

LEIBNIZ, THE “FLOWER OF SUBSTANCE,” AND THE RESURRECTION OF THE SAME BODY¹

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Although Leibniz’s doctrine of the *flos substantiae*, or flower of substance, has started to attract a great deal of attention from scholars in recent years, it continues to remain on the periphery of Leibniz scholarship, the discussions of it in the recent literature together amounting to little more than a story half-told.² The aim of this article is to build on these recent discussions and thus round out the story of the *flos substantiae* doctrine by offering an in-depth treatment of its content and context.

Forming the backdrop to the majority of Leibniz’s discussions of the *flos substantiae* is a series of problems connected with the belief in the resurrection of

¹ My thanks to Daniel J. Cook, Vernon Pratt, and Pauline Phemister for helpful comments on an earlier draft of this paper.

² Recent discussions can be found in Stuart Brown, “Soul, Body and Natural Immortality,” *The Monist* 81 (1998a): 573–90; Stuart Brown, “Some Occult Influences on Leibniz’s Monadology,” *Leibniz, Mysticism, and Religion*, ed. Allison P. Coudert, Richard H. Popkin, and Gordon M. Weiner (Dordrecht, The Netherlands: Kluwer, 1998b) 1–21; Stuart Brown, “The Proto-Monadology of the *De Summa Rerum*,” *The Young Leibniz and His Philosophy*, ed. Stuart Brown (Dordrecht, The Netherlands: Kluwer, 1999) 263–87. Christia Mercer, *Leibniz’s Metaphysics* (Cambridge, UK: Cambridge UP, 2001); Hubertus Busche, “Mind and Body in the Young Leibniz,” *Individuals, Minds and Bodies: Themes from Leibniz*, ed. Massimiliano Carrara, Antonio M. Nunziante, and Gabriele Tomasi (Hamburg, Germany: Franz Steiner Verlag, 2004) 141–58; Christia Mercer, “Material Difficulties: Matter and the Metaphysics of Resurrection in Early Modern Natural Philosophy,” *Graduate Faculty Philosophy Journal* 26 (2005): 123–35; Richard T. W. Arthur, “Animal Generation and Substance in Sennert and Leibniz,” *The Problem of Animal Generation in Early Modern Philosophy*, ed. Justin E. H. Smith (Cambridge, UK: Cambridge UP, 2006) 147–74; Christia Mercer, “Leibniz, Matter, and the Metaphysics of the Resurrection,” *Einheit in der Vielheit: Vorträge des VII. Internationaler Leibniz-Kongress*, ed. Herbert Breger, Jürgen Herbst, and Sven Erdner (Hanover, Germany: Gottfried-Wilhelm-Leibniz-Gesellschaft, 2006) 601–05; Stuart Brown, “Leibniz and Robert Boyle,” *Leibniz and the English-Speaking World*, ed. Pauline Phemister and Stuart Brown (Dordrecht, The Netherlands: Springer, 2007) 83–93; Maria Rosa Antognazza, *Leibniz: An Intellectual Biography* (Cambridge, UK: Cambridge UP, 2008).

the same body, and by way of an introduction a few words about this is in order. Historically many of the Judaeo-Christian tradition have held it to be true, and in some cases as even an article of faith, that at some future time all humans will not only experience a bodily resurrection, but will actually be resurrected with the *same bodies* possessed during normal life.³ Scriptural passages were often cited in defense of this view, but it was also commonly stressed that, unless humans receive the same body they had when alive, their revivification could scarcely be termed a *resurrection* in the first place.⁴ But in spite of its perceived support from both scripture and reason, the doctrine of the resurrection of the same body was widely considered to be dogged by two key problems. The first was this: how can anyone be resurrected with the same body? This problem turns on the fact that human bodies do not remain intact after death and are instead subject to decomposition or other kinds of corruption such as (in Augustine's words) being "devoured by beasts or consumed by fire, or reduced to dust, or dissolved into liquid."⁵ This being so, it is not clear how all their parts can be restored so that the same bodies can rise again. In what follows I shall refer to this as "bodily identity problem 1." The second key problem often identified with the belief in the resurrection of the same body was this: how can everyone be resurrected with the same body? This problem stems from the fact that the matter belonging to the bodies of some humans may become part of the bodies of other humans, either directly (via cannibalism) or indirectly (because the remains of human bodies sometimes nourish plants and animals, which in turn may be eaten by other humans). In cases where this happens, there would seem to be a problem of ownership of bodily matter, with the same matter having formed part of two or more human bodies. Given that each bit of this disputed matter can only be returned to one person's body rather than to the bodies of all those who may have a claim over it, it is not clear how everyone can be resurrected with the same body possessed during normal life. I shall refer to this as "bodily identity problem 2." As we shall see, different versions of this problem have been formulated, some more thorny than others.

³ There were some dissenters of course. In the early modern period these included Cudworth, Locke, and Henry More. See Ralph Cudworth, *The True Intellectual System of the Universe* (London: Richard Royston, 1678), 798–99; John Locke, "Resurrectio et quae sequuntur," *Writings on Religion*, ed. Victor Nuovo (Oxford, UK: Clarendon Press, 2002) 237; Henry More, "An Explanation of the Grand Mysteries of Godliness," *The Theological Works of the Most Pious and Learned Henry More* (London: Joseph Dawning, 1708) 154.

⁴ See for example, Menasseh Ben Israel, *De resurrectione mortuorum* (Groningen: The Netherlands, 1676, 2ed) 198; Philipp van Limborch, *Theologia Christiana ad praxin pietatis ac promotionem pacis Christianae unice directa* (Amsterdam, 1686) 779; John Pearson, *An Exposition of the Creed* (London: H. Wetstein, 1676, 4ed) 381.

⁵ Augustine, *City of God*, trans., Gerald G. Walsh and Daniel J. Honan (Washington, DC: Catholic U of America P, 1954) 470 (XXII.20).

It would be fair to say that concern with both bodily identity problems reached its zenith in early modern times, when belief in the resurrection of the same body was at its most widespread.⁶ It is perhaps ironic that Leibniz expended as much effort as he did to solve these problems given his position—stated in several texts—that while he believed in the bodily resurrection of all humans, he was not convinced that this required humans to be resurrected with the same body.⁷ But although Leibniz was not personally troubled by either of the bodily identity problems, he took it upon himself to solve them for the sake of others who were troubled by them. In his discussions of the problems, Leibniz put forward a doctrine of his own devising—that of the flower of substance—and claimed that it represented the best (indeed, the only) hope of a solution. Leibniz’s doctrine of the *flos substantiae* is to be found in only a handful of his writings, and those in which it is discussed all date from the early part of his career (viz. 1669/70–86). From a commentator’s perspective, the most useful of these by some distance is an essay from 1671 entitled “On the Resurrection of Bodies,” which contains the lengthiest and most focused treatment of the bodily identity problems to be found in Leibniz’s corpus, along with the most detailed elucidation of the *flos substantiae* doctrine,⁸ and this essay will therefore be the starting point of our study.

The structure of this article is as follows. In section I, I examine the first part of “On the Resurrection of Bodies,” which is concerned with the various bodily identity problems. Following the thread of Leibniz’s essay, in section II I examine the second half of “On the Resurrection of Bodies,” in which Leibniz details his *flos substantiae* doctrine. In section III I examine the remaining texts

⁶ The belief is still endorsed today, for instance, in §§ 988–1001 of the 1992 Catechism of the Roman Catholic church. For more information, see Lloyd Strickland, “The Doctrine of ‘the Resurrection of the Same Body’ in Early Modern Thought,” *Religious Studies*, forthcoming.

⁷ Gottfried W. Leibniz, *Sämtliche schriften und briefe*, ed. Akademie der Wissenschaften, multiple volumes in 8 series (Berlin: Akademie Verlag, 1923–), series II volume I (2nd ed.) 184; series VI volume 3, 479. Hereafter cited as: A, series no., volume no.

⁸ In spite of this, it is a text which has so far escaped the scrutiny of scholars, who have tended to mention it in passing rather than discuss it in detail. In discussions of Leibniz’s views on the resurrection and/or the *flos substantiae*, most commentators have been content to quote and discuss the summary of “On the Resurrection of Bodies” found in Leibniz’s accompanying letter to Duke Johann Friedrich of Hanover, for whom the essay was written. I shall have occasion to mention this letter in section II. The most detailed discussion of “On the Resurrection of Bodies” is to be found in Mercer (2001): 284–87. However Mercer often gives grounds to doubt her familiarity with the text. For example, she describes it as “a long-winded and odd text that considers, among other things, cannibalism and the bones of Lazarus” (Mercer [2001]: 284; [2005]: 131; [2006]: 604), despite the fact that the text mentions neither Lazarus nor his bones. Further, Mercer claims that in his essay Leibniz “criticizes Boyle’s treatment” of the bodily identity problems ([2005]: 131; [2006]: 604), as found in Boyle’s paper, “Some Physico-Theological Considerations About the Possibility of the Resurrection.” Yet Leibniz’s essay does not mention Boyle’s treatment of the bodily identity problems at all, nor could it since Leibniz composed the essay in May 1671 while Boyle’s paper on the resurrection was not written until 1675.

from the Leibnizian corpus in which the bodily identity problems and *flos substantiae* doctrine are discussed. Lastly, in section IV I evaluate the success of Leibniz's doctrine in resolving the most difficult of the bodily identity problems.

I

I begin, then, with "On the Resurrection of Bodies," which was written for Duke Johann Friedrich of Hanover in May 1671. Leibniz devotes much of the first part of his paper to a consideration of how the dominant metaphysical system of the day, namely atomism (which he refers to as "the Democritean philosophy"),⁹ could cope with the bodily identity problems.¹⁰ Atomism, as Leibniz notes, explains the essence of bodies by means of size, shape, and motion (thus eschewing mysterious "innate" tendencies) and holds that all bodies are composed of minute portions of matter which are indivisible and indestructible. One consequence of this doctrine is that, no matter how a human body is corrupted or destroyed, the constituent atoms of that body will remain intact. Leibniz then informs us that, according to the tenets of atomism,

there is nothing which will prevent the same shape being reintroduced into the same mass of a given size; and hence a body can be remade numerically the same in the way that a clock is remade if the cogs which are removed are put back together in precisely the same way.¹¹

⁹ Leibniz (1923–): A II 1, 183. Translations in this paper are my own unless otherwise noted. My translations have greatly benefited from the advice of John Thorley

¹⁰ Leibniz does consider the Scholastic system too, but he quickly (and rather cheaply) decides that it does not provide an adequate framework for the solution of bodily identity problem 1: "For since they [the Scholastics] think that the essence of each thing consists in matter and a certain substantial form, which is extinguished by the corruption of the thing, and since they assume as an axiom that there is no return from privation to possession [*a privatione ad habitum non dari regressum*], they have been unable to grasp how the same flesh can return." Leibniz (1923–): A II 1, 183. The principle referred to here, namely that there is no return from privation to possession (which is sometimes dubbed "the non-repeatability principle"), derives from Aristotle's belief that the numerical identity of a thing or disposition of a thing cannot be restored in the event that the thing or disposition undergoes corruption (that is, destruction). Leibniz is correct in assuming that this principle was inherited by Scholastic thinkers; however, Leibniz does not mention, for instance, Aquinas' belief that the nonrepeatability principle holds good in the case of every natural thing bar that of human beings (that is, that the numerical identity of human bodies which are corrupted or destroyed *can* be restored), nor that some Scholastics, like Kenelm Digby, felt able to respond to bodily identity problem 1 without mentioning—and hence being troubled by—the nonrepeatability principle at all. For Aquinas, see his *Summa contra Gentiles*, trans. Charles J. O'Neil (New York: Image Books, 1957) IV.81. For Digby, see his *Observations vpon Religio Medici* (London: Chapman and Frere, 1643) 82–87. For a modern discussion of the nonrepeatability principle in relation to Scholastic thought on the resurrection of the body, see Christina van Dyke, "Human Identity, Immanent Causal Relations, and the Principle of Nonrepeatability: Thomas Aquinas on the Bodily Resurrection," *Religious Studies* 43 (2007): 373–94.

¹¹ Leibniz (1923–): A II 1, 183.

The upshot is that bodily identity problem 1 poses no threat to the doctrine of the resurrection in the event that one adopts an atomistic framework. With that established, Leibniz then considers whether the framework also allows for the successful resolution of bodily identity problem 2, that is, whether atomism allows for all humans to be resurrected with the same bodies. Leibniz in fact distinguishes three different versions of this problem, which I shall henceforth refer to respectively as bodily identity problem 2.1, 2.2, and 2.3. Each problem comes in the form of a thought experiment involving cannibalism, and in each case the cannibalism scenario depicted serves as a *prima facie* threat to the belief that all can and will be resurrected with the same bodies:

Bodily identity problem 2.1: The first thought experiment, which is the same as the one I referred to earlier as “bodily identity problem 2,” simply supposes that the atoms from the body of one person find their way into the body of another. In such a case there would seem to be two humans who have an equal right to the same atoms, though obviously both cannot have them restored to their resurrection bodies. So to whom will God assign these disputed atoms in the resurrection? Leibniz’s answer is: to their first owner, a common response among those who considered this question.¹²

Bodily identity problem 2.2: The second thought experiment posits a man “raised solely on human flesh from infancy.”¹³ If God will return to their original owners all of the atoms devoured by cannibals, as Leibniz has already affirmed (see above), the question arises: what will be left for the cannibal who has eaten nothing but human flesh? At first glance: nothing, given that all the atoms the cannibal has obtained from nourishment will be returned to their original owners. In which case, the cannibal certainly cannot be resurrected with the same body. Leibniz responds by citing with approval a suggestion made by Augustine in his *City of God*, namely that the cannibal’s resurrection body will consist of the flesh “which he drew from the womb of his mother.”¹⁴ Leibniz refers to this flesh as the “seed” and “yeast” of the body, which recalls Paul’s remark in 1 Corinthians 15.35–8 that, in the case of wheat, what is sown is not wheat itself but rather a seed, with God giving a body to every seed.¹⁵ So although the cannibal must return all of the atoms his body obtains via nourishment over the course of his life, he does not need to return the seed of his body, as that derived from his mother. Consequently there is some matter which is truly his own and which can therefore compose his resurrection body. Yet traditional doctrine has it that every human is

¹² See, for example, Augustine (1954): 470 (XXII.20).

¹³ Leibniz (1923–): A II 1, 183–84.

¹⁴ Ibid: 184. Augustine’s position is expounded in Augustine (1954): 471 (XXII.20).

¹⁵ Augustine also wrote of God creating the seeds of things in the beginning. See Augustine, *The Works of Aurelius Augustine vol. VII: On the Trinity*, trans. Rev. Arthur West Haddan (Edinburgh, UK: T & T Clark, 1873) 90 (III.viii.13).

to be resurrected not as his or her original “seed,” but with a body whose size is that which that person had attained at maturity (or would have done had that person reached maturity).¹⁶ Noting this, Leibniz replies that, in order to make the cannibal’s resurrection body the right size, to the cannibal’s seed “other supplementary matter is added from the elements.” Hence in the case of the cannibal’s body, “this seed and as it were yeast of the original body will readily swell up to the right size by the addition of supplementary matter.”¹⁷ Although not explicit, Leibniz’s response supposes that bodily identity hinges on the identity of a person’s seed rather than on the identity of whatever supplementary matter with which that seed happens to be clothed, such that a person’s body will retain its identity throughout the ebb and flow of supplementary materials as long as that person’s seed remains inside those inconstant materials.

Bodily identity problem 2.3: The third scenario takes *anthropophagi* activity to its extremes, by supposing a cannibal who has not only fed exclusively on human flesh his entire life, but whose mother did so too. In this case, it seems, even the atoms which compose the cannibal’s seed will have to be returned to their rightful owners, thus leaving literally no atoms which the cannibal can claim as his own for his resurrection body. To this thought experiment Leibniz merely observes that the scenario depicted has never actually come to pass (“I admit that these cases can be imagined, although they have never happened. For who has ever lived on human flesh alone?”).¹⁸ This observation does not, however, prevent Leibniz from accepting that bodily identity problem 2.3 serves as a serious theoretical hurdle which must be overcome if the doctrine of the future resurrection of all with the same body is to be placed on a firm footing.

Although Leibniz offers no summary of his findings, his position is clear enough—atomism has adequate resources to resolve bodily identity problem 1 and the first two versions of bodily identity problem 2 (viz. 2.1 and 2.2), but it does not have the resources to resolve the third version of the latter (viz. 2.3). Leibniz’s response to these findings, or at least his next step, is to question whether there is any need to insist on the resurrection of the same body at all. He offers three reasons for doubting this. First, and in what is clearly an anticipation of Locke’s memory criterion of personal identity, he claims that it is “the mind and memory of things done and done to us [which] makes us the same, not the flesh or bones.”¹⁹ Second, he notes that most of the parts which constitute a human body throughout its life do not remain the same from one moment to the next, such that “even if not a single atom (aside from that point in which the mind is implanted) now remains

¹⁶ See, for example, Augustine (1954): 462 (XXII.15); Aquinas (1957): 329 (IV.88.5).

¹⁷ Leibniz (1923–): A II 1, 184.

¹⁸ *Ibid.*

¹⁹ *Ibid.*

in my body [. . .] it will make no difference, nor will the loss be felt, since bodies insensibly change by a continual flux and renewal.”²⁰ Third, Leibniz claims that the resurrection of the same body is not a doctrine with any scriptural support; to demonstrate this, he considers two passages (Job 19.25 and Ezekiel 37.1-14) and concludes that they “do not prove this identity of the flesh.”²¹ In this concerted attempt to undermine the doctrine of the resurrection of the same body, Leibniz offers a preview of some important components of his own *flos substantiae* doctrine, which he then goes on to elucidate in greater detail in the latter part of his essay.

II

Leibniz begins his presentation of the *flos substantiae* doctrine by recalling his earlier suggestion that each human body has its own seed. Leibniz identifies this as its “seminal centre” and (later in the text) its “flower of substance”:

it is known that in each thing there is a certain seminal centre which diffuses itself, and contains as it were the tincture and preserves the specific motion of the thing. This is established from the regeneration of plants from seeds (this at least is uncontroversial), from the plastic power of the seed in the womb, and from the essences of chemicals. Therefore it is likewise in the bones: in our flesh, besides that *terra damnata*, *phlegm*, or *caput mortuum*, as chemists call it, a subtler part lies hidden in the spirits.²²

That Leibniz here conceives the majority of the matter in a human body as a sort of common or gross “stuff” is clear from the terms he chooses to describe it, terms which reveal a debt to the alchemical literature. According to a lexicon of technical terms prevalent in the 17th century, *terra damnata* [accursed earth] is “the last of the five Chymical Principles, and is that which remains after all the other Principles are extracted by Distillation, Calcination, &c.” Phlegm is “the Fourth of the Five Chymical Principles” and is “the Insipid Water that comes first in the Distillation of Acid Spirits.” *Caput mortuum* [death’s head], meanwhile, is “that thick dry Matter that remains after Distillation of any thing, but of Minerals especially.”²³ According to Leibniz, the seminal center “diffuses itself” throughout these material dregs. His use of the word “tincture”—also an alchemical term—indicates that the seminal center serves as the essential principle of the matter

²⁰ Ibid.

²¹ Ibid. Other scriptural passages were commonly cited by those who accepted the resurrection of the same body; for instance, Matthew 27.52–3 and John 5.28 (which refer to the dead rising from their graves) and Revelation 20.13 (which refers to the sea giving up its dead).

²² Leibniz (1923–): A II 1, 185.

²³ John Harris, *Lexicon Technicum: or, An Universal English Dictionary of Arts and Sciences*, 2 vols. (London, 1708, 2ed), I.

throughout which it is diffused, in other words, that the seminal center imparts its own essence to that matter. This reading is reinforced by the name Leibniz gives to the seminal center later in his essay, that is, “flower of substance.” In the alchemical tradition Leibniz is clearly drawing on, the term “flower,” when used in the expression “flower of [. . .]” was typically used to refer to a thing’s essence. Hence a thing’s “flower of substance” is the essence of that thing, existing within the material mass of the thing and diffusing itself throughout it.

The fact that the flower of substance is self-diffusive suggests that its operation is not unlike that which many in the latter part of the 17th century attributed to plastic powers (or plastic natures). For thinkers such as the Cambridge Platonists the plastic power served as an organizational principle in things, giving a substance, such as an animal or plant, the ability to take on and “subdue” new matter by investing it with the form the plant or animal possessed.²⁴ Leibniz’s remarks suggest that his “seminal centre” or flower of substance works in much the same way, such that the essence of an animal is spread throughout the matter of its body by its flower of substance. However, the comparison between the flower of substance and a plastic power is not a perfect one, as it is clear from Leibniz’s remarks that the flower of substance is corporeal (whereas plastic powers were invariably considered to be incorporeal). According to Leibniz, the flower of substance is subtler than the common or gross matter which makes up the remainder of the body. This unquestionably establishes the corporeality of the *flos substantiae*, and Leibniz’s further claim that the *flos substantiae* is present within “the spirits” throws some useful light on the nature of this corporeality. The spirits, or animal spirits, were considered by many in early modern times to be the soul’s instrument or agent in the body, and although intermediary between incorporeal soul and corporeal body, they are themselves very much corporeal, consisting of a subtle form of matter, akin to a thin fluid, which originate in the brain and circulate through the nerves of the body. According to Leibniz, the flower of substance exists within these spirits, from which it follows that is not identical to them. Because the animal spirits are more subtle than gross or coarse matter, the fact that Leibniz describes the flower of substance as “a subtler part” indicates that its subtlety surpasses even that of the animal spirits. If the animal spirits are thought of as a kind of thin fluid, then the flower of substance is perhaps best conceived as a kind of smoke or vapor running throughout the spirits (although Leibniz does not employ such a description himself).

Now in the above quoted passage, it is clear that Leibniz intends to support his doctrine of the *flos substantiae* (among other things) the “regeneration of plants from seeds.” Although not immediately obvious, this refers to plants which grow

²⁴ See, for instance, Henry More, *The Immortality of the Soul* (London: J. Flesher, 1659) 449ff; Cudworth (1678): 147.

again after having been burned to ashes, which was a favorite example of alchemists and was often used to establish the existence of an indestructible (or at least incombustible) seed or core not just in plants, but in humans too, and consequently was often cited in connection with the resurrection.²⁵ Although rarely made explicit, the argument for there being indestructible seeds or cores in humans was essentially one of extension—if lowly plants have such a seed or core (as was proved by the regeneration of burned plants), then humans must have them too. This appears to reflect Leibniz’s reasoning in the above quoted passage. However, Leibniz finds further support for his doctrine in what would nowadays be termed “phantom limb syndrome.” The fact that people who have lost a limb continue to experience pinching, tickling, pain, and so on in the lost limb is explained by the fact that the “subtle spirit, in which the substance of the member was contained, as it were, is still present and exercises the same movements even now.”²⁶ One might suppose that, as the flower of substance is diffused throughout the entire body, part of it would remain in any limb that happens to be severed from the rest of the body, but Leibniz expressly denies this, stating that “when a member is cut off or rots away, this subtler part returns to the fountain of life, to which the soul itself is implanted.”²⁷ This suggests that the flower of substance (which is the “subtler part” Leibniz speaks of), although corporeal and spread throughout the body in the spirits, is nevertheless all of a piece. That is to say, despite its corporeality, the flower of substance exists as a single unified thing incapable of being divided but able, when required, to contract itself back into the “fountain of life.”

What, though, is this “fountain of life” to which Leibniz tells us that the soul is implanted? Elsewhere in “On the Resurrection of Bodies” Leibniz refers to “that point in which the mind is implanted,”²⁸ from which it is reasonable to infer, given that “mind” and “soul” are used interchangeably in Leibniz’s early writings, that the fountain of life is a point containing the mind/soul. The hypothesis of the punctual soul was one of which the young Leibniz was very proud, though important details of the hypothesis—such as what kind of point Leibniz is thinking of (e.g., a concrete physical point or an abstract metaphysical or mathematical point)—are not provided, and are thus open to debate among Leibniz scholars.²⁹

²⁵ See, for instance, Joseph Du Chesne, *The Practise of Chymicall, and Hermeticall Physicke, for the Preservation of Health*, trans. Thomas Timme (London: Thomas Creede, 1605) X; Kenelm Digby, *A Discourse Concerning the Vegetation of Plants* (London: J.G., 1661) 73–75; Thomas Browne, *Religio Medici* (London: R. Scot, T. Basset, J. Wright, R. Chiswell, 1682, 8ed) 109.

²⁶ Leibniz (1923–): A II 1, 185.

²⁷ Ibid.

²⁸ Ibid: 184.

²⁹ For instance, Richard Arthur claims that Leibniz’s points are physical, Hubertus Busche that they are metaphysical, and Maria Rosa Antognazza that they are spiritual. See Arthur (2006): 170; Busche (2004): 150; Antognazza (2008): 113.

But at any rate we do know that these points do not possess extension, as in another text from 1671 Leibniz informs us that their “extension is nil.”³⁰ Leibniz deduces from this that points are indivisible and (because he holds that corruption and destruction involves being divided) consequently indestructible, as are the minds implanted in them. This is made clear in another paper written for Duke Johann and sent at the same time as “On the Resurrection of Bodies”; there Leibniz argues: “a mind can no more be destroyed than a point. For a point is indivisible and so cannot be destroyed. So let the body be burned up and dispersed into all corners of the world—the mind will persevere safe and sound in its point. For who will be able to burn a point?”³¹ Now as the flower of substance is able to contract itself back into this point, it is reasonable to suppose that it too is indestructible. This is confirmed in “On the Resurrection of Bodies” when Leibniz considers what would happen in the event that one person is entirely devoured by another:

the seminal part, victorious over all violence, will gather itself into its own centre, the subtlety of which cannot be diminished by teeth, or dissolved by the acid of the stomach, nor likewise can it be converted into nourishment, since it is evident from the example of plants that the seminal part is even resistant to fire and survives in the ashes.³²

Having established the indestructibility of the flower of substance, Leibniz’s last undertaking in “On the Resurrection of Bodies” is to detail what happens to this flower at the time of the resurrection, which he does in the following very condensed passage:

It [the seminal part] will restore the coarse part, or rather its own coarse part, purged of filth to the extent it deserves, for when the world is liquefied by fires and heat joins homogenous things together, kindred things which retain the traces of similar motions will also come together again at that time.³³

Leibniz’s reference to fire recalls—and is almost certainly a reference to—the description of the Apocalypse in Revelation 8.5-12, where the earth is destroyed by fire. According to the above passage, the resurrection immediately follows this conflagration and in a way is effected by it as it is the fires which cause the dispersed parts of deceased bodies to join together again. We have already seen Leibniz claim earlier in his essay that the seminal center “preserves the specific motion of the thing,” which suggests that each mind produces, through the agency of its flower of substance, a kind of motion in the matter of its body which is

³⁰ Leibniz (1923–): A VI 2, 265.

³¹ Ibid: A II 1, 181. Cf. A II 1, 279.

³² Ibid: 185.

³³ Ibid. I would like to Professor Harry Parkinson for his assistance in translating this difficult passage.

unique to it. Although Leibniz states that this motion is preserved by the flower of substance, his claim that at the time of the conflagration “kindred things which retain the traces of similar motions will also come together again” suggests that matter which was once part of a human body does not (entirely) lose the motion impressed on it by that body’s flower of substance. Consequently, when the heat produced by the conflagration creates the conditions under which bits of matter with similar motion will collect together again, the matter which was once part of a human body will reassemble and thus form that body once more. Crucial here is the idea that the motion imparted to it by the flower of substance determines the identity or at least the ownership of matter.³⁴

But this is not Leibniz’s final word on the subject, as he immediately proceeds to offer an alternative account of the resurrection that does not involve or even require the regathering of previously owned bodily matter:

Or rather, since it does not matter which coarse part is most alike, the fires will create by fermentation one and the same body by means of the flower of substance, the mass and impurities having been corrected by transformation.³⁵

This passage is hardly perspicuous, but I suspect—partly on the basis of other texts examined in section III of this article—that the most likely reading of it is that the presence of the flower of substance alone guarantees the sameness of the resurrection body, such that its diffusion through any matter—whether previously part of a person’s body or not—thereby gives rise to the same body. A corollary of this, which Leibniz affirms elsewhere as we shall see, is that bodily identity is also preserved throughout this life by the fact that it is the same flower of substance diffusing itself through whatever matter happens to constitute the body at any given time. In essence, then, same flower of substance = same body. This interpretation draws support from Leibniz’s claim that the glorified resurrected body is the same as the debased natural body,³⁶ despite having undergone a kind of

³⁴ It seems to follow from this account that, at the time of the resurrection, each person re-acquires *all* of the matter that had previously formed part of his or her body, thus making giants of those who had managed to live to old age. If this is correct, it is a curious—and presumably unwelcome—corollary, not least because of its unorthodox implications.

³⁵ Leibniz (1923–): A II 1, 185.

³⁶ Hubertus Busche claims that in “On the Resurrection of Bodies” Leibniz identifies the seminal centre, that is, the flower of substance, as the spiritual body. This is not the case, however. The only reference to “spiritual body” in that essay is this: “Let us . . . maintain that the flesh and bones remain. But how constituted? Are they clothed in a mass of filth? Certainly not, if a spiritual body should rise again” (Leibniz [1923–]: A II 1, 184). Leibniz then continues to outline his *flos substantiae* doctrine. I see nothing in all this which would suggest that Leibniz takes the flower of substance to be the spiritual body; instead, Leibniz seems to adopt the position that the spiritual body is the whole physical body when it has been reconstituted and purified. See Busche (2004): 150.

purification whereby the matter in these resurrected bodies is refined or, in the alchemical parlance of the times, fermented. Leibniz's thinking on this score no doubt owes much to views put forward by Paul in 1 Corinthians 15.44:

The body that is sown is perishable, it is raised imperishable; it is sown in dishonor, it is raised in glory; it is sown in weakness, it is raised in power; it is sown a natural body, it is raised a spiritual body.

As we have just seen, Leibniz envisages the "glorified" (or "spiritual") resurrected body as just a more purified version of the earthly body,³⁷ and it is noteworthy that he takes this purification or fermentation to be an entirely naturalistic process, brought about by the fire of the conflagration and the action of the flower of substance, with no direct intervention from God.

It is time to summarize our findings thus far. As we have seen, Leibniz holds that the locus of the soul is a point, through which it organizes the matter of the body through the agency of the flower of substance, which resides in the animal spirits but is of a subtler nature. From its position within the spirits, the flower of substance diffuses its essence throughout the remaining "coarse" or "gross" matter of the body. The flower of substance is thus coextensive with the body and remains so throughout the constant fluctuation of the body's other constituent materials. However, the flower of substance is not subject to damage or dissolution, which is the preserve of the body's coarse matter alone. Should a part of the body be lost, such as a limb, there is no loss in or injury to the flower of substance, which contracts itself when parts of the body are lost. When the body is disintegrated in its entirety, the flower of substance contracts itself back into its point of origin, so to speak. At the time of the resurrection, however, it is in a position to diffuse itself through a quantity of matter once again (which will be more or less refined according to one's merit) and the resulting body is the same as the pre-resurrection body by dint of the presence of the flower of substance, which imparts or impresses identity on whatever matter in which it is clothed. This, then, is the doctrine Leibniz advances in "On the Resurrection of Bodies."³⁸ We now need to see what further details we can elicit from the remaining texts in which the doctrine is elucidated.

³⁷ This was not an uncommon view in the 17th century. See for instance, William Wilson, *A Discourse of the Resurrection* (London: J.H., 1694) 41–42.

³⁸ An intriguing alternative to this interpretation of Leibniz's doctrine can be found in Antognazza (2008): 112–13, where she claims that Leibniz's flower of substance is "a sort of metaphysical principle from which the body in its various stages of development resulted" and that the material body is "only a manifestation" of the flower of substance, that is, that Leibniz held that "flesh and bones' were mere phenomenal manifestations" (113). Unfortunately Antognazza provides no argument or textual support for this interpretation.

III

Given that Leibniz often pressed the flower of substance into service as his solution to the problems of bodily identity outlined earlier, it is perhaps surprising to find that it was not developed with this purpose in mind. The first reference to the flower of substance found in Leibniz's writings occurs in a short paper entitled "On the Incarnation of God, or, on the Hypostatic Union," written around 1669–70 as part of his *Catholic Demonstrations* project. In this paper, Leibniz is concerned with explaining how there can be a union between two distinct things such as (in the paradigm case) between the divine and human natures of Christ. Near the start of the text Leibniz states that among the things which can be hypostatically united are mind and body, which prompts him to claim that

a created—and hence imperfect—mind is not united to every body, but only to the one in which it is rooted and from which it cannot be separated. In the human body, for example, it should not be thought that the soul is hypostatically united to all the corpuscles in it since they are constantly in passage; instead, the soul inheres in the very centre of the brain, to a certain fixed and inseparable flower of substance which is most subtly mobile in the centre of the animal spirits, and it is substantially united so that it is not separated even by death.³⁹

Leibniz says no more about the flower of substance in this short text, yet these few remarks do provide important details about the doctrine. For example, they tell us the location of the soul (the very center of the human brain) and the reason why the soul cannot be separated from the flower of substance, its seat within the body (because the two are substantially united). However, in this, its inaugural appearance in Leibniz's corpus, there is no indication of the grounds Leibniz had for endorsing the doctrine or any of the claims made about it. There is also no attempt to utilize it to resolve the bodily identity problems; that occurred only in its next appearance in Leibniz's work, in the essay "On the Resurrection of Bodies" which we examined in section II. That essay, as noted earlier, was written for Duke Johann Freidrich of Hanover, and in the accompanying letter to the Duke, Leibniz provided a summary of the essay's key points. The summary begins as follows:

I am of the opinion that each and every body, humans as well as animals, vegetables and minerals, has a flower of its substance,⁴⁰ distinct from the *caput mortuum*, which in the parlance of the

³⁹ Leibniz (1923–): A VI 1, 533.

⁴⁰ In the letter to the Duke, Leibniz does not use the Latin phrase "flos substantiae," instead preferring the German expression "Kern der substanz." In citing this letter, Leibniz scholars have variously translated the word "Kern" as "core" (Mercer [2001]: 159; [2005]: 132; [2006]: 604), "kernel" (Arthur [2006]: 162; Antognazza [2008]: 112), "nucleus" (Busche [2004]: 150), and "seminal principle" (Brown [1998a]: 582; Brown [1998b]: 11). While these are all common translations

chemists consists of *terra damnata et phlegmate*. This flower is so subtle that it even remains in the ashes of incinerated things and can, so to speak, draw itself together into an invisible centre, just as the actual mass of plants' ashes may in a certain way be used as seed, and in the foetus or fruit of animals the *punctum saliens* already includes in itself the flower of the whole body. Now I also believe that this flower of substance of a human being neither increases nor decreases, although its clothing and covering are in constant flux, and at one time is evaporated away, at another is increased again by the air or food.⁴¹

These remarks add little to what is said about the *flos substantiae* in the texts considered thus far. One exception is Leibniz's use of the expression *punctum saliens*, which reveals his familiarity not just with the alchemical literature, but with the scientific as well. The *punctum saliens*, or "starting point," was a term applied to the part of a human or animal embryo considered to be the fountain of life. William Harvey, for instance, referred to the *punctum saliens* as "the first or rudimentary particle of the foetus" and claimed that "the edifice of the body [. . .] is raised on the punctum saliens as a foundation."⁴² Harvey identified the *punctum saliens* as the foetal heart and speculated that the soul may exist in it.⁴³ Later in his letter to Duke Johann, Leibniz finds a further scientific ally in Sanctorius, whose static experiments evidently struck a chord:

If, then, this flower of substance always remains [. . .] it is of little importance whether all the gross matter pertaining to us shall remain—gross matter which is nevertheless constantly changing, and is either evaporated daily or, if it does persevere, is coagulated in filth that we must purge away. For it is clear that such *exuviae* are completely renewed almost every year, especially if we carefully examine Sanctorius' experiments as described in the *Medicina Statica*. But if we can change this gross matter in this life without affecting the identity of the body, much less will the glorified bodies be bound to it.⁴⁴

of the word "Kern," the first, second and third are problematic inasmuch as they lend themselves to the interpretation that Leibniz is referring to a material *structure*, which as we have seen is not the case at all. Given that "Kern der substanz" is intended to be the German equivalent of the Latin "flos substantiae," I see no reason to translate the two expressions differently and I therefore render both as "flower of substance." As it happens, doing so does not involve deviating from the accepted meanings of the word "Kern," as Muret and Sander's *Wörterbuch* also lists "flower" as being among its possible meanings. See Muret-Sander's *enzyklopädisches Wörterbuch der Englischen und Deutschen Sprache*, ed. Edward Muret and Daniel Sanders (London: H. Grevel & Co., 1891) II, 1191.

⁴¹ Leibniz (1923–): A II 1, 175.

⁴² William Harvey, "On Animal Generation" (1651), *The Works of William Harvey, M.D.*, trans. Robert Willis (London: The Sydenham Society, 1847) 484, 338.

⁴³ *Ibid.*: 409. The idea of the *punctum saliens* derives from Aristotle's biology; see *Historia animalium* 561a9–15. Given this context, the term is more accurately translated as "starting point" than "salient point."

⁴⁴ Leibniz (1923–): A II 1, 176.

The claim that a person's body remains the same despite the constant change of its material constituents is also to be found in "On the Resurrection of Bodies" as well as other writings in which the *flos substantiae* doctrine is expounded (as we shall see), but despite its importance for the success of that doctrine in securing the diachronic identity of a person's body, Leibniz nowhere presents any evidence or argument for it. He was not alone in his failure to do so; most thinkers who agreed with Leibniz that a person's body retains its identity throughout the ebb and flow of its constituent materials were content to treat it as a datum, and one which was intuitively obvious.⁴⁵

Following the letter to Duke Johann and the attendant paper examined in section I, almost five years elapsed before Leibniz discussed the resurrection or flower of substance again. The paper in which he next did so—entitled "On the Seat of the Soul"—was written in February 1676 as part of his Paris notes sometimes collectively referred to as *De summa rerum*. This short paper was seemingly occasioned by Leibniz's reading of Robert Boyle's essay "Some Physico-Theological Considerations About the Possibility of the Resurrection" (1675), and although Leibniz found in Boyle's essay much which agreed with his own views, he averred that his work on the subject "followed up the difficulties more precisely." He summarizes his own thoughts thus:

I think that the flower of substance is our body. This flower of substance subsists perpetually in all changes [. . .] It is easily seen from this why cannibals, devouring a man, have no power over the flower of substance. This flower of substance is diffused through the whole body, and in a way contains form alone [. . .] I add only what was not observed by Boyle: that the soul seems to be firmly implanted in this flower of substance.⁴⁶

Anyone reading this passage without any knowledge of Leibniz's earlier writings on the subject may be forgiven for thinking that Leibniz was inconsistent with regard to the nature of the flower of substance, as his claims that it *is* our body and that it is *diffused throughout* our body do not seem to be mutually compatible. I think it likely, however, that when composing this passage Leibniz was simply sloppy rather than confused. Specifically, in saying that "the flower of substance is our body," it seems reasonable to suppose, on the basis of the texts examined thus far, that Leibniz was not employing the "is" of definition but rather the "is"

⁴⁵ This claim is one that dates back to antiquity, being found in Justinian's *Digest*, where it is credited to Alfenus. See Justinian, *The Digest of Justinian*, trans. Alan Watson (Philadelphia: U of Pennsylvania P, 1985) I, V.1.1.76. Leibniz approvingly mentions Alfenus' view on this matter in his "On the Resurrection of Bodies." Leibniz (1923–): A II 1, 184.

⁴⁶ Ibid: A VI 3, 478–79. English translation in G. W. Leibniz, *De Summa Rerum*, trans. and ed. G. H. R. Parkinson (New Haven, CT: Yale UP, 1992) 33 [hereafter: DSR].

of composition (or realization).⁴⁷ In other words, he is not offering a definition or necessary conceptual truth about the flower of substance, but rather making the point that the flower of substance is the body's formative principle which makes the body what it is. Such an explanation not only has inherent plausibility but also the virtue of being consistent with another of Leibniz's statements in the above passage, namely that the flower of substance "in a way contains form alone," which identifies it as the body's organizational and formative principle.

Given Leibniz's appeal to the notion of "form," his belief that there was a considerable amount of common ground between his views and Boyle's is perhaps surprising as Boyle did not couch his own theory of bodily identity in terms of forms at all. Instead, he identified the bones as the essential part of the human body, partly on account of a passage from Ezekiel (37.7-8) which tells of the bones of the dead being raised up and furnished with new sinews (which he took to mean skin, nerves, tendons, and ligaments),⁴⁸ and partly because his own experiments had shown that human bones were "of a stable and lasting texture" and "not apt to be destroyed by the operation either of earth or fire."⁴⁹ Moreover, Boyle did not consider a person's soul to be implanted in his or her bones, or indeed in any other part of the body, his view being instead that at the resurrection God collects up a person's bones, reclothes them in matter which may or may not have been part of that person's body during normal life, and then unites the person's soul to this newly resurrected body. Yet despite the sharp dissemblance between his own thoughts and Boyle's, Leibniz was keen to stress the convergence between the two, although his desire to identify kindred philosophies was not restricted to Boyle's; in fact throughout "On the Seat of the Soul" Leibniz cites numerous contemporary and near-contemporary thinkers who defended ideas which, in his view, shared common ground with key parts of his own *flos substantiae* doctrine, that is, Pierre Borel (1620–89), William Davidson (1593–1669), Athanasius Kircher (c. 1601/2–80), Andreas Libavius (1540–1616), Claude Perrault (1613–88), Quersitanus (i.e., Joseph du Chesne) (1544–1609), and Jacob Schegk (1511–87). Outlining the views of all these thinkers is beyond the scope of this article, but suffice it to say that most endorsed a form of the plastic power

⁴⁷ To the best of my knowledge, the expressions "is' of definition" and "is' of composition" were first used by Ullin T. Place in a paper on the mind-brain identity theory. See Ullin T. Place "Is Consciousness a Brain Process?," *Mind and Cognition*, ed. William G. Lycan (Oxford, UK: Blackwell, 1990) 29–30. Place's article was originally published in the *British Journal of Psychology* in 1956.

⁴⁸ Robert Boyle, "Some Physico-Theological Considerations About the Possibility of the Resurrection," *Selected Philosophical Papers of Robert Boyle*, ed. M. A. Stewart (Manchester, UK: Manchester UP, 1979) 197.

⁴⁹ *Ibid.*: 206.

hypothesis and/or a theory which involved the essence of humans being contained in seeds. What this roll call shows is that Leibniz's flower of substance sat alongside numerous cognate doctrines which were part of the philosophical culture of his time. As such it is difficult to single out any particular thinker or thinkers as having a direct influence on Leibniz's formulation of the doctrine, and certainly he offers no clues as to which thinkers did inspire him (directly or otherwise) in this matter.⁵⁰

After "On the Seat of the Soul," Leibniz was silent about the flower of substance for a whole decade, and its next appearance—in the lengthy ecumenical treatise *Examination of the Christian Religion* (1686)—is also its last in Leibniz's corpus. In this final discussion of the doctrine, Leibniz begins with bodily identity problem 2.2, which posits a cannibal who has eaten nothing but human flesh for his entire life. After repeating the familiar points that the parts of human bodies are in constant flux and that consequently not every particle which is ever united to them belongs to their essence, Leibniz states:

it should be said that in each and every body there is a sort of flower of substance, the nature of which may be illustrated from the principles of chemists, and which is preserved in the course of numerous changes and always subsists exactly as it was for each person at his birth.⁵¹

Leibniz also repeats the claim made in earlier texts that one individual's flower of substance is not susceptible to "confusion" with that of another, such that each flower will remain intact even if one person devours another.⁵² In the *Examination of the Christian Religion*, however, Leibniz offers no argument or other basis for this claim, nor does he suggest whereabouts in the human body the *flos substantiae* is located, nor mention anything about its mode of operation. This is perhaps unsurprising, as Leibniz's metaphysics had undergone notable changes in the time between 1676 and 1686, and some of the claims bound up with the doctrine of the *flos substantiae* in texts from 1671 to 1676, such as that of the punctual soul, had been abandoned by the time the *Examination of the Christian Religion* was written. In that text Leibniz merely rehearses some of the details of the doctrine that had been worked out in earlier writings, but they are expounded half-heartedly, with

⁵⁰ Stuart Brown supposes that Leibniz may have derived key parts of his doctrine from Augustine and Jan Baptista van Helmont (c. 1579–1644), while Richard Arthur has noted some similarities between Leibniz's doctrine and ones put forward by Daniel Sennert (1572–1637), though Arthur stops short of claiming that Sennert's ideas shaped Leibniz's thinking. Leibniz in fact mentions none of these thinkers in connection with the doctrine of the *flos substantiae*, though one ought not to read too much into this because, as I have already noted, he offers no insight as to who his inspirations were. See Brown (1999): 282; Arthur (2006): 148.

⁵¹ Leibniz (1923–): A VI 4, 2454.

⁵² *Ibid.*

little effort being made to present the doctrine as a solid, plausible hypothesis.⁵³ Consequently, the extent of Leibniz's commitment to the *flos substantiae* doctrine in 1686 is unclear.⁵⁴

IV

What is also unclear from our exposition is how exactly the *flos substantiae* doctrine is able to insulate the belief in the resurrection of the same body from the various bodily identity problems outlined earlier; in fact it is noteworthy that in none of the texts in which Leibniz elucidates the doctrine does he attempt to show how it resolves these problems, despite his contention that it does so (and even, in one text, that it offers the only means to do so).⁵⁵ Instead, Leibniz seems content to claim that his doctrine guarantees sameness of body. It is left up to the reader, it seems, to determine how the *flos substantiae* doctrine resolves the various bodily identity problems. In this final section I shall consider how it fares against the thorniest of these, namely bodily identity problem 2.3.

We will recall that bodily identity problem 2.3 posits a cannibal who has eaten nothing but human flesh for his entire life, and whose mother did likewise. Assuming, as Leibniz does, that all the flesh eaten by anthropophagi will be returned to its rightful owners, how can the cannibals be resurrected with the same bodies? On the basis of our exposition of the *flos substantiae* doctrine, we can surmise that Leibniz's response would turn on his conviction that the bodies of the cannibals are not entirely composed of the flesh of their victims: only the gross or coarse matter of their bodies is so composed. The remaining part—the flower of

⁵³ For further evidence of Leibniz's half-heartedness toward the *flos substantiae* doctrine in the *Examination*, one need only consider his claim there that the doctrine is not required to solve bodily identity problem 2.2 at all: "In truth, it might be possible to solve the problem even without such an hypothesis [that is, the hypothesis of the *flos substantiae*], if we understand that the cannibal who has lived solely on human flesh can retain as his own something of each of his victims with no detriment to them; for we have said enough against the view that all the things which at any time belonged to each person's body are restored to it." Leibniz (1923–): A VI 4, 2454.

⁵⁴ Leibniz in fact had no need for the flower of substance in 1686, as by that time he had come to deny any direct causal interaction between soul and body, making it superfluous to suppose any entity intermediary between the two (which of course is precisely what the flower of substance is). On this basis alone I suspect that by the time he wrote the *Examination* he had ceased to believe that there is such a thing as the flower of substance and that he invoked it in that text merely for ecumenical purposes. Although the term "*flos substantiae*" did not form part of Leibniz's philosophical vocabulary after 1686, Stuart Brown has argued (correctly, I believe) that Leibniz continued to accept some of the components of the doctrine. See Brown (1998b): 10–12; Brown (1999): 279–82.

⁵⁵ In "On the Seat of the Soul" Leibniz claims that "The argument drawn from cannibals is demonstrative, and proves that a flower of substance must be recognised." Leibniz (1923–): A VI 3, 479/DSR 35 (Leibniz [1992]) [translation modified].

substance—is not derived from or affected by the cannibals’ lifestyle, as it “always persists exactly as it was for each person at his birth.”⁵⁶ Moreover, the persistence of the flower of substance is the joint necessary and sufficient condition for bodily identity, as the flower of substance diffuses itself throughout whatever matter happens to clothe it (either in this life or at the time of the resurrection) and in so doing it secures the identity of the body. So the cannibals can return the gross or coarse matter of their bodies to its rightful owners without thereby detrimentally affecting their chances of being resurrected with the same bodies.

The details of the account just given should be familiar enough, but clearly they stand in need of fleshing out. We know that the flower of substance “always persists exactly as it was for each person at his birth,” but as yet we do not know how or when the flower of substance comes into being. Leibniz’s silence on this matter is curious given that it is key to the resolution of bodily identity problem 2.3. For example it could be the case that a person’s flower of substance originates at the moment of conception and is thus passed on from the mother, having been fashioned from her flesh. If this is so, then Leibniz would have no means of resolving bodily identity problem 2.3, as any offspring of a mother fed exclusively on human flesh would have a flower of substance made from “borrowed” matter which would have to be returned to its original owner(s). Alternatively, however, it could be that a person’s flower of substance was present in and passed on from the mother but was not fashioned from her flesh. Or it could be that a person’s flower of substance only starts to exist at the time of birth, perhaps by an act of special creation. Of these various possibilities, there is little doubt that Leibniz accepted the second; even though he does not tell us so outright, we can determine that it must be so from the fact that in his early writings he comes down very firmly in favor of traductionism, which holds that every soul was created *ab initio* and was thus present in Adam, from whom it was then passed on through subsequent generations until it was time for it to be actualized at the moment of conception. For example, in 1671 Leibniz wrote that he can “explain by means of this body, in which the mind is implanted, that mind can multiply itself by traduction, without new creation,” and hence in the matter of human propagation, “there is no need to invoke God to perform the perpetual miracle of new creation.”⁵⁷ Although the few references to traduction in Leibniz’s youthful writings are all concerned with the propagation of souls (minds), his commitment to the *flos substantiae* doctrine entails that he could not have held that traduction applies to souls alone. For given his position that

⁵⁶ Ibid: A VI 4, 2454.

⁵⁷ Ibid: A II 1, 164. Cf. A II 1, 182.

the soul is permanently fixed or united to the flower of substance, it must follow that, if souls are created at the beginning and transmitted from one generation to the next, then the same is true of the flowers of substance to which they are permanently fixed or united. So Leibniz is committed to the position that every soul and every flower of substance was present in the body of Adam and that they are transmitted together through subsequent generations until such time as conception leads them to become fully actualized.⁵⁸

We are now in a position to determine how Leibniz would resolve bodily identity problem 2.3. His answer, in a nutshell, is that neither the cannibal nor his cannibal mother will have to give up their respective flowers of substance to any of their victims at the time of the resurrection, as none of their victims have any claim over the matter which constitutes these *flores substantiae*. For the flowers of substance belonging to the two cannibals have persisted unchanged from the time of Adam and will always persist unchanged, their constitution and essence being unaffected by the fact that both cannibals fed exclusively on human flesh throughout their lifetimes. So while it may be the case that at the time of the resurrection both of the cannibals will have to return all the flesh they took from their victims, this will not prevent either from being resurrected with the same body, as this eaten flesh composed only the gross or coarse matter of their bodies, not the subtle matter of their *flores substantiae*, which alone are required for bodily identity to be retained. Consequently, the fact that no one has any claim to anyone else's flower of substance, that each person's flower of substance persists unchanged at all times, and that the presence of the flower of substance alone is what secures bodily identity, ensures that in the doctrine of the *flos substantiae* Leibniz has at his disposal the means to resolve even the thorniest of the bodily identity problems and thus quell the concerns of those who, unlike him, were committed to the belief in the resurrection of the same body.

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⁵⁸ This interpretation is partially confirmed by a comment Leibniz makes on Boyle's claim that Eve is understood to have come from Adam; Leibniz affirms that this is indeed the case "because the flower of substance has come from him." Ibid: A VI 3, 238.