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# “Goethe, Faust, and Motherless Creations.” Goethe Yearbook 23 (2016): 59-75.

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WENDY C. NIELSEN

## Goethe, *Faust*, and Motherless Creations

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THIS ESSAY READS the life and work of Johann Wolfgang von Goethe alongside the material culture of motherless creations—the automata and androids that his contemporaries imagined and created. Automata and androids are motherless in the sense that men create them, and they represent an attempt to usurp women’s primary role in reproduction. Examining Goethe’s relationship to the artificial life-forms of his period sheds light not only on the role parentage plays in *Faust*, a text replete with references to reproduction, but also on the author’s relationship to discursive debates around what contemporaries called *Erzeugung*, “generation.” This contextualization of Goethe and *Faust* in the field of artificial life also helps to better explain the peculiar *absence* of mothers in eighteenth- and nineteenth-century German writing, a phenomenon that Gail Hart and Susan Gustafson investigate.<sup>1</sup> In the *Goethezeit*, narratives of creation sometimes downplayed women’s contribution to the development of the embryo; debates surged between those who believed in epigenesis, the gradual formation of the fetus, and the preformationists, who argued that viviparous animals existed preformed, either in the sperm (spermists) or in the ovum (ovists).<sup>2</sup> This essay argues that *Faust II* reflects this interest in who contributes more to the creation of new life: the father or the mother.

The scene during which Homunculus, a motherless creation, is born satirizes the theory of preformation, if not creation itself.<sup>3</sup> Scandinavian scholars have recently pointed out that Goethe’s Homunculus in *Faust II* relates to the contemporary field of artificial life,<sup>4</sup> and Jessica Riskin ties eighteenth-century automata to the philosophical, historical origins of artificial life.<sup>5</sup> In *The Philosophy of Artificial Life* (1996), the premier cognitive science researcher of artificial life, Margaret Boden, defines life as “self-organization, emergence, autonomy, growth, development, reproduction, evolution, adaptation, responsiveness, and metabolism.”<sup>6</sup> These terms are, of course, modern; in Goethe’s time, “creationism” substitutes for “evolutionism,” and “vitalism” (translated into *Kraft* in German)<sup>7</sup> for “emergence.”<sup>8</sup> Traditionally critics have relied on Goethe’s *Versuch die Metamorphose der Pflanzen zu erklären* (Attempt to Explain the Metamorphosis of Plants, 1790) to explore his concept of generation, while his writings on morphology further establish the author’s interest in the form and process of creation.<sup>9</sup>

Generation in *Faust I* and *II* is worth reflecting on because life, after-life, and the redemptive power of love form their thematic core; as Jane

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K. Brown's allegorical reading of the play suggests, the female figures help redeem Faust's humanity through their love.<sup>10</sup> In fact, *Faust's* female figures remain vehicles for procreation but never quite inhabit their roles as mothers. Conception, birth, and rebirth in *Faust I* and *II* happen by artificial means and follow their own fantastical logic. Faust (whose own mother is never mentioned) meets Gretchen after Easter, and by Walpurgis Night, she has presumably given birth, if her apparition is to be believed, and then she drowns her own nameless, sexless child. Faust needs the help of the mysterious Mothers to reach Helena, but they, like other maternal figures in the play (Gretchen's mother; the pregnant Bärbel, about whom Lieschen gossips; and Helena's mother, Leda), never appear onstage, and scholars remain perplexed about their function in the tragedy.<sup>11</sup> Helena is already dead but comes to life, and she gives birth to a nearly grown Euphorion mere lines after she meets his father. Euphorion, of course, dies when, like Icarus, he flies too high in the sky. Indeed, as Robert Anchor points out, *Faust* features the loss of children repeatedly: "Mater Dolorosa, Gretchen's mother, Gretchen herself, and Helena all lose their offspring to untimely and violent death."<sup>12</sup> In this way, Goethe's depiction of motherhood in *Faust* places importance on *surrogate* motherhood, as Ellis Dye suggests: "Gretchen is identified with Helena and she, in turn, with Galatea and with Galatea's mother Aphrodite."<sup>13</sup> All these figures stand in for the archetypal vessel of transmutation, the Virgin Mary, who takes on a masculine guise, Doctor Marianus, during Faust's final ascension into heaven.

Thus, *Faust* points to various ways that mothers remain superfluous to the nurturing of new life, except on a symbolic level. Fantasies about men creating life without women in the late eighteenth and early nineteenth centuries signify men's creative power, broadly defined as both procreation and imagination. As this essay will elucidate, surrogate motherhood also dominates discussions about obstetrics and gynecology in the *Goethezeit*, when men increasingly took control over these advancing fields. The first section discusses the ways in which the desire to reverse death intersects with the manufacture and collection of automata. The second section outlines the growth of the professional fields of obstetrics and gynecology and ties them to the disappearance of women from narratives of creation. The final section analyzes Homunculus, who comes to life with two fathers but no mother. I argue that *Faust* reflects cultural debates about the scientific necessity or superfluity of the mother in a way that foregrounds Faust's personal journey of redemption.

## I. Anatomy and Automata

*Faust* depicts the cycle of life as fundamentally bound to death and rebirth, a pattern found in the literature and science of the period. Arguably, Mary Shelley's grief for her children and wish to reanimate them finds a corollary in Victor Frankenstein, who creates his monster in response to his mother's death. In her journal entry from March 19, 1815, Shelley records: "Dream that my little baby came to life again—that it had only been cold & that we rubbed it by the fire & it lived."<sup>14</sup> After *Frankenstein*, Shelley wrote short stories that

also touched on reanimation: “Valerius” (1819), “The Transformation” (1824), and “The Reanimated Man” (1826). Yet Alan Bewell argues that Shelley may well be satirizing the ways in which male obstetricians attempt to usurp women’s roles in reproduction when she depicts Victor Frankenstein as obsessed with creating new life from the dead.<sup>15</sup> Julia V. Douthwaite points out that the name Frankenstein may also stem from automaton manufacture; an automaton inventor named Frankenstein in a French 1795 novella by François-Félix Nogaret might be a source for Shelley’s novel.<sup>16</sup> Other possible sources include figures from German legend such as the alchemist Konrad Dippel, who allegedly lived in Frankenstein, an area in Silesia.<sup>17</sup> Alchemists experimented in order to discover the philosopher’s stone or the secret to creating new life out of inanimate matter.<sup>18</sup>

Natural philosophy also tended to consider the boundary between life and death as reversible, as Ludmilla Jordanova points out in her work on science in the *Goethezeit*.<sup>19</sup> While Shelley chooses Ingolstadt for Victor Frankenstein’s scientific education, another new university, Georg-August Universität in Göttingen (founded in 1737), educated most of Goethe’s contemporaries in natural philosophy. Timothy Lenoir argues that “the entire Göttingen school” of transcendental natural philosophers thought that “a revolution of the globe might bring forth a new set of organized beings.”<sup>20</sup> Incidentally, Göttingen’s “Entbindungsanstalt” (delivery hospital), founded in 1751, was the second women’s clinic established in German-speaking lands and quickly surpassed the first hospital for women (in Berlin) in its expertise and scope.<sup>21</sup> Moreover, Göttingen likely inspired the most famous German motherless creation in German literature (and another satire on artificial life)—Olimpia in *Der Sandmann* (1817)—for E. T. A. Hoffmann sets Nathanael’s chemistry studies in the town of “G—.” Students, doctors, and scholars in Göttingen would have been well acquainted with the work of the inspiration for Olimpia’s creator, Lazzaro Spallanzani (1729–99), who studied animal reproduction and worked on questions of conception and artificial insemination. Spallanzani’s experiments, like the work of many of his contemporaries, relied on the dissection of cadavers; his dissection of severed heads pointed to the importance of the spinal cord in the central nervous system (see Pinto-Correia 63). For Douthwaite, the evocative name of Hoffmann’s character “would conjure up a biologist’s threat to the Great Chain of Being” (87).

Elsewhere in Europe, the desire to overturn death seemed to inspire the burgeoning industry of artisanal automata. The Swiss watchmaker Pierre Jaquet-Droz (1721–90) and his team created his most lifelike automata following the precipitous deaths of his young wife and daughter, and one of these creations, the Lady Musician, apparently bears the name of his wife, Marianne, who died after giving birth to a daughter, Charlotte, in 1755.<sup>22</sup> Other automata-reanimation stories remain apocryphal: the story of René Descartes creating an android in the image of his dead daughter is likely untrue.<sup>23</sup> In any case, anatomical study played an important role in the manufacture of automata; Joan B. Landes makes a convincing case for viewing the preserved cadavers on display in France, specifically the *écorchés*, or

skinned anatomical specimens, prepared by Félix Vicq d'Azyr (1748-94), as precursors of the efforts to create artificial life.<sup>24</sup>

The growth of anatomy as a field in the eighteenth century accounts in part for the increased manufacture and collection of automata, which have been produced since ancient Greece; they proliferated in the early modern period primarily as hydraulic ornaments in English and Italian gardens and as parts of clocks, either expensive pendulum clocks or public tower clocks (such as the Glockenspiel at the Rathaus in Munich), in Germany and France. Another trend, wealthy investors seeking status as “virtuosos,” explains the growing collections of automata and various preserved creatures such as hummingbirds<sup>25</sup> in *Wunderkammern* (cabinets of wonder) and *Kunstkammern* (cabinets of art).<sup>26</sup> The wax models of humans created by Marie-Catherine Bihéron (1719-95) and Marie Tussaud (1761-1850) belong to this tradition as well.

Essays such as Gotthold Ephraim Lessing's *Laokoon* (1766) and Heinrich von Kleist's *Über das Marionettentheater* (On the Puppet Theater, 1810) remind us of the centrality of humanoid simulacra to the exploration of what constitutes humanity. Britta Hermann classifies “Androiden, Statuen, Puppen, Monster und künstliche Menschen” (androids, statues, puppets, monsters, and artificial humans) as *Anthropoplastiken* (anthropo-sculptures).<sup>27</sup> By calling automata and Homunculus *motherless creations*, this essay aims to bring the discussion of animated humanoids into conversation with the scientific discourse around the foundations of life. As the following elucidates, Goethe can be linked with automata collectors and the anatomists who inspired them.

Goethe's perspective on artificial life remains somewhat opaque despite all the work being done to understand the significance of his writings on natural philosophy.<sup>28</sup> Goethe came across automata during his local travels, although the encounters seemed to leave only scant impressions. His friend and fellow Mason, the anatomist and surgeon Justus Christian Loder (1753-1832), assisted his study of comparative anatomy, which led to Goethe's discovery of the intermaxillary bone (Richards 367). Loder also established a women's clinic in Jena, as well as an anatomical theater and cabinet of curiosities (FA 27.1:600). Loder's cabinet included works made in Göttingen and elsewhere. In a letter to Herzog Carl August on June 12, 1797 (HA 2:277; WA, no. 3571), Goethe reported seeing Wolfgang von Kempelen's (1734-1804)<sup>29</sup> Viennese-made speaking machine, “die zwar nicht sehr beredt ist, doch aber verschiedne kindische Worte und Töne ganz artig hervorbringt” (which is not especially eloquent but still produces various childish words and tones quite dutifully). The words “ganz artig” (quite dutifully) suggest a patronizing tone. Goethe's reaction is typical for the eighteenth century, when automata often represented “ideal children” (Reilly 91). In fact, Kempelen's speaking machine (now in the Deutsches Museum in Munich) did not attempt to mimic the human form; Kempelen's simple box evoked childishness only in its tone of voice.<sup>30</sup>

Goethe's second known encounter with an automaton illustrates the ties between anatomy and automata. In August 1805 Goethe saw an aging version of Jacques de Vaucanson's (1709-82) so-called digesting

(or defecating) duck at the house of “a widely known collector, physician, chemist, and lawyer,” Gottfried Christoph Beireis (1730–1809), at Helmstedt;<sup>31</sup> in a letter to Duke Carl August on August 28, 1805, Goethe calls him “Merlin-Beireis” owing to his “Besitzungen, die eine Art von barockem Zauberkreis um ihn herschließen” (FA 6.2:25; possessions that draw a kind of baroque circle of magic around him).<sup>32</sup> As Jessica Riskin notes, Vaucanson’s duck was a contradictory mixture of illusion and detailed reality: the wings at least were designed according to nature, with “over four hundred articulated pieces, imitating every bump on every bone of a natural wing.”<sup>33</sup> By the time Goethe saw the mechanical duck, it had greatly deteriorated, as recounted in his aforementioned letter to the duke: “die Ente . . . bewegt noch Hals und Kopf, die Flügel kaum, sie frißt; aber damit sind auch ihre Künste gethan” (FA 6.2:25; the duck . . . still moves its neck and head, the wings barely, it feeds; but thereby its skills are quite finished). In the *Tag- und Jahreshefte* (Daily and Annual Notebook, 1830), he recalls: “Die Ente, unbefiedert, stand als Gerippe da, fras den Hafer noch ganz munter, verdaute jedoch nicht mehr” (FA 17.1:155; The duck, unfledged, stood there like a carcass, still fed on the oats quite friskily, but no longer digested [the food]). However, he does not even describe “die merkwürdigen Kunstwerke” (the strange antiques) in his letter to his wife, Christiane Vulpius, on August 19, 1805.<sup>34</sup>

Perhaps other scientific endeavors at the time overshadowed Beireis’s collection. The philologist Friedrich August Wolf (1759–1824) was traveling with Goethe and Goethe’s fifteen-year-old son, August, when they saw Vaucanson’s aging duck.<sup>35</sup> They interrupted their stay at Bad Lauchstädt, where Schiller’s recent death was commemorated, to visit Halle and attend a lecture at the university there by the doctor and anatomist Franz Joseph Gall (1758–1828) on his specialty, phrenology; Gall reportedly gestured at Goethe’s own skull as an example of “the evenly developed contours of universal genius” (Richards 277). The belief that the aesthetics of the body reflects its inner workings seemed to influence contemporary understanding of the fetus as well.

## II. Obstetrics and Gynecology

The fields of automaton collection, anatomy, gynecology, and obstetrics show other signs of growing in tandem. Meeting with a French surgeon, Claude-Nicolas Le Cat, at a hospital in Rouen helped inspire Vaucanson’s work (Landes 101). Moreover, a medical surgery clinic in Göttingen was founded thirty years after a women’s clinic was established there (Hans Dietel 372). In Germany and Britain, men increasingly took over gynecology and obstetrics despite concerns about the propriety of a male physician treating female patients.<sup>36</sup> They held key positions in the dozen or so women’s clinics that were founded in major German cities by 1780.<sup>37</sup>

Men’s involvement in birthing coincides with the increase in its mechanization. During Friedrich Benjamin Oslander’s tenure between 1792 and 1822 as chair of gynecology in Göttingen, “Nur 54 Prozent der Entbindungen an der Oslanderschen Klinik verliefen spontan, 40 Prozent wurden dagegen mit





Fig. 1. William Hogarth, “Mary Tofts [sic] duping several distinguished surgeons, physicians and male-midwives into believing that she is giving birth to a litter of rabbits.” London, December 22, 1726. Published with permission (Creative Commons License 4.0) from Wellcome Library Images.

der Zange, weitere 6 Prozent mit anderen Kunsthilfen wie Hebel, Wendung usw. beendet” (Only 54 percent of deliveries at Oslander’s clinic occurred spontaneously; 40 percent proceeded with forceps, [and] a further 6 percent with other artificial means such as levers, turns, etc.).<sup>38</sup> The Scottish anatomist and surgeon William Smellie (1740–95) even built a birthing automaton to teach his students. Commenting on this phenomenon, Katherine Inglis points out: “British midwifery literature imagined the female body as a complex machine (like the android, the most perfect and difficult of all automata) and used automata to represent generation and parturition. The automaton mother became an ideal in representation and practice.”<sup>39</sup> Goethe’s contemporaries might have desired an “automatous” mother owing to suspicions that the mother’s imagination influenced the appearance of the fetus. Scholars of teratology often cite Mary Toft, who led people to believe that she gave birth to rabbits after fixating on one while pregnant (fig. 1).<sup>40</sup> This incident, though a hoax, reflects broader assumptions about the effect of women’s imagination upon the fetus. Contemporaries attributed birth defects and other so-called monstrosities to women’s experiences while pregnant. Toft’s story likely was believable because people knew so little about reproduction. Scientists verified women’s fertility period only by the late nineteenth

century.<sup>41</sup> It is possible that folk wisdom trumped the scientific view of conception in the eighteenth century, when many believed that women's bodies functioned like those of animals in that they conceived *during* the menstrual cycle (Tietze 175).

For the most part, classical theories about generation dominated scholarly inquiries into the subject. It is even likely that Mary Wollstonecraft's daughter Mary Shelley was born owing to misconceptions about conception. Her father, William Godwin, followed advice in the oft-reprinted book *Aristotle's Complete Master-Piece* and scheduled intimate encounters with Wollstonecraft according to "the 'chance-medley system,' based on abstinence during what was believed to be three fertile days following the end of menstruation, and frequent sex at other times, for it was widely held that frequency, as in the case of prostitutes, diminished the chance of conception."<sup>42</sup> Yet this was also a period of true discovery. Gottfried Reinhold Treviranus (1776–1837) coined the term *Biologie* (biology) in 1802,<sup>43</sup> and Karl Ernst von Baer (1792–1876) discovered the mammalian ovum in 1827.<sup>44</sup> Baer admired Lorenz von Oken's embryological work; in the 1820s Goethe reportedly chided Oken for failing to publicly acknowledge his discovery of the intermaxillary bone in humans back in November 1784 (Richards 496–97).<sup>45</sup> Goethe's discovery of the intermaxillary bone in humans represents one of his few scientifically accurate discoveries.<sup>46</sup>

Nonetheless, Goethe and his contemporaries did not understand the extent to which the mother and father contribute equally to the genetic makeup of their children. The comparative anatomist Johann Friedrich Blumenbach (1752–1840) notes in *Über den Bildungstrieb* (The Formative Drive, 1781): "Was man Empfängnis nennt, ist nichts als das Erwachen des schlaftrunknen Keims durch den Reiz des auf ihn wirkenden männlichen Samens, der sein Herzchen zum ersten Schläge antreibt u. s. w." (What one calls conception is nothing other than the awakening of the somnolent preformation through the stimulation of male sperm working on it, which drives its heart to the first beat, etc.).<sup>47</sup> These comments underscore Blumenbach's break with Albrecht von Haller's (1708–77) notion at the time that the mother contributed genetic material to the fetus, and Blumenbach's "counterproposal of *epigenesis*" (Richards 218). They also indicate that even epigeneticists sometimes imagined women's contribution to reproduction in passive terms. It is worth remembering here that examiners rejected one of Schiller's three dissertations, *Die Philosophie der Physiologie* (The Philosophy of Physiology), in part because it mocked Haller's idea "that impressions are conveyed to the brain or 'sensorium' by the nerves where they remain as 'vestigia.'"<sup>48</sup> Haller, however, changed his ideas about generation at least three times during his life and ended up championing the cause of ovism.<sup>49</sup>

Homunculi represent spermists' view of the fetus. Samuel Thomas Soemmering (1755–1830), in his drawings for *Icones Embryonum Humanorum* (1799), depicts fetuses as miniature children in ways that suggest his understanding of audiences' readiness to believe the embryo a monster "wenn es nicht wie ein Kind aussieht" (when it does not look like a child).<sup>50</sup> In contrast, William Hunter's more realistic drawings of eight- to nine-week-old fetuses (first published in *The Gravid Uterus*, 1750) differ



from Soemmering's homunculus-type embryos. Britta Hermann (54) ties this type of discourse to *Callipaedia: The Art of Getting Beautiful Children* (Calvidii Leti Callipaedia; seu, De Pulchrae Proliis Habendae Ratione, 1655), a Latin text by the French physician Claude Quillet available in the *Goethezeit* in English but not German.<sup>51</sup> The satirical tone of Goethe's Homunculus suggests that the author remains agnostic on the debate between spermists and ovists. His motherless creation, Homunculus, has a higher purpose; he comes into being in order to illustrate the power of *Streben* (striving), as the second half of this essay illustrates.

### III. Homunculus

Goethe has a *self-reflexive* relationship to biology in that he seems motivated by his ongoing interest in natural philosophy, on the one hand, and in his own health, on the other. As a boy, he read Carl von Linné, Georges Buffon, and Albrecht von Haller. Reportedly Goethe wanted to study in Göttingen with Christian Gottlob Heyne (1729–1812) and Johann David Michaelis (1717–91) but ended up studying law in Leipzig (Richards 334). His studies nonetheless involved physics and anatomy lectures and the discovery of alchemy (D. Kuhn 5). Goethe narrates this period in the second half of book 8 in *Dichtung und Wahrheit* (Poetry and Truth, 1811–33); in the winter of 1768, he suffered from a “Geschwulst am Halse” (FA 5:306; lump on the throat). Stories alluding to medicine and health in *Dichtung und Wahrheit* make the autobiography an uninterrupted “Selbsteilungsgeschichte” (self-healing narrative), as Gabrielle Bersier has noted recently.<sup>52</sup> Illness seems to motivate Goethe and his mother's friend Susanna Katharina Seiffart von Klettenberg (1723–74) to explore the benefits of iatrochemistry.<sup>53</sup> They read Georg von Welling's *Opus Mago-Cabbalisticum et Theosophicum* (1735),<sup>54</sup> Paracelsus, and Goethe's favorite, *Aurea Catena Homeri oder, eine Beschreibung von dem Ursprung der Natur und natürlichen Dingen* (Aurea Catena Homeri, or A Description of the Origin of Nature and Natural Things) by Anton Josef Kirchweger (Leipzig, 1723). *Dichtung und Wahrheit* also mentions George Starkey (Eirenaeus Philalethes); the work of another alchemist, Helmont (Johannes Baptista von Helmont, 1577–1644), who wrote “The Admirable Efficacy, and almost incredible Virtue of true Oyl”; and the chemical compendium of Boerhaave's aphorisms. Goethe even built a small alchemical “Apparat: ein Windöfchen mit einem Sandbade” (device: a little wind oven lined with sand) but eventually a doctor practicing “Universalmedizin” (universal medicine) gave him salts to cure his lung complaint (FA 5:309).

In literature and culture, homunculi represent the classical concept that male sperm generates life, whereas the female provides passive matter in the procreative process.<sup>55</sup> At the beginning of the second act of *Faust II*, Homunculus, a diminutive of the Latin *homo*, meaning “little man,” comes into being through the process of “kristallisieren” (FA 7:279, 6860; crystallizing). *Faust* never specifies what goes into the alembic, but in the writings of the Swiss-German alchemist Paracelsus (Goethe's likely source), the process involves putrefying sperm in a gourd glass for forty days in horse dung.<sup>56</sup> Putrefaction signifies “the death of an organism, in this case the

male seed, and its preparation for rebirth” in alchemical literature (Gray 206). In such narratives, the alembic performs the same passive function as the womb in nurturing new life. While Goethe draws Homunculus from early modern sources, the term also exists in current anatomy: the scientific term “cortical homunculus” refers to the visual representation of how the brain views the body in relation to the number of sensory neurons.<sup>57</sup>

Goethe’s Homunculus exists without a body but with a clear voice. In performance, Goethe reportedly imagined Homunculus as pure voice; Johann Peter Eckermann recalls, from a conversation on December 20, 1829, that Goethe suggested that a *ventriloquist* take on the role of Wagner.<sup>58</sup> Peter Stein’s 2000 production in Hannover portrayed Homunculus in a similar fashion, as Cyrus Hamlin reports: “A transparent glass sphere was suspended on a wire from the ceiling of the theater; within the sphere sat a naked child four or five years old. The child was silent and relatively immobile; instead Homunculus’s voice was broadcast by loudspeakers located at several points around the periphery of the hall.”<sup>59</sup> Homunculus’s voice seems more important than his material form, for he has some of the drollest lines in the play, as his first words to Wagner illustrate: “Nun Väterchen! wie steht’s? es war kein Scherz. / Komm, drücke mich recht zärtlich an dein Herz, / Doch nicht zu fest, damit das Glas nicht springe” (Well there, Papa! How now? It was no jest. / Clutch me affectionately to your breast, / But not too roughly, or the glass might shatter).<sup>60</sup> No one can love Homunculus without breaking him, which is also an apt description of Faust’s effect on women in the tragedy.

Scholars have debated exactly *who* creates Homunculus: Wagner or Wagner *and* Mephisto.<sup>61</sup> As cited above, Homunculus greets Wagner as “Väterchen” (Papa), and then he acknowledges Mephisto as “Herr Vetter” (FA 7:280, 6885; Sir Cousin). Wagner and Mephistopheles seem to share the creative rights to Homunculus, although Faust might be considered a godfather because he brings these parties together, and Homunculus has an uncanny connection to him: he can see his dream about the birth of Helena. Eckermann records Goethe as responding to this passage on December 16, 1829, by reportedly saying:

Übrigens nennt er ihn Herr Vetter; denn solche geistige Wesen, wie der Homunculus, die durch eine vollkommene Menschwerdung noch nicht verdüstert und beschränkt worden, zählte man zu den Dämonen, wodurch denn unter Beiden eine Art von Verwandtschaft existiert. (FA 12:365)

[Incidentally, he calls him Sir Cousin; for one counts spiritual beings such as Homunculus, who is not yet overshadowed and limited by a consummate incarnation, among the demons, whereby a kind of kinship exists between the two.]

Eckermann’s recollections may be merely suggestive, but it is not difficult to imagine Homunculus evoking discussions about what constitutes the human and the nonhuman. Goethe’s concept of the demonic here may well be related to the boundaries of the self and other, as it is in *Die Wahlverwandtschaften* (Elective Affinities, 1809) and in part 4, book 20, of *Dichtung und Wahrheit*.<sup>62</sup> In any case, Wagner, the alchemist, represents man-made creative powers; and Mephistopheles, magic, supernatural

ones. The absence of the feminine in the birth of Homunculus might account for his hermaphroditical sexuality.

Homunculi are hermaphroditical and are often allegorized as a chemical marriage between man/masculinity and woman/femininity. This pairing invites comparisons to the hermaphroditical dynamics in *Die Wahlverwandtschaften*, if not the larger corpus of Goethe's work.<sup>63</sup> Astrida Orle Tantillo is thus likely correct in identifying *polarities* as the key to understanding Goethe's philosophy of sexual difference.<sup>64</sup> In his unpublished essay "Polarität" (Polarity), Goethe outlines an almost-dialectic process of division and unification:

Was in die Erscheinung tritt, muß sich trennen, um nur zu erscheinen. Das Getrennte sucht sich wieder, und es kann sich wieder finden und vereinigen; im niedern Sinne, indem es sich nur mit seinem Entgegengestellten vermischt, mit demselben zusammentritt, wobei die Erscheinung Null oder wenigsten gleichgültig wird. Die Vereinigung kann aber auch im höhern Sinne geschehen, indem das Getrennte sich zuerst steigert und durch die Verbindung der gesteigerten Seiten ein Drittes, Neues, Höheres, Unerwartetes hervorbringt. (FA 6:444)

[Whatever appears in the world must divide if it is to appear at all. The divided seeks itself again, and it can return to itself and reunite. This happens in a lower sense when it merely intermingles with its opposite, combines with it; here the phenomenon is nullified or at least neutralized. However, the union may occur in a higher sense if what has been divided is first intensified; then in the union of the intensified halves it will produce a third thing, something new, higher, unexpected.<sup>65</sup>]

The fact that Goethe read a version of this essay to a female audience, the ladies of the Weimar court, on October 2, 1805, points to the significance of the piece for understanding gender dynamics. Yet whereas alchemical literature uses the concept of polarities to explain gender binaries,<sup>66</sup> Goethe's own notes on polarities emphasize the synthesis of uniting disparate parts and eschew gender bifurcation: "Wir und die Gegenstände, Licht und Finsternis, Leib und Seele, Zwei Seelen, Geist und Materie, Gott und die Welt, Gedanke und Ausdehnung, Ideales und Reales, Sinnlichkeit und Vernunft, Phantasie und Verstand, Sein und Sehnsucht" (FA 6:443; We and Objects; Light and Darkness; Body and Soul; Two Souls; Spirit and Matter; God and the World; Ideal and Real; Sensuality and Reason; and Being and Yearning). Goethe's Homunculus defies rigid gender binaries as well.

The death of Homunculus represents the "union of the intensified halves" described in the essay "Polarität." When Homunculus unites with Galatea by crashing against her shell, he transforms into "a third thing, something new, higher, unexpected." The text emphasizes this concept of unity and completion when the Sirens celebrate the four elements of earth, fire, water, and air: "Heil dem Meere! Heil den Wogen, / Von dem heiligen Feuer umzogen! / Heil dem Wasser! Heil dem Feuer! / Heil dem seltnen Abenteuer!" (FA 7:334, 8480-84; Hail the sea, the ocean swelling! / Wreathed in sacred fiery torrents:

/ Hail the fire, the waters welling! / Hail the singular occurrence!, Arndt 240). Galatea, the emblem of femininity and Venus/Aphrodite riding across the surf in a shell, facilitates the transformation of Homunculus into a whole being with body and soul.

In his writings on morphology Goethe stresses that all life-forms have some form of skin or shell,<sup>67</sup> an idea that takes on particular relevance in *Faust II* when Homunculus joins with Galatea by crashing his shell against hers. As argued above, this scene is triumphant rather than tragic, because his metamorphosis signals his status as a living organism. Eckermann records conversations about *entelechy*,<sup>68</sup> which critics have tied to Homunculus.<sup>69</sup> Goethe understood *entelechy* as the immortal essence of a being. In *Faust*, Homunculus achieves this immortal essence owing to collaboration between male cocreators. This idea of two male cocreators is mirrored in the two male figures who shepherd Homunculus to his death/rebirth: Nereus and Proteus (figures that Mommsen ties to the motif of doubling in *Faust II*, Mommsen 144). Mothering, here and elsewhere in *Faust*, occurs in a surrogate fashion, for Homunculus looks to a series of male mentors to complete his journey, which culminates in unification with a figure representing femininity, perhaps even “das Ewig-Weibliche,” the Eternal Feminine (FA 7:464, 12111).

#### IV. Conclusion

Homunculus's existence achieves its purpose when he unites with Galatea in death. The sublimation of Homunculus's death into rebirth reminds us that “Goethe's conception of life is fundamentally teleological,” in the words of Timothy Lenoir (“Eternal Laws,” 27). The teleological basis of Goethe's conception of life is significant because Immanuel Kant, too, emphasizes the *Zweckmäßigkeit*, “purposiveness,” of generation in *Kritik der Urteilskraft* (Critique of Judgment, 1790).<sup>70</sup> Nonetheless, Robert J. Richards draws attention to the fact that, while Goethe adopted Friedrich Schelling's concept of “dynamische Evolution,” nineteenth-century British critics misunderstood the implications of Kantian *Zweckmäßigkeit* in his concept of creation. Spinoza, a (possibly imperfect)<sup>71</sup> reference point for Goethe, influenced Herder and, through him, Goethe and Schelling's “organic conception of nature” insofar as “God and nature were one” (Richards 11). In contrast to these writers, however, Goethe's thinking about the teleology of species, human or otherwise, avoids any type of divine design or intervention.

The notion of never-ending *Streben* (striving) describes the purposiveness of Goethe's creations in *Faust*, as the Lord tells Mephistopheles in the Prologue of *Faust I*: “Es irrt der Mensch so lang' er strebt” (FA 7:27, 317; Man ever errs the while he strives, Arndt 10). The purpose of this striving seems to be the act of striving itself, but not necessarily procreation. Homunculus strives to unite with Galatea in an act that simulates procreation, but he must die in order to do so. The death of so many children in *Faust* might well reflect a touch of cynicism on the part of the author, whose only child to reach adulthood, August, died in 1830, two years before his own death and the completion of the text.

The concept of striving also ties to the manufacture of automata in Goethe's time and to the attempt of wealthy investors to claim status as virtuosos through their collections, as Richard D. Altick suggests.<sup>72</sup> Voskuhl goes further and argues that musical automata underscore a new kind of sensibility that highlights the musician's craft. However, the automaton differs from its successor, the android, in its lack of verisimilitude; an automaton, in other words, can rarely pass for a human being. The automaton, the android, and Homunculus represent fantasies about ways to reverse death by creating immortal beings. That women remain largely uninvolved in their creation connects discursively to contemporary concerns about the effect of women's imagination on the fetus, or at least to contemporaries' limited understanding about the ways in which male and female bodies contributed to reproduction.

In contrast to Goethe's more nuanced approach to explaining the interplay between the sexes, contemporary theories about generation sometimes downplayed women's role in procreation; yet Goethe and his contemporaries share fantasies about the power of men to reanimate lifeless matter. Ultimately, the only birth that matters in *Faust I* and *II* is Faust's redemption, a kind of rebirth in itself, but the large role that surrogacy plays in the tragedy suggests that motherhood is a role that any gender can assume. The pseudoscience of *Faust* is nonetheless tied to discursive debates around motherhood and women's ostensibly ancillary roles in procreation. Homunculus represents a satirical nod to this notion, but Goethe stops short of endorsing this position, for endless striving remains the purpose of life in *Faust*.

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## NOTES

1. Gail Hart, *Tragedy in Paradise: Family and Gender Politics in German Bourgeois Tragedy* (Columbia, SC: Camden House, 1996); and Susan E. Gustafson, *Absent Mothers and Orphaned Fathers: Narcissism and Abjection in Lessing's Aesthetic and Dramatic Production* (Detroit: Wayne State UP, 1995).

2. "Ovism" and "spermism" are modern terms used by contemporary scholars such as Clara Pinto-Correia in her *The Ovary of Eve: Egg and Sperm and Preformation* (Chicago: U of Chicago P, 1997).

3. Gottfried Wilhelm Hertz, *Natur und Geist in Goethes "Faust"* (Frankfurt am Main: Moritz Diesterweg, 1931) 114. Otto Höfler, *Homunculus—eine Satire auf A. W. Schlegel* (Vienna: Hermann Böhlau Nachfolger, 1972), reads Homunculus as a straight satire on the transcendental ideas of A. W. Schlegel. Robert Richards has since shown that Goethe's and Schlegel's natural philosophy coincided more often than it diverged. See Robert J. Richards, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (Chicago: U of Chicago P, 2002).

4. This essay uses the English spelling "Homunculus" instead of the German *Homunkulus* because the former is more common on a global scale. See, e.g., Höfler, *Homunculus*.

5. Jessica Riskin, "Eighteenth-Century Wetware," *Representations* 83 (Summer 2003): 97-125; reprinted in Bernadette Bensaude-Vincent and William Newman,



eds., *The Artificial and the Natural: An Evolving Polarity* (Cambridge, MA: MIT Press, 2007) 239–74. See also Jessica Riskin's *Science in the Age of Sensibility: The Sentimental Empiricists of the French Enlightenment* (Chicago: U of Chicago P, 2002); Torben Hviid Nielsen and Siv Froydis Berg, "Goethe's Homunculus and Shelley's Monster: On the Romantic Prototypes of Modern Biotechnology," *Notizie di politeia: Rivista di etica e scelte pubbliche* 17, no. 63 (2001): 37–50; and Camilla Mordhorst, "Kunsten at skabe en homunculus i den kulturhistoriske udstilling," *Nord nyt* 68 (1997): 75–91.

6. Margaret A. Boden, introduction to *The Philosophy of Artificial Life*, ed. Margaret A. Boden (Oxford: Oxford UP, 1996) 1–35, here 1.

7. "The German term for vital power appeared on the scene with Medicus's *On the Lebenskraft* (1774), though the idea of *vis viva* (life force) had been gaining support since 1757, when Albrecht von Haller demonstrated sensibility and irritability, or the powers of the nerves to react and of the muscles to contract, respectively"; Denise Gigante, *Life: Organic Form and Romanticism* (New Haven, CT: Yale UP, 2009) 16.

8. "Vitalism and creationism in ALife are repackaged and re-presented as emergence and evolutionism respectively"; Sarah Kember, *Cyberfeminism and Artificial Life* (New York: Routledge, 2003) 81.

9. Examples of this tradition include Astrida OrleTantillo, *The Will to Create: Goethe's Philosophy of Nature* (Pittsburgh, PA: U of Pittsburgh P, 2002); and Jocelyn Holland, *German Romanticism and Science: The Procreative Poetics of Goethe, Novalis, and Ritter* (New York: Routledge, 2009).

10. Jane K. Brown, *Goethe's "Faust": The German Tragedy* (Ithaca, NY: Cornell UP, 1986).

11. John R. Williams, "The Problem of the Mothers," in *Companion to Goethe's "Faust" Parts I and II*, ed. Paul Bishop (Rochester, NY: Camden House, 2001) 122–43.

12. Robert Anchor, "Motherhood and Family in Goethe's *Faust*: Gretchen's Mother and the Gretchen Tragedy," *Historical Reflections / Réflexions historiques* 23, no. 1 (Winter 1997): 29–48, here 39.

13. Ellis Dye, "Figurations of the Feminine in Goethe's *Faust*," in Bishop, *Companion to Goethe's "Faust"*, 95–121, here 111.

14. Paula R. Feldman and Diana Scott-Kilvert, eds., *The Journals of Mary Shelley, 1814–1844* (Oxford: Clarendon, 1987) 1:70.

15. Alan Bewell, "An Issue of Monstrous Desire: *Frankenstein* and Obstetrics," *Yale Journal of Criticism* 2, no. 1 (Fall 1988): 105–28.

16. Nogaret's *Aglaonice, ou La belle au concours* (1795) contains the name Frankenstein. See Julia V. Douthwaite, *The Frankenstein of 1790 and Other Lost Chapters from Revolutionary France* (Chicago: U of Chicago P, 2012).

17. Radu Florescu, *In Search of Frankenstein* (Boston: New York Graphic Society, 1976) 656–93.

18. William Newman, "The Homunculus and His Forebears: Wonders of Art and Nature," in *Natural Particulars: Nature and the Disciplines in Renaissance Europe*, ed. Anthony Grafton and Nancy Siraisi (Cambridge, MA: MIT Press, 1999) 321–46, here 321–22.

19. Ludmilla Jordanova, *Nature Displayed: Gender, Science and Medicine, 1760–1820* (London: Longman, 1999) 27.

20. Timothy Lenoir, "The Göttingen School and the Development of Transcendental *Naturphilosophie* in the Romantic Era," *Studies in the History of Biology* 5 (1981): 111-205, here 180.
21. Hans Dietel, "Zur Geschichte der Nordwestdeutschen Gesellschaft für Gynäkologie und Geburtshilfe," *Zur Geschichte der Gynäkologie und Geburtshilfe*, ed. L. Beck (Berlin: Springer, 1986) 370-79, here 372.
22. Kara Reilly, *Automata and Mimesis on the Stage of Theatre History* (New York: Palgrave Macmillan, 2011) 91.
23. Scott Maisano, "Infinite Gesture: Automata and the Emotions in Descartes and Shakespeare," in *Genesis Redux: Essays in the History and Philosophy of Artificial Life*, ed. Jessica Riskin (Chicago: U of Chicago P, 2007) 63-84, here 63.
24. Joan B. Landes, "The Anatomy of Life: An Eighteenth-Century Perspective," in Riskin, *Genesis Redux*, 96-118.
25. Judith Pascoe, *The Hummingbird Cabinet: A Rare and Curious History of Romantic Collectors* (New York: Cornell UP, 2006).
26. Richard D. Altick, *The Shows of London* (Cambridge, MA: Harvard UP, 1978) 32, 8.
27. Britta Hermann, "Das Geschlecht der Imagination: Anthropoplastik um 1800," in *Textmaschinenkörper: Genderorientierte Lektüren des Androiden*, ed. Eva Kormann, Anke Gilleir, and Angelika Schlimmer (Amsterdam: Rodopi, 2006) 47-72, here 47.
28. See Richards, *Romantic Conception*; David Seamon and Arthur Zajonc, eds., *Goethe's Way of Science: A Phenomenology of Nature* (Albany: SUNY Press, 1998); and Frederick Amrine, Francis J. Zucker, and Harvey Wheeler, eds., *Goethe and the Sciences: A Reappraisal* (Boston: D. Reidel, 1987).
29. Kempelen served as a court counselor for the Hungarian delegation at Maria Theresa's court in Vienna. He designed the plumbing systems for the palace's water fountains (somewhat poorly: they broke within a decade) and also had aspirations to create a new steam engine, which he attempted to patent in England. See Alice Reininger, *Wolfgang von Kempelen: Eine Biografie* (Vienna: Praesens-Verlag, 2007).
30. Wolfgang von Kempelen, J. G. Mansfeld, and Heinrich Füger, *Wolgangs von Kempelen K.k. Wirklichen Hofraths Mechanismus der Menschlichen Sprache: Nebst der Beschreibung seiner sprechenden Maschine; Mechanismus der Menschlichen Sprache* (Vienna: J.V. Degen, 1791).
31. Adelheid Voskuhl, *Androids in the Enlightenment: Mechanics, Artisans, and Cultures of the Self* (Chicago: U of Chicago P, 2013) 174.
32. For more information on Beireis, see Dieter Matthes, "Goethes Reise nach Helmstedt und seine Begegnung mit Gottfried Christoph Beireis: Eine Untersuchung zum Bildstil der 'Tag und Jahreshefte,'" *Braunschweigisches Jahrbuch* 49 (1968): 121-201.
33. Jessica Riskin, "The Defecating Duck, or, The Ambiguous Origins of Artificial Life," *Critical Inquiry* 29, no. 4 (Summer 2003): 599-633, here 609.
34. Hans Gerhard Gräf, ed., *Goethes Briefwechsel mit seiner Frau* (Frankfurt am Main: Rütten und Koenig, 1916) 456-57.
35. From the letter dated August 19, 1805, to Christiane Vulpius cited above: August "streitet sich mit [Friedrich August] Wolf und macht uns oft zu lachen" (Gräf 1:456; argues with [Friedrich August] Wolf and often makes us laugh).
36. Uta Hakemeyer and Günther Keding, "Zum Aufbau der Hebammenschulen in Deutschland im 18. und frühen 19. Jahrhundert," in Beck, *Zur Geschichte der*

*Gynäkologie und Geburtshilfe*, 62–88, here 62; and Diétel 370. For the British context, see Lisa Forman Cody, *Birthing the Nation: Sex, Science, and the Conception of Eighteenth-Century Britons* (Oxford: Oxford UP, 2005).

37. These clinics were founded in Kassel in 1763, Altona in 1765, Mannheim in 1766, Braunschweig in 1768, Dresden and Fulda in 1775, Magdeburg in 1777, Würzburg and Jena in 1779 (Hakemeyer and Keding 75–76).

38. Walther Kuhn and Alexander Tobias Teichmann, “Zur Entstehung der ältesten Gebärklinik Deutschlands an der Universität Göttingen (1751),” in Beck, *Zur Geschichte der Gynäkologie und Geburtshilfe*, 365–70, here 367.

39. Katherine Inglis, “Maternity, Madness and Mechanization: The Ghastly Automaton in James Hogg’s *The Three Perils of Woman*,” in *Minds, Bodies, Machines, 1770–1930*, ed. Deirdre Coleman and Hilary Fraser (New York: Palgrave Macmillan, 2011) 61–82, here 64.

40. Dennis Todd, *Imagining Monsters: Miscreations of the Self in Eighteenth-Century England* (Chicago: U of Chicago P, 1995).

41. Konrad Tietze, “Die Entwicklung der Lehren von den Ovar-Uterus-Beziehungen nach Entdeckung der menschlichen Eizelle: Rückblick und Ausblick,” in Beck, *Zur Geschichte der Gynäkologie und Geburtshilfe*, 175–82, here 175.

42. Lyndall Gordon, *Vindication: A Life of Mary Wollstonecraft* (New York: HarperCollins, 2005) 326.

43. Gottfried Reinhold Treviranus, *Biologie oder Philosophie der lebenden Natur für Naturforscher und Aerzte* (Göttingen: J. F. Röwer, 1802–22).

44. Karl Ernst von Baer, *De ovi mammalium et hominis genesi* (Leipzig, 1827).

45. See also Timothy Lenoir, “The Eternal Laws of Form: Morphotypes and the Conditions of Existence in Goethe’s Biological Thought,” in Amrine, Zucker, and Wheeler, *Goethe and the Sciences*, 17–28, here 21.

46. Dorothea Kuhn, “Goethe’s Relationship to the Theories of Development of His Time,” in Amrine, Zucker, and Wheeler, *Goethe and the Sciences*, 3–16, here 10.

47. Johann Friedrich Blumenbach, *Über den Bildungstrieb* (Göttingen: Johann Christian Dietrich, 1791) 16.

48. Nigel Reeves, “Friedrich Schiller: The ‘Seelenarzt’ as Dramatist—or from ‘vis Transmutator’ to ‘Spieltrieb,’” in *Tales from the Laboratory; or, Homunculus Revisited*, ed. Rüdiger Görner (Munich: Iudicium, 2005) 55–69, here 58. See also Jeffrey L. Sammons, “Friedrich Schiller’s Dissertation,” *Yale University Library Gazette* 66, no. 3/4 (April 1992): 136–40.

49. Shirley Roe, *Matter, Life, and Generation: Eighteenth-Century Embryology and the Haller-Wolff Debate* (New York: Cambridge UP, 1981) 42–43; and Pinto-Correia 51–52.

50. Barbara Duden, “Zwischen ‘wahrem Wissen’ und Prophetie: Konzeptionen des Ungeborenen,” in *Geschichte des Ungeborenen: Zur Erfahrungs- und Wissenschaftsgeschichte der Schwangerschaft, 17.–20. Jahrhundert*, ed. Barbara Duden, Jürgen Schlumbohm, and Patrice Veit (Göttingen: Vandenhoeck und Ruprecht, 2002) 11–48, here 38.

51. Hermann cites the many translations of this text into English in the early eighteenth century, but the first evidence I can find of the text in German is from the mid-nineteenth century: Daniel Gottlieb Moritz Schreber, *Kallipädie; oder, Erziehung zur Schönheit durch naturgetreue und gleichmässige Förderung normaler Körperbildung, lebensstüchtiger Gesundheit und geistiger Veredelung und insbe-*

*sondere durch möglichste Benutzung specieller Erziehungsmittel. Für Aeltern, Erzieher und Lehrer* (Leipzig: Fleischer, 1858).

52. Gabrielle Bersier, *Wege des Heilens: Goethes physiologische Autobiographie Dichtung und Wahrheit* (Würzburg: Königshausen und Neumann, 2014) 227. In fact, the role of illness in Goethe's self-reflexive identity deserves further attention, perhaps in conjunction with the image of the author in *Lotte in Weimar* (1939) by Thomas Mann or from the perspective of a scholar in the medical humanities.

53. For more information on the woman Goethe refers to simply as "Fräulein Klettenberg," see Burkhard Dohm, "Radikalpjetistin und 'schöne Seele': Susanna Katharina von Klettenberg," in *Goethe und der Pietismus*, ed. Hans-Georg Kemper and Hans Schneider (Tübingen: Niemeyer, 2001) 111–33.

54. A 1760 copy belonged to his father's library and later to Goethe's library in Weimar (FA 14:1164).

55. On the shaping power of the sperm, see, e.g., Aristotle, *De generatione animalium*, in *The Works of Aristotle*, ed. J. A. Smith and W. D. Ross, trans. Arthur Platt (Oxford: Oxford UP, 1949) 5:729b–731b; and Hippocrates, *On Generation* (6–8), trans. Iain M. Lonie (Berlin: Walter de Gruyter, 1981) 3–4.

56. Ronald D. Gray, *Goethe the Alchemist: A Study of Alchemical Symbolism in Goethe's Literary and Scientific Works* (Cambridge: Cambridge UP, 1952) 205.

57. Wilder Penfield brought the cortical homunculus into modern-day scientific discourse in the 1930s. See Wilder Penfield, *The Cerebral Cortex in Man*, vol. 1, *The Cerebral Cortex and Consciousness* (Minneapolis: Medical School of the University of Minnesota, 1938).

58. "Es wäre eine Rolle für einen Bauchredner, wie ich deren gehört habe, und der sich gewiß gut aus der Affaire ziehen würde" (FA 12:368; It would be a role for a ventriloquist, which I've heard of, and would certainly do well from the affair).

59. Cyrus Hamlin, "Faust in Performance," *Theater* 32, no. 1 (2002): 117–36, here 130.

60. FA 7:280, 6879–82. Translations are from Walter Arndt's translation of *Faust*, ed. Cyrus Hamlin (New York: Norton, 2001) 195.

61. Arthur Scholz, "Goethe's Homunculus," *German Quarterly* 17, no. 1 (January 1944): 23–27, here 24.

62. Angus James Nicholls, *Goethe's Concept of the Daemonic: After the Ancients* (Rochester, NY: Camden House, 2006) 226.

63. Ellis Dye writes: "such hermaphroditic figures as Homunculus, Knabe Lenker, Euphorion, and even Mephistopheles (8029) in *Faust* alone, along with Mignon, Therese, and the beautiful Amazon—even Mariane in her officer's uniform—in *Wilhelm Meisters Lebrjahre* make up a diverse, problematic display of androgyny, not to mention the ways in which Wilhelm Meister and Eduard in *Die Wahlverwandtschaften* are implicitly feminized" (97).

64. Astrida Orle Tantilillo, "Goethe's Botany and His Philosophy of Gender," *Eighteenth-Century Life* 22, no. 2 (1998): 123–38, here 125.

65. Based on the translation by Douglas Miller in his edition of the essay "Polarity" for *Scientific Studies*, vol. 12 of *Works* (New York: Suhrkamp, 1983) 155–56, here 156.

66. In Aurea Cantena Homeri's *Das ist: Eine Beschreibung von dem Ursprung der Natur und natürlichen Dinge [sic]* (Jena: Christian Heinrich, 1757), polarities are described as "Das eine ist Acidum / das andere ist Alkali, Animas Spiritus / Corpus, Vater / Mutter, Männlicher Same / Weiblicher Same, Strahl / Magnet, Wirkende /

Leidende" (57; The one is acid / the other is alkali, *animas spiritus* / corpus, father / mother, male seed / female seed, ray / magnet, agitator / sufferer).

67. Johann Wolfgang von Goethe, "Anfang zu dem geplanten Gesamtwerk über Morphologie": "alles, was lebendig wirken soll, muß eingehüllt sein" (FA 6:361; start of the planned complete work on morphology; everything that seems alive must be coated).

68. For Eckermann's memory about discussions regarding *Entelechie*, see September 1, 1829 (MA 19:335), and March 3, 1830 (MA 19:361), in *Gespräche mit Goethe*.

69. Hertz, *Natur und Geist*; and Katharina Mommsen, "Homunculus und Helena," in *Aufsätze zu Goethes "Faust II,"* ed. Werner Keller (Darmstadt: Wissenschaftliche Buchgesellschaft, 1991) 138-59, here 148.

70. In *Kritik der Urteilskraft*, Kant writes: "Wenn nun das teleologische Prinzip der Erzeugung dieser Wesen angenommen wird (wie es denn nicht anders sein kann): so kann man entweder den Okkasionalismus, oder den Prästabilismus der Ursache ihrer innerlich zweckmäßigen Form zum Grunde legen" (*Werke*, ed. Otto Buek [Berlin: Bruno Cassirer, 1922] 5:501). "Now if the teleological principle of the production of these beings be assumed (as is inevitable), we can place at the basis of the cause of their internally purposive form either occasionalism or pre-established harmony" (trans. J. H. Bernard, *Critique of Judgment* [New York: Hafner, 1972] 272, para. 81. For more on Kant's relation to generation, see Jennifer Mensch, *Kant's Organicism: Epigenesis and the Development of Critical Philosophy* (Chicago: U of Chicago P, 2013).

71. Whereas Richards traces "Goethe's notion of an ideal form, an archetype" (376), to Herder and Spinoza, more recently Horst Lange suggests that Goethe understood Spinoza only vaguely in "Goethe and Spinoza: A Reconsideration," *Goethe Yearbook* 18 (2011): 11-33, here 14.

72. Altick, *Shows of London* (n. 26).