**Response to Ohad Nachtomy's "Individuals, Worlds, and Relations: A Discussion of Catherine Wilson's 'Plenitude and Compossibility in Leibniz'"**

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Ohad Nachtomy restates the main points of "Plenitude and Compossibility" with admirable fidelity and economy. His proposed revisions, based on the distinction between incomplete and complete substances and on the mind-relativity of relations, are intriguing additions to his earlier paper in *Studia Leibnitiana*[1] and deserve careful consideration. Some brief remarks on the context of the problem, will, I hope, help to set the stage for the assessment of our various views.

The self-assembly of a unique and optimal world from a set of pre-existing possible substances that are able to co-exist because they are compossible is, I believe, Leibniz's counter-proposal to the intriguing but worrisome Epicurean theory of the self-assembly of a plurality of worlds from a set of pre-existing material atoms that are able to aggregate. But Leibniz's counter-proposal does not work, both because, unlike atoms, possible substances cannot exist before worlds exist, lest they form tiny premature worlds, and because the uniqueness of the actual world turns out to be an arbitrary imposition on God's part. Realizing the second-best—and other inferior—worlds, as well as the best, ought to add to the plenitude of being, just as the existence of spiders, mollusks and other such creatures adds to the richness and beauty of our little planet. The critique of Leibniz's theory of self-assembly, together with some free-ranging speculations about the implications of Godel's theorem for the self-constitution of optimal worlds, was the aim of "Plenitude and Compossibility."

Sometimes, Leibniz seemed to have an intuition of the priority problem and the uniqueness problem, and that is why, according to the argument of the paper, he occasionally characterizes the creation of a unique optimal world as resembling a tiling-problem in which there is *one* area to be filled by fitting in a set of pieces. Hence, the "puzzle-piece" model emerges as a hypothesis about how Leibniz, in those moods, understood compossibility as involved in world-generation. But Leibniz, I think, could not have endorsed the puzzle-piece model and the associated notion of world-priority as reflecting his intentions. It runs counter to his whole enterprise, and Nachtomy agrees with this.

Nachtomy is more sanguine about getting Leibniz's creation story to run smoothly within the proposed parameters of a Leibniz-world. His key idea is that uncreated substances may be taken as complete or as incomplete individuals. As incomplete

individuals, they possess only monadic predicates, and it is as incomplete individuals that they are initially considered by God before the world comes into being. As God considers them all together, relations between them arise in his mind. For example, one might consider the numbers "3" and "4," to use Nachtomy's example, or two planks of wood. Once the numbers are considered together, the relations of being larger than and smaller than arise, and each number acquires a relational predicate it did not have earlier, i.e., the property of "being greater than 3" in the case of 4, and "being less than 4" in the case of 3. Each of the two planks of wood acquires the property of being longer or shorter than the other, or each acquires the property of being equal in length to the other. As God considers all possible incomplete individuals, then, relations between them come into being, and God realizes the subset that constitutes the largest possible set of compossible substances, i.e., those whose relations can be specified consistently, that meet his further optimizing criteria.

Nachtomy notes that Leibniz says explicitly that God does not *create* an "Adam vague," who might have various relations to various individuals (e.g., who might see *this* serpent, eat *this* apple, consort with *this* woman, father *this* son, or who might have no relations to any serpent, any apple, any woman, any child, or who might have relations to some others). Created substances are all complete and contain all their predicates. But, if I have understood the proposal as intended, it is just such an Adam vague who, along with an Eve vague, a Caesar vague, a Judas vague, a Serpent vague, an apple-tree vague, are considered by God before the moment of world-realization.[2]

The appeal of this solution will depend on whether the notion of an incomplete substance can be made out in such a way that the rational reconstruction axioms are satisfied in a manner in keeping with Leibniz's overall commitments. Of the following problems, some are more, some less serious.

> *Problem (1)*: Do the entities Leibniz, in the *Discourse on Metaphysics* or elsewhere, regards as typical substances have both monadic and polyadic properties, such that there can be an incomplete Adam?

We can try to imagine an incomplete Adam, a vague Adam, who has only monadic predicates. This Adam is *not* a possible spatio-temporal being, but a concept. We might think of the concept of Adam as the concept of a spatio-temporal being, a male, whose hair is black, whose eyes are brown, who is five feet tall, who assumes adult form in 4004 B.C., who is not blind, and who has many other properties. To be sure, in view of details added later by Leibniz, most of the "biography" of Adam that could be written by an omniscient being would concern his existence

before birth and after death in the form of a microorganism, whose monadic predicates are less salient.[3] So, there is some difficulty in simply stating the monadic predicates of an incomplete subject without the help of temporal operators, though it is not specific to Nachtomy's proposal. More troubling, all allegedly monadic predicates applicable to living creatures are implicitly relational.[4] Their attribution implies the existence of features a living being can actually gain or lose, like limbs and hair, optical systems of colour vision, measuring rods, orbits of the earth around the sun, and even "things to see" for the not-blind; moreover, all parts of a living creature are made up of other living creatures; presumably it is part of the concept of Adam that he is made up of lesser substances *a, b, c*. But to give Nachtomy's proposal a good run, let's suppose a rough-and-ready distinction that separates monadic predicates like "has black hair" from dyadic "has, as a son, Z," and from triadic "has, as a son, Z, by consort *C*."

*Problem (2):* What actually happens in the space of logical possibilities?

The space of possibilities is occupied pre-world realization by concepts of individuals characterized by monadic predicates only. Like the natural numbers, they are all compossible, because no monadic property possessed by one can preclude the possession of any property by another. [5] Along with the vague individual we are calling "the incomplete Adam" there are, of course, numerous very similar incomplete individuals—e.g., some with blonde, some with red hair, of various heights and weights.

The polyadic predicates now come to attach to the vague individual concepts and to complete them, as God considers them. For example, God considers a vague Adam—a man with dark hair, five feet tall born in 4004 B.C. and a vague Eve—a woman with blonde hair, four and a half feet tall, born in 4004 B.C. All possible relations between two such incomplete individuals occur to him, e.g., that Eve is the mother, sister, daughter, etc. of Adam, that she is unknown to Adam, and so on. At the same time, all possible relations between these two incomplete individuals and all other vague individuals occur to God. Some individuals now appear to be incompossible if they are considered under the relation of spatio-temporal co-existence in one world. For example, we can't have two Adams with all their predicates in common, except the predicate pertaining to their hair colour, or an Adam who is the father of his own grandfather.

*Problem (3)*: What is the difference between the account just given and the rejected hypothesis that God considers all possible complete Adam-like creatures, all possible complete Eve-like creatures and so on, and realizes the largest set of complete individuals he can, given his desire that their interrela-

tions be morally-aesthetically optimal?

The incomplete individuals considered by God do appear to proliferate under his gaze into a set of multiple complete possible individuals. But Nahctomy's answer to the question is, I think, this: There is no danger of premature assembly into tiny worlds, because incomplete individuals cannot combine into worlds. Incomplete individuals answer the question: What items does God think about when deciding what world to realize? without letting the creation process get ahead of him. Nor is there a problem, Nachtomy might have added, about why the "second-best" world is not realized; no such world can ever coalesce, because God simply disregards all sub-optimal relations. The "slightly worse" versions of Adam and Eve, though harmoniously related to one another, never find the way to one other.

> *Problem (4):* Granted that the distinction between incomplete and complete concepts is not a standard feature of Leibniz's theory of individual substance—for Leibniz seems to deny that there can be an incomplete concept of an *individual* substance, even though our epistemological limitations prevent us from grasping the concepts of individuals including ourselves in their complete-ness[6]—is there anything in the Leibnizian text that precludes such an account?

On Nahctomy's account, worlds cannot assemble themselves, or come into being through the "striving" of the possibles except under the gaze of God. For, without God to consider them, there can be no complete Leibnizian substances. So Leibniz's attempt to provide an ethical alternative to the atomists' story of the chance-driven self-assembly of morally-indifferent worlds turns out to be subject to accusations of *petitio principi*. A more powerful argument against the Epicureans would have involved the demonstration that possible individuals existing in God's mind can select themselves into the best of all possible worlds without God's help, except in the crucial moment of transition from possibility to actuality. Possible substances, if they are incomplete, cannot help to bring the world into being through their own activity. And the helplessness of substances conflicts in spirit with Leibniz's repeated insistence that the autonomy and spontaneity of substances that bear their entire futures within them is the distinctive feature of his system.[7]

It might be replied that possible substances are inefficacious anyway,[8] and, once they are realized as part of a world and are complete, they have all the autonomy and spontaneity customarily ascribed to them. But, as Nachtomy very conscientiously emphasizes, substances, even on his rival account, still lack the priority that a theory of the radical origination of things seems to want to assign to them, and that we interpreters have tended to assume must be possible within the terms

of Leibniz's system.

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## Notes

[1] Ohad Nachtomy, "The Individual's Place in Logical Space: Leibniz on Possible Individuals and Their Relations," *Studia Leibnitiana*, 30:2 (1998) pp. 161-177.

[2] In the paper just cited, Nachtomy states only the more orthodox view that "Already as a candidate for creation, the content of an individual notion is already specified and fixed...by its relation with other substances." (p. 164).  In other words, even candidates for creation are all complete. But there may be "two phases," as it were, of candidacy.

[3] Leibniz, "Reflections on the Doctrine of a Single Universal Spirit," L 557; G:VI:533; this view is foreshadowed in section 6 of the Letter to Arnauld, October 9, 1687, G II:111-129.

[4] Leibniz's confusing views about relations appear to stem in part from his subject-predicate logic, but in part from his commitment to what Robert Sleigh terms "radical world-apartness." *Leibniz and Arnauld*, New Haven, Yale University Press, 1990, p. 180 ff. One of Leibniz's trains of reasoning seems to have been that, since perception and expression are not, after all causal relations, all predicates ascribed to subjects are technically monadic, and relations are unreal.  See C. Wilson, *Leibniz's Metaphysics*, p. 81, pp. 109-110.

[5] Nachtomy, op. cit., p. 166.

[6] See for example, "Primary Truths," AG 32; Letter to Arnauld, July 14, 1686, p. 70, p. 75.

[7] "On Nature Itself" in Ariew and Garber, op. cit., p. 155 ff;

[8] Leibniz is not too clear on this point. Compare the theory of the "striving possibles" with the claim that "possibility by itself produces nothing." Wilson, *Leibniz's Metaphysics*, p168, n. 31.