*, trans. D. M. Balme, (Cambridge,

emphasize, as some ancient authors had done, the alleged linguistic skills of the elephant, he did follow early modern travelers in confirming that elephants refused to procreate in captivity.<sup>36</sup> Attributing this behavioral trait to a keen sense of modesty and shame, Buffon also gave it a political turn by using the contemporary contrast between freedom in a state of nature and modern servility, a condition inflicted by humans on themselves and other animals. “Thus the elephant differs from all domestic animals which man treats or manages as beings without will; he is not like these born slaves, which we train or multiply for our use. Here the individual alone is a slave, the species remains independent, and constantly refuses to increase for the benefit of tyrants. This alone shews in the elephant elevated sentiments superior to the nature of common brutes.”<sup>37</sup>

While Buffon admitted he had been somewhat incredulous on this front, his doubts were eventually dissolved by numerous accounts of elephants provided by early modern travelers and naturalists, among them André Thévet (1502–1590), François Pyrard de Laval (1578–1623), Alexandre de Chaumont (1640–1710), and Guy Tachard (1651–1712).<sup>38</sup> Buffon summarized these accounts as testifying to the frustration of rulers of different kingdoms in the East Indies, each possessing dozens or hundreds of elephants, in their efforts to multiply their pachyderms in captivity. Buffon’s conclusion was that no elephant was born a slave: all elephants arrived in this world as free and independent agents in the wild. Only later could they be domesticated, following a cumbersome procedure of hunting and taming. Even in this case, the elephants’ independent spirit expressed itself in their refusal to pursue their sexual instincts and procreate in the civil or man-made condition. Buffon made here a noteworthy link between, on the one hand, ethical and gender stereotypes concerning sexual desire, and, on the other, a political discourse about servitude, tyranny, independence, and a state of nature.

Up to this point, Buffon provided a comparative account of the available sources concerning the elephant, especially its intelligence and procreative habits. But on some critical points Buffon sharply differed from his ancient sources: indeed, it is one of Buffon’s major disagreements with ancient and early modern sources that so enraged Michaelis and prompted him to solicit independent reports from South Asia. The issues on which Buffon challenged ancient sources were the suckling of the infant elephant and

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MA, 1991), III, 390–93; Aelian, *On the Characteristics of Animals*, trans. A. F. Scholfield (Cambridge, MA, 1959), II, 200–203.

<sup>36</sup> Brian Cummings, “Pliny’s literate elephant and the idea of animal language in Renaissance thought,” in *Renaissance Beasts: Of Animals, Humans, and Other Wonderful Creatures*, ed. Erica Fudge (Urbana, IL, 2004), 164–85.

<sup>37</sup> Buffon’s *Natural History, containing a General History of Man, of the Brute Creation, and of Vegetables, Minerals, etc. etc.*, vol. VII (London, 1797), 267; Buffon, *Histoire naturelle*, XI, 17.

<sup>38</sup> Thévet, *Cosmographie de Levant: Revue et augmentée de plusieurs figures* [1554] (Lyon, 1556), 73–75; Voyage de Pyrard de Laval aux Indes orientales [1619], ed. Xavier de Castro (Paris, 1998), vol. II, 833–38; Chaumont, *Relation de l’ambassade de Mr. le Chevalier de Chaumont à la cour du Roy de Siam, Avec ce qui s’est passé de plus remarquable durant son voyage* (Amsterdam, 1686); Tachard, *Second voyage du Père Tachard et des Jesuites, Envoyés par le Roy, au Royaume de Siam. Contenant diverses remarques d’Histoire, de Physique, de Geographie, & d’Astronomie* (Amsterdam, 1689), 223–27.

the elephants' sexual intercourse. In both cases, Buffon's challenge was launched on the basis of detailed measurements, mostly of the corpse of a female elephant who died in 1681 in Versailles, whose posthumous dissection was reported in detail by Claude Perrault (1613–1688). Another source of physiological data was a stuffed six-month old elephant who died in 1758 in London. The skeleton of the female elephant and the stuffed young male were both preserved in Buffon's Cabinet du Roi in Paris.

The ancients argued that an infant elephant was suckled through the mouth, while Buffon suggested, relying on recent physiological data, that the infant must use his trunk to extract the mother's milk. Regarding copulation, Buffon argued that the elephant must be the only quadruped copulating frontally, as do human beings, rather than in the manner of most other beasts. His main explanation was grounded in the location of the female's vaginal orifice: it was not to be found close to the anus, as expected, but in the middle of the belly. (This may have been another reason for Michaelis's interpretation of the reference to the "navel of the belly" as an account of Behemoth's sexual prowess.) Since the elephant's male member was no larger than that of a horse, the only way elephants could copulate, Buffon suggested, must be face to face. The female had to lie on her back, waiting for the male to mount her frontally. The same point was reiterated in the physiological "Description of the Elephant" by Daubenton, complementing Buffon's main entry on the pachyderm. Since modern data showed that the female's orifice extended from the middle of the belly backwards, Daubenton argued that frontal intercourse was the only logical possibility.<sup>39</sup> Buffon was fully aware of the radical nature of his assertion that elephants did not copulate in the manner of any other quadruped: his assertion of a human-like coitus directly contradicted Aristotle's account, where "the female lowers herself with her legs apart, and the male mounts and covers her."<sup>40</sup>

Mobilizing all available measurements, Buffon combined his thesis concerning frontal intercourse with some essentialist comments about gender. Given the unique coital posture, the female elephant "must not only consent, but even place herself in an indecent situation, which, probably, she never assumes but when she thinks herself without witnesses." For Buffon, this was yet another demonstration of the close parallel between the sexual and psychological characteristics of humans and elephants, justifying the application of the same moral attributes to females of both species. He went so far as to define the elephant's modesty as a "virtue": "It is at least like softness, moderation, and temperance, a general attribute of the female sex."<sup>41</sup> On both fronts, sexual

<sup>39</sup> Daubenton, "Description de l'éléphant," in Buffon, *Histoire naturelle* XI, 94–142 (here 112).

<sup>40</sup> Aristotle, *History of Animals*, II, 104–5 (Book V, §4). On Aristotle's treatment of the social behavior of animals, see G. E. R. Lloyd, *Science, Folklore and Ideology: Studies in the Life Sciences in Ancient Greece* (Cambridge, 1983), 18–26.

<sup>41</sup> Buffon's *Natural History*, 296; *Histoire Naturelle*, XI, 63. Another example of Buffon's attitude toward male and female animals is discussed in Emma Spary, "Codes of passion: natural history specimens as a polite language in late 18<sup>th</sup>-century France," in *Wissenschaft als kulturelle Praxis, 1750–1900*, ed. Hans Erich Bödeker, Peter Hanns Reill and Jürgen Schlumbohm (Göttingen, 1999), 105–35. More generally on



intercourse and infant suckling, Buffon presented a probable hypothesis in direct contradiction of ancient sources on the elephant. The crucial point was the lack of verifiable testimony: the moderns had, at least, more reliable recent data on the physiology of elephants. Especially where copulation was concerned, “everything combines to disprove the testimony of the Ancients concerning things they argued without verification; because none among them, not even any of the moderns with whom I am acquainted, tells us he had seen the elephant suckling.”<sup>42</sup>

It may thus be tempting to portray Buffon as taking sides in a sequel of the Quarrel of the Ancients and the Moderns, allying himself with the moderns (travelers to Asia and contemporary physiologists) against the ancients (Aristotle and Pliny).<sup>43</sup> Yet Buffon was not at all averse to treating ancient sources as reliable guides. In the methodological introduction to his *Histoire naturelle*, criticizing Ulisse Aldrovandi (1522–1605) and Carl Linnaeus (1707–1778), Buffon held up Aristotle and Pliny as the towering and unsurpassed models for eighteenth-century naturalists.<sup>44</sup> Nor was Buffon necessarily in thrall to the authority of modern travelers, who were widely suspected of succumbing to wonder in foreign lands. As the naturalist argued concerning modern corroborations of the frontal coitus of elephants: “De Feynes and Tavernier have said it explicitly, but I admit I would have paid little attention to their testimonies had they not been compatible with the position of the organs, which do not permit these animals to join their bodies otherwise.”<sup>45</sup> Here the naturalist highlighted, like Michaelis soon after him, the absence of trustworthy observational data: neither ancient authors nor modern travelers had actually witnessed elephants during the sexual intercourse.<sup>46</sup>

Buffon must have been well aware that his authorial credibility on the matter was no different than that of earlier naturalists: he too had not personally caught elephants in the act and could not presume to provide a first-hand account. Nevertheless, he saw himself in a better position to provide a reliable solution to the puzzle on the basis of probable hypothesizing—the careful application of known facts (modern measurements) onto unknown or unwitnessed ones (the coital posture of elephants).<sup>47</sup> Unlike early

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gender constructions in eighteenth-century natural history, see Londa Schiebinger, *Nature's Body: Sexual Politics and the Making of Modern Science* (London, 1994).

<sup>42</sup> *Histoire naturelle*, XI, 61.

<sup>43</sup> On the *Querelle* see, among others, Joan DeJean, *Ancients Against Moderns: Culture Wars and the Making of a Fin de siècle* (Chicago, 1997); Marc Fumaroli, “Les abeilles et les araignées,” in *La Querelle des Anciens et des Modernes*, ed. A.-M. Lecoq (Paris, 2001); Levent Yilmaz, *Le Temps moderne. Variations sur les Anciens et les contemporains* (Paris, 2004); Larry Norman, *The Shock of the Ancient: Literature and History in Early Modern France* (Chicago, 2011). On its significant afterlife throughout the eighteenth century, see Dan Edelstein, *The Enlightenment: A Genealogy* (Chicago, 2010).

<sup>44</sup> Buffon, “De la manière d’étudier et de traiter l’histoire naturelle,” *Histoire naturelle*, I (1749), 3–62 (esp. 41–50).

<sup>45</sup> *Histoire naturelle*, XI, 62–63. The reference here is to travel reports by Henry de Feynes (1573–1647) and Jean-Baptiste Tavernier (1605–1689).

<sup>46</sup> *Histoire naturelle*, XI, 61; Buffon’s *Natural History*, 293 and 295.

<sup>47</sup> See *Histoire naturelle* I, 51–62. Cf. the similar method espoused by Jean-Jacques Rousseau in the exordium to his *Discourse on Inequality* of 1755: Rousseau, *The Discourses and Other Early Political*

modern travelers and ancient authors, admirable as their achievements may have been, the Parisian naturalist had at his command the most updated physiological information, especially the profuse data collected at the Versailles menagerie.<sup>48</sup>

Did Buffon's argument amount to a wholly naturalistic "physical translation of the moral bestiary" of classical antiquity and the Middle Ages, as recently suggested, by exclusively linking the elephant's sexual mores to its physiology?<sup>49</sup> The naturalist's aims here were somewhat different. Instead of wishing to explain elephant behavior on an entirely new basis, he reproduced in a selective manner the traditional accounts of elephantine intelligence and moral excellence. If a move away from the moral bestiary had been Buffon's purpose, his detailed description of the elephant would not have been cast as a paraphrase on this tradition; it would have at any rate exhibited a more critical stance toward the ancient moral bestiary. Buffon accepted, however, the accumulated weight of accounts that he himself admitted to have found questionable, undermining them only if they were found incompatible with modern physiological data. Otherwise, he actually corroborated ancient reports on the elephant's unique sense of shame and modesty. Indeed, in fashioning himself an impartial transmitter-cum-assessor of ancient traditions of natural history, Buffon had already surprised and disappointed contemporaries who had awaited a more focused *catalogue raisonné* of the royal collection in Paris.<sup>50</sup>

### III. IN WHOM TO TRUST? THE PUBLIC CONTROVERSY

These methodological considerations did not, however, convince Johann David Michaelis. The renowned orientalist rejected what he regarded as a reckless speculation on the human-like intercourse of elephants. It may well be that Michaelis, committed to the Mosaic authorship of the Book of Job, wished to maintain a stricter borderline between man and the animal kingdom.<sup>51</sup> While Buffon turned to modern physiological

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*Writings*, ed. Victor Gourevitch (Cambridge, 1997), 131–33; *Œuvres complètes*, ed. Bernard Gagnebin et al (Paris, 1959–1995), III, 131–33.

<sup>48</sup> On this elephant, whose death provided most of the anatomical information on the species in Claude Perrault's *Mémoires pour servir à l'histoire naturelle des animaux* (1733), see Anita Guerrini, *The Courtiers' Anatomists: Animals and Humans in Louis XIV's Paris* (Chicago, 2015), 201–5.

<sup>49</sup> Thierry Hoquet, *Buffon: Histoire naturelle et philosophie* (Paris, 2005), 495–504.

<sup>50</sup> On the lukewarm scholarly reaction to the first volumes of Buffon's *Histoire naturelle*, see Hoquet, *Buffon*, 51–64, and Mary Terrall, *Catching Nature in the Act: Réaumur and the Practice of Natural History in the Eighteenth Century* (Chicago, 2014), 192–96. On the more positive public reception, see Emma Spary, *Utopia's Garden: French Natural History from Old Regime to Revolution* (Chicago, 2000), 25–28. Cf. Wolf Lepenies, *Das Ende der Naturgeschichte. Wandel kultureller Selbstverständlichkeiten in den Wissenschaften des 18. und 19. Jahrhunderts* (Munich, 1976), 151–60, and Hans-Jörg Rheinberger, "Writing Works," in *History of Science, History of Text*, ed. Karine Chemla (Dordrecht, 2004), 97–100.

<sup>51</sup> It should be noted that Buffon's own distinction between human intelligence and bestial wisdom seemed far too dichotomous to contemporaries such as Condillac: see Étienne Bonnot de Condillac, *Traité des animaux, où après avoir fait des observations critiques sur le sentiment de Descartes et sur celui de M. de*

data in the absence of observational evidence, Michaelis simply refused to accept that no human being had ever witnessed elephant intercourse—and that it could remain unobserved by the late eighteenth century. Buffon's thesis could not possibly withstand the weight of empirical evidence, Michaelis believed, if only he could manage to gather it.

Two years before his public challenge to Buffon's *Histoire naturelle*, Michaelis first aired his profound disagreement with the Parisian naturalist in a review of a memoir by Johann Christoph Wolf (1730–1785), a German administrator for the Dutch East India Company in Sri Lanka.<sup>52</sup> Wolf and his publisher, Friedrich Nicolai (1733–1811), presented the account as a rare personal testimony by a man of humble origins who refrained from rhetorical flourish.<sup>53</sup> Nevertheless, Wolf's discussion of elephant copulation bears all the hallmarks of traditional European views of the elephant's intelligence: "This animal is not only the largest, but likewise the most acute of any. Had it the gift of speech, it would equal some simple-minded humans. Such is the opinion and declaration of all those who are thoroughly acquainted with the nature and properties of the elephant, and have had to do with him for long years."<sup>54</sup> Wolf did not share with his readers the identity of these connoisseurs, but his curious comment did not escape Michaelis's sharp eyes. Wolf's subsequent account of elephant copulation fully corroborated Buffon's hypothesis: elephants always imitated human intercourse due to the configuration of the female's body. The male elephant usually dug a pit in the ground before the intercourse, helping the female into it. There she lay on her back in anticipation of the act. If the male found full satisfaction, he afterwards helped the female with his trunk out of the pit; but if she had initially refused him, he left her lying there on her back.<sup>55</sup>

It was not completely clear whether Wolf's account of elephant copulation was supposed to have been witnessed in person or was fully attributed to "those who are thoroughly acquainted with the nature and properties of the elephant." Michaelis, for one, argued that Wolf had not seen the act but only heard about it from others. It is here that the Göttingen scholar explicitly criticized Buffon, while publicizing his own attempts to refute the naturalist's thesis. Proclaiming Wolf's account to be "unreliable" following a

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Buffon, *on entreprend d'expliquer leurs principales faculties* (Paris, 1755). Cf. François Dagognet, *L'Animal selon Condillac* (Paris, 2004), 73–112.

<sup>52</sup> Item 298 in Michaelis, *OEB*, XXI, 139–46; Wolf, *Reise nach Zeilan. Nebst einem Berichte der holländischen Regierung zu Jaffanapatnam* (Berlin and Stettin, 1782). This account was published in English as *The Life and Adventures of John Christopher Wolf, Late Principal Secretary of State at Jaffapatnam, in Ceylon* (London, 1785). Michaelis explained that he reviewed the memoir in his exegetical journal because of its potential to shed new light on the Book of Job (*OEB*, XXI, 139–40). See also Michaelis's earlier report on his correspondence with missionaries in India concerning the number of men an armed elephant could bear (item 204 in the supplement to *OEB*, XII (1778), 174–78).

<sup>53</sup> "Vorbericht des Herausgebers," in Wolf, *Reise*, iii–vi.

<sup>54</sup> Wolf, *Reise*, 105; *Life and Adventures*, 140 (translation modified).

<sup>55</sup> *Ibid.*

report he received from Protestant missionaries in India, Michaelis also quoted a letter from a high-ranking administrator at the Dutch East India Company.

I have not yet received from Sri Lanka the answer to Michaelis's question; it seems that it will not arrive early enough this year [1780]. However, I can assure you so much with certainty: elephants conduct the Coitum with each other in exactly the same manner as horses and cattle—and the pretensions of Count Buffon and all his predecessors in Natural History, as if the female digs a pit and then lies on her back in order to be bred by the male, are sheer chimeras and fictions. The history of this remarkable animal is, until today, altogether infused with untruths and errors, so that it seems well worth the effort to bring them to light. Therefore I am making an effort to collect material in Sri Lanka.<sup>56</sup>

It took another full year for a more conclusive report to arrive at Göttingen from Sri Lanka by way of India, bearing the date October 20, 1781. The letter was a reply to Michaelis's query of October 1779, when he had asked his contacts to spread the word and collect as many reports as possible about elephant copulation. He identified his target as natural historians, especially Buffon, who argued that no one had ever witnessed such an act. Since the Göttingen orientalist insisted on the unusual association of Behemoth's strength in Job 40 with the sexual prowess of the elephant, he also argued that the male member must have been watched during intercourse before the Book of Job was composed.<sup>57</sup>

Michaelis was proud to report on a communication he received from Malabar missionaries, who translated it from the Dutch of a Dessave (local administrator) in Colombo. According to the letter, the indigenous Sinhalese believed that elephants preferred copulating by moonlight and on flat earth. Once the courting succeeded, they wrapped their trunks around each other before the males mounted the females in the manner of cattle (albeit for much longer). The report from Colombo also contradicted other ancient commonplaces that Buffon had repeated: that the female elephant remained faithful to a single male for her entire life, that elephants copulated only when hidden from sight, and that the intercourse was always short and perfunctory due to the elephants' legendary sense of shame and modesty. A year after casting doubt on Wolf's confirmation of the frontal copulation of elephants, Michaelis triumphantly went straight for his larger prey, Buffon, whom he regarded as lurking behind Wolf's account. "What

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<sup>56</sup> Michaelis, *OEB* XXI, 145–46. The author of this letter is probably Johan Gerard van Angelbeek (1727–1799), who would later become the last Dutch governor of Sri Lanka. Angelbeek studied in Göttingen and remained in touch with one of Michaelis's contacts at the University of Halle, Johann Ludwig Schulze (1734–1799). A manuscript report sent by Schulze to Michaelis in 1787, containing information received from Angelbeek, is preserved in Göttingen, Niedersächsische Staats- und Universitätsbibliothek, Codex Michaelis 328, p. 480.

<sup>57</sup> Michaelis, item 317 in *OEB*, XXI (1783), 150.

he [Buffon] wrote concerning the copulation of the elephants is to a great extent a fictive novel,” Michaelis now publicly announced with satisfaction.<sup>58</sup>

One could well retort that Michaelis’s jubilant conclusion was premature, as it too had the status of mere hearsay. It was not clear whether the Dessave or his sources had personally witnessed elephantine intercourse. The report from Colombo was made, after all, at fourth hand: it was based on the views of certain unidentified Sinhalese, as communicated to a Dutch administrator in Colombo, who replied to a query by German missionaries, who in their turn transmitted the Dessave’s answer back to Michaelis—who finally relayed it to his readers. Predictably, Michaelis trusted his own sources much more than Buffon’s or Wolf’s informants. Yet was this chain of transmission more reliable than a report by a person who had lived in Sri Lanka for more than a decade?

Johann Christoph Wolf certainly did not think so. Enraged by Michaelis’s scathing comments, he replied in a brief second volume published in 1784.<sup>59</sup> The issue of elephant copulation took pride of place at the outset of this volume, where it became a general discussion of evidential authority and credibility. Wolf confirmed he had not personally witnessed the coitus but rather had heard about it from reliable informants, who were convinced that elephants copulated frontally—to which he added his own examination of elephant physiology. Based on the location of the female’s sexual organs at some distance from the anus, Wolf found the usual bestial intercourse unlikely. Furthermore, he believed that due to the elephant’s short legs, weight, and heavy belly, the male could not mount the female from behind. As the former administrator put it, “I have seen thousands of these animals but neither experienced nor heard a single time that the elephant, in any circumstance, could spring forward in such a leap; Nature has forbidden him to do such a thing. If anyone wishes to pass a different judgment, they lack independent eyewitnessing.”<sup>60</sup>

Experience over more than a century had taught European colonists and traders, according to Wolf, that elephants simply refused to copulate in captivity; therefore, personal eyewitnessing was difficult to come by. One of the reasons for the elephants’ refusal to breed in captivity was, Wolf suggested, that they could not dig the so-called “intercourse pits” in their stables, and he argued that pits dug in the forests were plausible evidence that females did lie on their back during the act. Wolf also cast serious doubt on the credibility of Michaelis’s own sources. The Protestant missionaries, some of whom Wolf knew personally, were indeed to be praised for their serious work;<sup>61</sup> yet when it

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<sup>58</sup> Ibid., 149. See also the reports in *Neuere Geschichte der Evangelischen Missions-Anstalten zu Bekehrung der Heiden in Ostindien*, ed. Gottlob Anastasius Freylinghausen, Johann Ludwig Schulze et al., III (Halle, 1790), 137–38.

<sup>59</sup> Johann Christian Wolf, *Reise nach Zeilan. Zweyter Theil* [II] (Berlin and Stettin, 1784).

<sup>60</sup> Wolf, *Reise*, II, 3.

<sup>61</sup> Wolf explicitly mentioned Christian Friedrich Schwartz (1726–1798) and Christian Wilhelm Gericke (1742–1803). On the German Protestant missionaries in southeastern India, see Robert Eric Frykenberg, “The Legacy of Christian Friedrich Schwartz,” *International Bulletin of Missionary Research* 23.3 (1999), 130–35; Robert Eric Frykenberg and Alaine Low (ed.), *Christians and Missionaries in India: Cross-*

came to elephantine intercourse, Wolf doubted that their reports had been based on personal observation. If Michaelis's contacts in Sri Lanka and India had not actually witnessed elephants in the act, their conclusions were no sounder than the report by the Dessave of Colombo on which they were based. The Dessave, Wolf argued, must have been satisfied with a reply that the Sinhalese had simply invented on the basis of a false analogy with bestial intercourse—without any attention to the very different location of the elephant's sexual organs. For Wolf, physiology unequivocally demolished the "fable" invented by the Sinhalese.<sup>62</sup> Moreover, Wolf questioned the reliability of another source on whose reports Michaelis had relied: the superintendent of elephant drivers in the Indian kingdom of Tanschaur (Thanjavur), across the straits from Sri Lanka. While this functionary was responsible for captive elephants, he knew close to nothing about their behavior in the wild. According to Wolf, there were absolutely no wild elephants in the kingdom of Thanjavur, which had most of its elephant herd delivered from the Sri Lankan province of Jaffanapatnam (where he served as administrator).<sup>63</sup> Since elephant procreation took place only in the wild, one should discuss it not with elephant drivers but rather with elephant hunters. Wolf noted that he had discussed the issue with hunters on different occasions, always receiving the same "categorical answer": the elephant copulated like human beings. To crown this comprehensive assault on Michaelis, Wolf ventured into the realm of biblical criticism and rejected the identification of Behemoth as the elephant.<sup>64</sup>

But "in order not to approach the issue completely through intermediary evidence (*Zwischenzeugniß*)," Wolf grudgingly allowed the possibility that under rare circumstances elephants could also mount each other from behind, as Aristotle had argued and contrary to Buffon's suggestion.<sup>65</sup> He made it clear, however, that he regarded this as an improbable and unconfirmed hypothesis. Noting that no other animal had attracted a greater range of contradictory views, Wolf attributed the sorry state of European knowledge on the pachyderm to ancient fables and the tendency of European travelers to avoid areas in which elephants could still be found in their "wild state of nature."<sup>66</sup> Emphasizing his superior acquaintance with the local terrain, Wolf presented himself as sufficiently open-minded to consider various theories while implicitly casting Michaelis in the role of a dogmatic armchair scholar whose sources should be questioned.

Unsurprisingly, the renowned orientalist of Göttingen was not persuaded to lay down his arms. Michaelis responded in a review of this second volume of Wolf's *Reise nach Zeilan*, where he rejected Wolf's claim for the superior reliability of his evidence

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*Cultural Communication since 1500* (Abingdon, 2003), 70–126; Heike Libau, *Cultural Encounters in India: The Local Co-Workers of Tranquebar Mission, 18th to 19th Centuries* (Abingdon, 2017).

<sup>62</sup> Wolf, *Reise* II, 6.

<sup>63</sup> *Ibid.*, 7.

<sup>64</sup> *Ibid.*, 16.

<sup>65</sup> *Ibid.*, 8–9.

<sup>66</sup> *Ibid.*, 10.

from South Asia. While he did not wish to contest Wolf's direct exchange with the elephant hunters of Jaffanapatnam, Michaelis argued that Wolf employed unclear, not to say shoddy, criteria for the assessment of testimony. Was it the "categorical answer" of the hunters themselves that elephants always copulated like humans? This was unlikely, since Wolf admitted they had reported only on pits in the ground, in which the female must have lain on her back. Therefore, Michaelis suggested that the "categorical" character of the response was much more Wolf's own interpretation than an attribute of the hunters' eyewitness account.<sup>67</sup>

As in his critique of Buffon, Michaelis was not willing to accept any argument based on pure logical speculation, physiological measurements made in Europe, or reports by intermediaries. The matter could be settled only by direct empirical evidence provided by credible witnesses, which Michaelis expected to receive from his own contacts in India and Sri Lanka. In 1785 he announced that additional evidence was on its way; he had received a letter dated February 12, 1784, reporting that his queries had been forwarded to Sri Lanka, Bengal, and other areas in India.<sup>68</sup> Though no further reports appeared in Michaelis's journal or in his correspondence, he could have considered himself fully vindicated by a final report sent on April 22, 1787, by the Dutch governor Johan Gerard van Angelbeek to missionaries at Kochi (Cochin). According to Angelbeek, Buffon's account was stronger on eloquence than on facts; previous European voyagers had reported on a human-like intercourse only because they wished to inspire wonder and amazement; Johann Christoph Wolf, whom Governor Angelbeek personally knew, "sang the old song in good faith but without independent investigation." Elephants, argued the governor, procreated in the manner of all other quadrupeds. The Sinhalese allegedly laughed at Dutch administrators who investigated them about the alternative.<sup>69</sup>

Even before Angelbeek's report arrived in Europe, two major turning points converged to corroborate Michaelis's stance and undermine Buffon's. A significant intervention in the controversy was Anders Sparrman's account of his travels in South Africa, which included new information on African elephants. Sparrman (1748–1820), a student of Carl Linnaeus, worked as a tutor at the Cape of Good Hope and there joined Johann Reinhold Forster and his son Georg as assistant naturalist on James Cook's second voyage to the Pacific (1772–1775). Upon his return to the Cape in 1775, Sparrman embarked on an expedition into the African interior. Multilingual and thoroughly acquainted with the most recent works in natural history and travel literature (including Wolf's account of Sri Lanka), Sparrman approximated Michaelis's ideal of a scholarly explorer. In his account of South Africa, published in Swedish in 1783 and in a widely read English translation in 1786, Sparrman took good care to review the ongoing controversy over elephant copulation. He noted the curious absence of any eyewitness

<sup>67</sup> Item 344 in Michaelis, *OEB* XXIII (1785), 68–70.

<sup>68</sup> Item 350 in Michaelis, *OEB* XXIII (1785), 133.

<sup>69</sup> Angelbeek's report, dated 22 April 1787, in *Neuere Geschichte der Evangelischen Missions-Anstalten* III (1790), 1308–9.

account of the intercourse, while casting serious doubt on the anthropomorphic tradition attributing to the elephant an acute sense of modesty and shame. Determined to shed more light on “this singular question,” Sparrman claimed he “let slip no opportunity of interrogating on the subject every elephant hunter I saw.”<sup>70</sup> Most hunters told Sparrman they would have been inclined to believe elephants copulated in a human manner, had they not been told otherwise by two of their colleagues who had actually managed to observe the intercourse. Sparrman identified them by name, noting he was able to personally interview Jakob Kok, who provided a lengthy account of elephantine intercourse in the manner of all other quadrupeds. The provision of a first-person account by a named elephant hunter not only reflected Sparrman’s training as a naturalist, which was superior to Wolf’s; it may have also expressed different attitudes to reports by European colonists (Kok in South Africa) and the indigenous population (the unidentified Sinhalese whom Wolf had accused of fabricating similar accounts of elephantine intercourse). Yet even after reproducing an eyewitness account, Sparrman did not rush to a decisive conclusion.

I will not dissemble, that though I have not the least occasion to doubt the veracity of my informer, and though what he told me is by no means impossible, I yet find great difficulty in this matter. But on the other hand, the same may be said of M. de Buffon’s, or the common opinion; first, as they have not been able to confirm it by the testimony of any eyewitness, nor even by any instance of this kind in other quadrupeds properly so called; that is, in such animals as have some degree of affinity with elephants.<sup>71</sup>

The reasons for Sparrman’s abstention were that both alternatives seemed extremely problematic and that earlier travel reports were undecided on the issue. Finally, despite his potential evidence against Buffon’s thesis and in support of Michaelis’s, Sparrman declared he would rather leave the matter “to the test of further experience.”<sup>72</sup>

In the meantime, unforeseen evidence against the human-like intercourse of elephants was published in Paris by none other than Buffon himself. In a new supplement to the volumes of his *Histoire naturelle* concerning quadrupeds, Buffon related a report received from Marcel Bles, Lord of Moergestel in North Brabant and a former secretary at the Dutch East India Company in Sri Lanka, who claimed he had viewed local elephants copulating in a manner contrary to human beings or to that reported by Johann Christoph Wolf.<sup>73</sup> The female apparently bent down her head and the entire front of her

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<sup>70</sup> Sparrman, *A Voyage to the Cape of Good Hope, towards the Antarctic Polar Circle, and round the World: But Chiefly into the Country of the Hottentots and Caffres, from the year 1772 to 1776* (London, 1786), I, 328–29.

<sup>71</sup> *Ibid.*, 330.

<sup>72</sup> *Ibid.*

<sup>73</sup> Marcel or Marcellus Bles (1715–1797) probably arrived in Sri Lanka in 1744 after serving for several years with the Dutch East India Company in Jakarta. In 1755 he moved to India before returning to the Netherlands in the late 1750s with considerable capital, which he used to purchase the manor house at



body while leaving her hind legs and hips erect, thereby providing easier access to her sexual organs. Nonchalantly and succinctly, Buffon retracted the thesis he had so energetically defended in 1764 against both ancients and moderns. His erstwhile confident assertion was now recast as a mere “conjecture that seemed plausible to me” at the time.<sup>74</sup> Following the much-awaited arrival of an eyewitness account by a European colonial administrator whom Buffon deemed a reliable source, the naturalist recognized he could no longer adhere to the thesis of a frontal intercourse: “It seems to me one can hardly doubt the first observation of the manner of elephant copulation, because M. Marcel Bles confirms he has seen it.”<sup>75</sup> Following Buffon’s receptivity to Bles’s information, the former administrator sent the naturalist further details on the pachyderms, which were printed in 1782 in the sixth volume of supplements to the *Histoire naturelle*.<sup>76</sup> It should, however, be noted that Marcel Bles too claimed that elephants did not procreate in captivity, thereby corroborating Buffon’s elevated view of the pachyderm as the only independent and free species in nature beyond human beings.

Despite his public recantation, Buffon did not completely abandon his initial hypothesis concerning the frontal copulation of elephants in a manner contrary to all other quadrupeds. In 1781 he seems to have solicited reports on the copulation and suckling of elephants (the points on which he sought to refute ancient sources) from Foucher d’Obsonville (1734–1802), who embarked on extensive voyages to India. Foucher’s reports on Asian animals were published in early 1783 with a dedication to Buffon. His account of elephant copulation is written in a cumbersome manner, hinting that something could still be salvaged from the wreckage of Buffon’s erstwhile thesis. Classifying all his information as hearsay (*ouï-dire*), Foucher nevertheless juxtaposed the reported views of several indigenous Indians concerning a human-like intercourse with a testimony by a European acquaintance, a certain infantry colonel identified as “Monsieur Gentil.” This informant had assured Foucher that male elephants mounted the females from behind and that they did so even in captivity. Unlike other explorers, Foucher chose to prioritize the views allegedly expressed by unnamed local informants over the report of an identified European friend, probably because this was his only way to support Buffon’s initial hypothesis of human-like intercourse. Like Buffon, Foucher used

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Moergestel. Bles also provided the Dutch governor of Sri Lanka, Joan Gideon Loten, with zoological information, which Loten further communicated to Thomas Pennant; see the latter’s account of the elephant in his *History of Quadrupeds* (London, 1781), 153–55. Cf. Alexander J. P. Raat, *The Life of Governor Joan Gideon Loten (1710–1789): A Personal History of a Dutch Virtuoso* (Hilversum, 2010), 539 and 777 n. 198.

<sup>74</sup> Buffon, *Histoire naturelle, générale et particulière. Servant de suite à l’histoire des Animaux quadrupeds*, supplements, III (Paris, 1776), 295. I am grateful to Stéphane Schmitt at the CNRS in Paris for his guidance through the publishing history of Buffon’s works.

<sup>75</sup> *Ibid.*, 296

<sup>76</sup> Buffon, *Histoire naturelle*, supplements, VI (1782), 24–29, and a letter from Bles to Buffon, 10 January 1780, preserved in The Hauge, Koninklijke Bibliotheek, Magazijn Oude Drukken, KW 121 D 1. Information from Bles concerning Sri Lankan apes featured in the last, posthumous volume of Buffon’s supplements: *Histoire naturelle*, supplements, VII (1789), 52.

physiological measurements taken in Europe to demonstrate the improbability of testimonies he received in India. In a footnote to the discussion, Foucher argued he did not mean to fully discount all the contrary reports. His reason for preferring certain testimonies to others was absolutely personal; he favored sources whose “manner of looking” he was in a better position to appreciate.<sup>77</sup>

It thus seems that around 1780 a critical mass of evidence concerning elephant copulation was finally gathered in Europe for the first time. Bles’s letters to Buffon, the information Michaelis received from Protestant missionaries and Dutch administrators in Sri Lanka and Malabar, and Sparrman’s account from South Africa all coincided to undermine Buffon’s suggestion that elephants must copulate frontally. As reports on elephantine intercourse multiplied in the early nineteenth century, especially following the British conquest of Sri Lanka, elephants were slowly albeit steadily taken down from the quasi-human pedestal on which they had been placed ever since antiquity. Nevertheless, it should be noted that only one of the authors involved in the controversy so far, Marcel Bles, could claim to have personally caught the pachyderms in the act; Buffon, Michaelis, Wolf, Sparrman, and Foucher d’Obsonville were all trying to assess the credibility of information provided by intermediaries. In the 1790s, the controversy over elephant copulation prompted John Corse Scott (c. 1762–1840), a surgeon in the service of the British East India Company in Bengal, to organize observations of elephantine intercourse in captivity. He particularly wished to lay to rest the arguments about the elephants’ sexual modesty. Independent observation was of the utmost importance for Scott: having reprimanded his Indian subordinates for not having summoned him immediately when captive elephants began to copulate, Scott was finally satisfied once the elephant drivers managed to arrange a full session of intercourse in his presence.<sup>78</sup> Only the authority of an eyewitness rendered Scott a credible witness in his own eyes, worthy of sending a report on the matter to the Royal Society in London—which its president, Joseph Banks, read publicly at a meeting on January 24, 1799.<sup>79</sup>

Despite the gradual accumulation of decisive evidence, the echoes of this peculiar Enlightenment controversy continued to reverberate in the early nineteenth century.<sup>80</sup> The anthropomorphic view of elephantine intercourse found its most intriguing manifestation—and its grand finale—at the National Museum of Natural History in Paris,

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<sup>77</sup> Foucher d’Obsonville, *Essais philosophiques sur les mœurs de divers animaux étrangers, Avec des observations relatives aux principes & usages de plusieurs peuples. Ou Extraits des voyages de M \*\*\* en Asie* (Paris, 1783), 163–72.

<sup>78</sup> “After this, the driver brought me a particular account of the whole process. Though much pleased with the success of the experiment, yet I was rather chagrined he had not given me notice, that I might have been myself an eye witness; and therefore told him, he should not receive the promised reward, until I had satisfied myself of the fact.” (“Observations on the Manners, Habits, and Natural History, of the Elephant,” *Philosophical Transactions of the Royal Society of London* 89 (1799), 31–55, here 45.)

<sup>79</sup> *Ibid.*

<sup>80</sup> See note 3 above; in a mid-nineteenth-century account of Sri Lanka, J. Emerson Tennent noted that the “fallacy of supposed reluctance of the elephant to breed in captivity” was demonstrated only by “recent authorities.” (Tennent, *Sketches of the Natural History of Ceylon* (London, 1861), 231)

the Revolutionary reincarnation of Buffon's institutions. In 1797 victorious French troops transferred most of the Dutch Stadtholder's menagerie from The Hague to Paris. Among the captives were two elephants who had initially been transported in 1784 from Sri Lanka to the Netherlands as an offering to the Stadtholder by the Dutch East India Company. The elephants, Hans and Parkie (sometimes referred to as Marguerite), became a sensation in Paris: this was the first time a female and a male were observed together in Europe.

Jean-Pierre Houël (1735–1813) published in 1803 an entire book of drawings, observations, and detailed information about elephants based on his own encounter with Hans and Parkie. Unlike naturalists such as Perrault or Buffon, Houël argued he was in a position to report not only about the physiology of the pachyderms but especially on the “penchants and tastes” of both sexes.<sup>81</sup> Proud of his meticulous observations and multiple sketches, Houël assured his audience at the outset that the large engravings recorded the couple “in the varied postures I have seen them assume, always expressing an activity in which I have watched them.” Indeed, one of his aims was “to rectify the errors of the writers who precede me, countering their theory with experience.”<sup>82</sup>

Houël was not the only expert who hoped that observations of Hans and Parkie would conclude, once and for all, the controversy over elephant copulation. This wish was shared by the administrators of what had been Buffon's *Jardin du Roi* and had now become a laboratory for sexual experiments on elephants.<sup>83</sup> The institutional efforts reached their apex in a professional concert performed on 10 Prairial of the Revolutionary Year VI (May 29, 1798) by musicians from the Parisian Conservatoire de la musique, featuring some of the most renowned contemporary performers. Following Hans and Parkie's earlier reluctance to engage in the desired activity, it was thought they could be stimulated by a rich musical program played from a purpose-built platform behind them. The concert for the elephants included, among other pieces, extracts from Rameau's opera *Dardanus*, his rival Jean-Jacques Rousseau's *Le Devin du village*, Gluck's *Iphigénie en Tauride*, a symphony by Haydn, and Revolutionary songs like *Ça ira*. While Rousseau's music seemed to excite both elephants “into joyfulness,” it was the third performance of *Ça ira* was sung (in D Major and with multiple voices) that reportedly rendered the female particularly aroused. The male elephant seemed to play along for a while before losing interest<sup>84</sup> (fig. 4).

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<sup>81</sup> Jean-Pierre Louis Laurent Houël, *Histoire naturelle des deux éléphants, male et femelle, du Muséum de Paris, venus de Hollande en France en l'An VI* (Paris, 1803), 15–16.

<sup>82</sup> *Ibid.*, 16–17.

<sup>83</sup> On the Revolutionary transformation of the *Jardin du Roi*, see *Le Muséum au premier siècle de son histoire*, ed. Claude Blanckaert (Paris, 1997), 15–153; Spary, *Utopia's Garden*, chs. 3–5; Charles Coulston Gillispie, *Science and Polity in France: The Revolutionary and Napoleonic Years* (Princeton, NJ, 2004), 167–83.

<sup>84</sup> Georges Toscan, *L'Ami de la Nature, ou Choix d'Observations sur divers sujets de la Nature et de l'Art; Suivi d'un Catalogue de tous les Animaux qui se trouvent actuellement dans la Ménagerie* (Paris, 1799–1800), 173–88; Gotthelf Fischer, *Das Nationalmuseum der Naturgeschichte zu Paris. Von seinem ersten*



Fig. 4: Jean-Pierre-Louis-Laurent Houël, “The elephants represented at the moment of the first caresses which they gave one another, having been made to listen to music,” in *Histoire naturelle des deux éléphants, mâle et femelle, du Muséum de Paris, venus de Hollande en France en l’an VI* (1803). © British Library Board: shelfmark 37.f.11, image XV.

Neither state-of-the-art music from the Old Regime and the new nor the best available performers could convince Hans and Parkie to copulate in front of the experts. The female pachyderm was, however, witnessed on another occasion lying on her back, excitedly stretching her legs upwards, in what was interpreted as an aroused posture. This made Houël and the Museum’s chief librarian, Georges Toscan (1756–1826), resuscitate the frontal copulation hypothesis against all recent evidence.<sup>85</sup> For Toscan, Houël, and other observers of Hans and Parkie in 1798, the jury was still out: “We have nothing but conjectures on the manner in which he [the elephant] performs the act of reproduction.”<sup>86</sup>

Like Toscan and other experts at the museum, Houël was well versed in the controversy over this issue. He also personally witnessed, in January 1799, what he

*Ursprunge bis zu seinem jetzigen Glanze geschildert* (Frankfurt am Main, 1803), II, 55–60; Houël, *Histoire naturelle*, 105–7.

<sup>85</sup> Toscan, *L’Ami de la Nature*, 198.

<sup>86</sup> *Ibid.*, 183. Sixteen days later, teachers and students from the École des trompettes on the Faubourg Saint Denis performed another concert for the elephants, focused on wind instruments—which left Hans and Parkie largely unimpressed. (Houël, *Histoire naturelle*, 101–2).

regarded as tentative love games between Hans and Parkie, which—again—were not pursued to their natural conclusion. Since he once saw Parkie lying on her back but also rearing her backside towards Hans, Houël decided that all scholars and views should be simultaneously vindicated. In an ecumenical gesture, he suggested that “in its games, nature has rendered both positions equally favourable to the procreating act.”<sup>87</sup> He duly depicted the elephants’ sexual intercourse as occurring in a frontal manner (fig. 5).



Fig. 5: Jean-Pierre-Louis-Laurent Houël, “Simulacre of the moments of generation,” in *Histoire naturelle des deux éléphants, mâle et femelle, du Muséum de Paris, venus de Hollande en France en l’an VI* (1803). © British Library Board: shelfmark 37.f.11, image XVI.

There was no need to wait until industrious European explorers witnessed the act personally in Asia or Africa: “This double manner of executing the same act, would it not reconcile all authors?”<sup>88</sup> In spite of the artist-scholar’s profuse protestations about the credibility of his eyewitness account, he was not averse to actively assisting nature, as

<sup>87</sup> Houël, *Histoire naturelle*, 106. On the persistent yet ultimately unsuccessful attempts to make Hans and Parkie copulate at the Muséum, see Richard W. Burkhardt, Jr., “Constructing the Zoo: Science, Society, and Animal Nature at the Paris Menagerie, 1794–1838,” in *Animals in Human Histories: The Mirror of Nature and Culture*, ed. Mary J. Henninger-Voss (Rochester, NY, 2002), 238–41, and idem, “Civilizing Specimens and Citizens at the Muséum d’Histoire naturelle, 1793–1838,” in *Of Elephants and Roses: French Natural History, 1790–1830*, ed. Sue Ann Prince (Philadelphia, 2013), 14–30. Cf. Pierre Serna, *Comme des bêtes: Histoire politique de l’animal en Révolution* (Paris, 2017), 114–18.

<sup>88</sup> Ibid., 105. Houël argued he was drawing here on Foucher d’Obsonville’s suggestions.

attested by his rendering of the imagined scene of copulation. In most of his engravings, Houël transposed Hans and Parkie into South Asian landscapes, which he drew on the basis of voyagers' accounts. As an explanation, he confessed that while his elephant figures were based on meticulous observation in their Parisian "prison," he would have offended against the rules of good taste had he not depicted them in the wild and free: "In this circumstance, not being able or obliged to express rigorously things as they are, I have preferred making things as they should be, as I desired them to occur."<sup>89</sup>

#### IV. OBSERVATION AND DESCRIPTION BETWEEN THE GENERAL AND THE PARTICULAR

But was the idealizing tendency to present things "as they should be" unique to the French artist? A rather similar stance may be perceived in Buffon's writings. The animal plates in the first series of *Histoire naturelle*, drawn mostly by Jacques de Sève (active 1742–1788), were meant to represent entire species in their most common characteristics rather than individuals in all their peculiarities.<sup>90</sup> This was a visual parallel of a central tenet in Buffon's philosophy of nature: "An individual, of any species it may be, is nothing in the Universe; a hundred individuals, a thousand, are no more than nothing. Species are the only beings in Nature; perpetual beings, as old and permanent as she is."<sup>91</sup> This statement appeared in Buffon's methodological preface to the thirteenth volume of *Histoire naturelle*, published in 1765—a year after his detailed account of the elephant. The Parisian naturalist argued that even if we tended to consider a species as the collection or succession of individual animals, it only seemed so from our human point of view. The order of our discoveries, Buffon noted, did not match the permanent order of nature. While rejecting final causes and entertaining unorthodox ideas of generation, Buffon was no Darwinian *avant la lettre*, as attested by his belief in the fixity and immutability of species.

Jacques de Sève's engraving of the elephant in volume 11 of *Histoire naturelle* (fig. 3) was no exception to Buffon's overall methodological principles. This image was drawn by de Sève on the basis of a small statue made in the Naples menagerie in 1748, depicting an elephant sent by the Ottoman Sultan Mahmud I as a gift to Charles VII, King of the Two Sicilies.<sup>92</sup> The engraving was not, however, intended to represent only

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<sup>89</sup> Ibid., 85.

<sup>90</sup> Hocquet, *Buffon*, 274–76, and idem, "Animal individuals: a plea for a nominalistic turn in animal studies?" *History and Theory* 52 (2013), 68–90.

<sup>91</sup> Buffon, "De la Nature, seconde vue," in *Histoire naturelle* XIII (1765), i.

<sup>92</sup> On this statue by Jacques François Joseph Saly (1717–1776), see Daubenton's "Description" in Buffon, *Histoire naturelle* XI, 94 and 106; Bent Sørensen, "L'éléphant de Jacques François Joseph Saly," *Gazette des Beaux-Arts* (October 1995), 139–48; Madeleine Pinault Sørensen, "Portraits of Animals, 1600–1800," in *A Cultural History of Animals*, vol. IV: *In the Age of Enlightenment*, ed. Matthew Senior (Oxford, 2007), 157–96. See also Thierry Hocquet, *Buffon illustré: les gravures de l'Histoire naturelle (1749–1767)* (Paris,



that particular elephant. Having been juxtaposed with the data amassed by voyagers and naturalists, it stood for the elephant species as a whole. The engraved, generalized specimen is placed on a pedestal high above an imagined oriental background: the definite article in the legend, “L’ELEPHANT”, is far from negligible. At the very outset of his project, in the Preliminary Discourse to the first volume of *Histoire naturelle*, Buffon criticized naturalists who reported on all the minutiae of an endless number of individuals without zooming out to sketch general syntheses. In a barely concealed attack on the naturalist René Antoine Ferchault de Réaumur (1683–1757), famous for his close observation of insects, Buffon noted that the love of natural history generated two seemingly opposite characteristics: an ardent genius embracing great vistas in a *coup d’œil*, and the laborious attention lavished on a single point.<sup>93</sup> Buffon clearly saw his *Histoire naturelle* as an overview of the entirety of nature, and himself as one of those geniuses capable of ascending to the heights that enable such vistas. In the service of these representative overviews, Buffon was willing to make informed speculations such as his hypothesis on the frontal copulation of elephants. This is not to argue that the renowned naturalist discounted the significance of detailed first-hand observations. Both his appreciation of Marcel Bles’s testimony and the attempt to gather contrary evidence via Foucher d’Obsonville emphasize the high regard in which Buffon held empirical evidence. In its absence, however, he was glad to generalize from the available data (prose descriptions and drawings of elephants overseas, measurements of dead and living specimens in Europe) to represent “the elephant.”

Johann David Michaelis, on the other hand, rejected such hypotheses, however probable they may have been. For him, meticulous observation of the intercourse of a single pair of elephants in Sri Lanka could refute probabilistic hypotheses about entire species, and the smallest details mattered no less than grand vistas. Michaelis too wished to present his readers with a general account of the elephant, in his case in order to vindicate his identification of the biblical Behemoth. Yet he was not willing to lose sight of the slightest piece of information or let go of the minutest descriptive effort on the way to the final construction of a general conclusion. In this respect, Michaelis’s stance was closer to an ideology of observation that would come to the fore in the early nineteenth century. As recently suggested by Lorraine Daston, the dominant method of scientific observation in the second half of the eighteenth century involved the double procedure of isolating noteworthy aspects of a particular specimen before synthesizing these fragments back together. The synthesis was not, however, meant to reconstitute the original object of observation but rather to create a generalized archetype, which was deemed more

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2007), esp. 83–122; Donald F. Lach, *Asia in the Making of Europe*, vol. II (Chicago, 1970), 123–58; Ingrid Faust, *Zoologische Einblattdrucke und Flugschriften vor 1800*, vol. IV (Stuttgart, 2002), 278–399.

<sup>93</sup> Buffon, *Histoire naturelle*, I, 3–62 (4). A nuanced overview of the Réaumur-Buffon controversy over generation can be found in Terrall, *Catching Nature*, 192–97. Cf. the older, more dichotomous account in Jacques Roger, *Les Sciences de la vie dans la pensée française du XVIIIe siècle* (Paris, 1963), 378–84 and 542–58.

“real” or “true to nature” than any existing individual.<sup>94</sup> Tracing changes in ideals of faithful observation, Daston argued that for eighteenth-century naturalists, falsehood consisted in the failure to capture the general character or the essence underlying individual exemplars of the same species. For their nineteenth-century successors, however, falsehood was expressed precisely in the generalizing “correction” of observational data in order to construct an archetype. The later scientific order was based on the exact visual or verbal rendering of the minutest details of each individual—a quasi-photographic ideal.<sup>95</sup> Michaelis should not, of course, be anachronistically cast as a full-blown representative of a later scientific *Weltanschauung*. For example, his close attention to detail did not lead him to entertain the possibility of intraspecies variability in the mode of copulation. Yet his scholarly credo could approximate later ideals of observation more closely than Buffon’s, as manifest in his repeated calls for the exhaustive investigation of individual phenomena in all their peculiarities, in their original languages, and from the perspectives of different observers. Buffon’s insistence on analogy and probabilistic speculation, as well as on generalized vistas of entire species “in a glance,” can be more readily regarded as part of an Enlightenment regime of observation.

The eighteenth-century controversy over elephant copulation was, therefore, part and parcel of larger contemporary shifts in ways of looking at nature and interpreting it. Elephants were, of course, only a single organism within the enormous gallery of natural history that was Buffon’s magnum opus, and both protagonists were engaged in scholarly controversies well beyond the issues covered in this article. Michaelis did, however, dedicate his career to the propagation of a new ethos of humanistic investigation aimed at empirical “discovery” (or research, in today’s terms) rather than mere transmission and training, while the generalizing thrust was present in a wide range of Buffon’s endeavors, as manifested in his critique of contemporary naturalists.

The elephant controversy also reflected much broader interpretative attitudes to nature and Scripture alike. Eyewitnessing, visual and verbal representation, hearsay, and the authority of observers all played a significant role in this transition between different regimes of truth and credibility. It has been argued that debates over classification and description in natural history always echoed wider intellectual and social approaches to nature;<sup>96</sup> the controversy over elephant copulation suggests that such fluctuating attitudes to nature were similarly reflected in theological debates. Eighteenth-century interpretations of Scripture dealt, just as natural history did, with distinctions between the particular and the general. Biblical scholars and translators had to decide whether to leave

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<sup>94</sup> Daston, “The empire of observation, 1600–1800,” in *Histories of Scientific Observation*, ed. Lorraine Daston and Elizabeth Lunbeck (Chicago, 2011), 81–113.

<sup>95</sup> Daston, “Objectivity versus Truth,” in Bödeker et al. (ed.), *Wissenschaft als kulturelle Praxis*, 17–32; Lorraine Daston and Peter Galison, *Objectivity* (New York, 2007), 63–82.

<sup>96</sup> Pietro Corsi, “Décrire ou classer? Taxinomies au XVIIIe siècle,” in *Tous les savoirs du monde. Encyclopédies et bibliothèques, de Sumer au XXIe siècle*, ed. Roland Schaer (Paris, 1996), 208–213.



the biblical Behemoth as a generic term, transcribed from the Hebrew, or opt—as Michaelis did—for a particular, empirically observable species. In the latter case, the accumulated biblical and classical data could be verified or refuted by newly commissioned reports. More generally, ever since Spinoza’s *Tractatus Theologico-Politicus* (1670), biblical scholarship had been intensively preoccupied by evidential credibility and the criteria for its assessment. European authors were highly concerned with the credibility of personal observation of miracles or revelation, the character of eyewitnesses, and the reliability of any verbal transmission of such evidence.<sup>97</sup> In both biblical criticism and natural history, eighteenth-century interpreters faced major conundrums in assessing ancient sources, be they Pliny’s account of the sexual modesty of elephants or God’s description of Behemoth in Job 40.

The eighteenth century has long been regarded as a decisive break with a comfortable seventeenth-century cohabitation of the new science and theology, where the Book of Nature was but another version of God’s Revelation.<sup>98</sup> While the radicalism of various strands of eighteenth-century thought cannot be denied, it must not decisively mold our overall image of Enlightenment thought: as recently suggested by Martin Mulsow, such later labels as “radical” and “conservative” can distort the intellectual terrain of seventeenth- and eighteenth-century Europe more often than they serve as helpful signposts.<sup>99</sup> The elephant controversy demonstrates just how deeply entangled biblical criticism and natural history remained well into the late eighteenth century: a translation of the Book of Job into German could metamorphose into a dispute about the natural world while generating new zoological data.

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<sup>97</sup> See, for example, David Hume’s discussion in “On Miracles” (1748), in *Enquiry Concerning Human Understanding*, ed. Tom L. Beauchamp (Oxford, 2000), 83–99.

<sup>98</sup> As Amos Funkenstein memorably put it, much of the new philosophy of the seventeenth century was “a peculiar idiom, or discourse, in which theological concerns were expressed in terms of secular knowledge, and scientific concerns were expressed in theological terms.” (Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century* (Princeton, NJ, 1986), 346.) See also Bernd Roling’s recent account of the early modern persistence of medieval appeals to natural philosophy in defense of the historicity of biblical miracles (Roling, *Physica sacra. Wunder, Naturwissenschaft und historischer Schriftsinn zwischen Mittelalter und Früher Neuzeit* (Leiden, 2013)).

<sup>99</sup> Mulsow, *Prekäres Wissen. Eine andere Ideengeschichte der Frühen Neuzeit* (Berlin, 2012), 20; idem., “Radikalaufklärung, moderate Aufklärung und die Dynamik der Moderne”, in *Radikalaufklärung*, eds. Jonathan Israel and Martin Mulsow (Berlin, 2014), 203–233. See also Renate Dürr, “Mapping the Miracle: Empirical Approaches in the Exodus Debate of the Eighteenth Century,” *Past & Present* 237.1 (2017), 93–133.