

Leibniz on Human Finitude, Progress, and Eternal Recurrence: The Argument of the
'Apokatastasis' Essay Drafts and Related Texts

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In a draft essay from around 1701, Leibniz argues that because humanity can express only a finite number of unique statements, it will eventually run out of new things to say. From this, Leibniz draws the further conclusion that if humanity lasts long enough, 'there must also be a time when the same deeds would return and when nothing would be done that had not been done before, for deeds provide matter for speech' (F 58). This is a remarkable conclusion, its conditional formulation notwithstanding: it recalls the cyclical cosmology, defended by ancient Stoics and Platonists, in which future world ages will be indistinguishable from the present one. And far from distancing this conclusion from such ancient antecedents, Leibniz invites us to consider it as their rehabilitation: 'Indeed, there would necessarily be certain periods like the Platonic year, such that in the course of one age exactly the same things would be done, as far as the senses are concerned, as were done before in another age' (F 56–58).

One reason that this apparent rehabilitation of an ancient cyclical cosmology is remarkable is that it stands in such obvious conflict with the sacred history and prophecy contained in Christian Scripture, which contains several unique events: for example, the fall of mankind into corruption, the incarnation of God in the person of Jesus, and the redemption of the elected in the world to come after the destruction of the present world. Augustine of Hippo bitterly condemns the doctrine of periodic cycles defended by 'physicists' and Platonists along precisely these lines.¹ But such a cyclical cosmology stands in tension not merely with *revealed* religion, but also with

¹ *Concerning the City of God against the Pagans [City of God]*, trans. H. Bettenson (London: Penguin Books, 1972), Book 12, chapter 15.

the *natural* religion at the core of Leibniz's own philosophy. The capstone of this natural religion is the doctrine that the virtuous may hope for a better life in the next world as recompense for the afflictions of this life. This hope will be dashed if the next world is an exact repetition of this one because then there obviously cannot be any aspect of it that is *better*.²

All of this raises the reasonable suspicion that Leibniz cannot seriously entertain his own conclusion. This suspicion is reinforced by the fact that Leibniz seems to have the resources to quickly dispense with the conclusion and hence with the danger to piety it represents: according to the principle of the identity of indiscernibles, no two states of the world, let alone two entire world ages, could be truly identical.³ However, it would be a mistake to think that the impossibility of any strictly or metaphysically identical returns can defuse the explosive danger posed by the argument. If it were suggested to a Christian believer that future world ages will be indistinguishable from the present one, such that all the events of an alleged sacred history in our world-age will occur again and again, it would scarcely reassure him to be told that the reoccurrence of these events will not be *absolutely* indistinguishable from the events relayed in Scripture, but only indistinguishable *to us*. In short, nearly exact returns seem to have equally heretical implications as exact ones.

But what about Leibniz's commitment to a more general hope for a better and thus different future life? While a cosmology of *perfectly* exact returns would be straightforwardly inconsistent with such a hope for the future, a cosmology of *nearly* exact returns does not obviously undermine such a hope insofar as that hope does not include any specific historical events such

² Augustine opposes the cyclical cosmology on such grounds as well. He asks regarding such views: 'how can there be true bliss, without any certainty of its eternal continuance, when the soul in its ignorance does not know of the misery to come?' (*City of God* 12.14).

³ Di Bella thus says that the conclusion 'flies in the face' of the identity of indiscernibles. See Stefano Di Bella, *The Science of the Individual: Leibniz's Ontology of Individual Substance* (Dordrecht: Springer, 2005), 361–2. Also see note XX [68], below.

as those promised in Christian revelation. And this fact gives us reason to take Leibniz's argument seriously rather than as a *reductio* or idle thought experiment—even if it is far from clear at the outset how such a cosmology could, in fact, answer to our hope for a better future.

The first section of the paper begins this task by examining the argument that Leibniz presents in the essay 'De l'horizon de la doctrine humaine' (ca. 1693) for the conclusion that humanity is capable of only a finite number of truths. Starting from the premise that all human knowledge can be expressed with the letters of the alphabet, Leibniz reasons that since there are only a finite number of unique letter-strings of a readable length, there are only a finite number of statements and hence truths that could be expressed by humanity. By way of illustrating the nature of this human cognitive finitude, he adds that, unless human nature itself is transcended, humanity will of necessity eventually exhaust all that it has to say.

The second section of the paper examines the two texts (from ca. 1693–1701) in which Leibniz extends this conclusion regarding the necessary exhaustion of human linguistic expression to a further conclusion regarding the exhaustion of unique ways one could lead a human life. Leibniz presents this conclusion as a version of the ancient doctrine that the same lives will return to perform the same deeds in each iteration of the world age measured by the great 'platonic year.' But, in keeping with the aim of the essay 'De l'horizon,' the idea of the 'platonic year' serves more as a vivid illustration of human finitude than as a cosmological thesis.

The third section turns to the fuller development of this line of thought in the two 'Apokatastasis' essay drafts (ca. 1715). Contrary to his own suggestion in the first draft, Leibniz can establish only that *some* history or other will return in the future; he cannot establish that our own life or world age will return. The fourth section of the paper describes how Leibniz brings the argument closer to that conclusion in the second draft by adding a metaphysical principle of interconnection: if something returns, then everything must return. The argument remains inconclusive, however, since we cannot establish whether there is a perfect interconnection among things at any finite level of description.

The fifth and final section examines Leibniz's concluding suggestion in the drafts that this account of platonic periods is consistent with an imperceptible progress of minds to infinity. It is here that we can see the ultimate import of Leibniz's meditation on the *apokatastasis* and platonic year: it is a reminder that the fact that we have general metaphysical reasons for supposing that the future will hold something better does not imply that such progress is one we could actually experience or even imagine.

1. THE FINITE NUMBER OF ENUNCIABLE TRUTHS IN 'DE L'HORIZON DE LA DOCTRINE HUMAINE' OF 1693

Leibniz is led to the thought of a cyclical cosmology not through a direct consideration of physical or metaphysical principles, but rather, indirectly, through a consideration of the nature and limits of human knowledge. The thought arises, in particular, from a reflection on the finite number of possible truths that could be expressed by means of signs and thus that could fall within the scope of possible human understanding or science.

Leibniz first explores the implications of calculating an upper bound to the number of truths in a draft essay from around 1693 entitled 'De l'horizon de la doctrine humaine' ('On the Horizon of Human Knowledge') (F 39–53).⁴ We also have a shorter and presumably later

⁴ Fichant places this essay in the context of prior seventeenth-century attempts to determine the number of truths. See Michel Fichant, 'Postface,' in F 125–210 at 128–135. Also see Philip Beeley, 'Leibniz on the Limits of Human Knowledge,' *Leibniz Review*, 13 (2003), 93–101, at 86; and Wolfgang Hübner, 'Die notwendige Grenze des Erkenntnisfortschritts als Konsequenz der Aussagenkombinatorik nach Leibniz' unveröffentlichtem Traktat „De l'horizon de la doctrine humaine“ [‘Die notwendige Grenze’], *Studia Leibnitiana Suppl.* Vol. XV (1975), 55–71, at 60n29.

restatement of the main principles and conclusions of the ‘horizon’ argument in French (‘Calculability’/F 35–39)⁵ and what looks to be a still later fragment in Latin that reframes the argument in a way that anticipates his later consideration of a cyclical cosmology (F 54f.).

Comparing his combinatory method in these texts to Archimedes’s *Sand Reckoner* (F 39; F 37/‘Calculability,’ 100; cf. F 54, 85), Leibniz reasons that since all elements of human knowledge are composed of sign-strings of finite length, and since there is also a finite number of possible strings of any given finite length, there is also an upper bound to the number of truths that could be included in the totality of human knowledge. Leibniz’s argument takes the following general shape:

1. ‘[A]ll human knowledge can be expressed by the letters of the alphabet’ (F 37/‘Calculability,’ 100; cf. ‘De l’horizon,’ F 41–42). (Leibniz supposes, to begin with, a 24-letter alphabet.)
2. A truth that could form a part of the body of human knowledge must be capable of being expressed in a book no longer than what could be read in a single lifetime (F 51).⁶ (Leibniz generously supposes someone might read ten million letters a day during a thousand-year lifetime.)

⁵ Translation from P. Beeley, ‘On the Calculability of the Number of All Possible Truths’ [‘Calculability’], *The Leibniz Review*, 13 (2003), 99–101.

⁶ Rescher notes that Leibniz begins with the supposition that a proposition expressing a truth could be expressed on a page of twenty thousand letters (F 50). See Nicholas Rescher, *On Leibniz*, Expanded Edition (Pittsburgh: University of Pittsburgh Press, 2013), 122. But Leibniz goes on to lift that limitation and ‘proceed to the truths or periods that a human being could barely read throughout his life’ (F 51).

3. One can calculate the total number of unique letter-strings of that extreme length based on the different possible combinations of letters composing them. (Simplifying somewhat, Leibniz calculates that the number of unique strings of that length would be somewhat less than the number written with the numeral '1' followed by 7.3×10^{12} zeros.)⁷
4. All the unique letter-strings of that length could themselves be included in a single book of extreme but, crucially, still finite length.
5. All possible truths that could form part of the body of human knowledge form a proper subset of all the expressions in the book. (The truths will presumably compose only a tiny fraction of the book, the rest being composed of a large number of falsehoods and a presumably even larger number of nonsensical statements.)
6. Thus, the number of expressions in the book forms a horizon or upper bound for the number of truths of which human beings are capable (F 37–38/'Calculability,' 100).

Leibniz illustrates the provocative nature of this conclusion with the following corollary: even if humanity continues to make steady and unending progress in knowledge, there will come a time after which no one will discover or say anything new:

...it would necessarily follow that eventually all the enunciable propositions would be exhausted; and what would come afterwards would be a perfect repetition, word for word, of what had already been said or enunciated before. One could produce no speech, no poem or novel, no book that has not already been produced by another.

⁷ For comparison's sake, Archimedes calculated, according to Overbeck, that the upper bound for the number of grains of sand that could fit into the 'Pythagorean Orb' would be written with the numeral '1' followed by a mere 50 zeros. See Overbeck's letter to Leibniz of 15 August 1715 (F 92).

And the common saying *nihil dici, quod non dictum sit prius* would be literally true. (F 52)^{8,9}

Leibniz clarifies here that ‘even if we suppose that humanity as we know it has existed for all eternity, it does not necessarily follow that everything that could be said has already been said’ (F 53). Likewise: ‘humanity will be happy to have a certain small number of truths during a whole eternity, which will be no more than a part of those of which it is capable. Thus it will always leave something behind’ (F 38/‘Calculability,’ 101). Leibniz’s claim that eventually all enunciable propositions will be ‘exhausted’ should therefore be understood to mean that, given

⁸ Cf. F 38–39/‘Calculability’ 101; F 84–85, 86. The Latin phrase (meaning ‘nothing is said that has not been said before’) is modified from a passage from the Roman playwright Terence in which he defends the use of the same character-types from other plays as unavoidable (*Eunuch*, Prologue 41). In a short story from 1941 Jorge Borges gives literary expression to the thought of a combinatorically generated library in which the accurate or useful books are lost among the many more false or nonsensical ones. See ‘The Library of Babel,’ in A Hurley (trans.), *Collected Fictions* (New York: Penguin, 1998), 112–118. Borges describes some of his inspirations (which do not include Leibniz). In a 1939 essay Borges mentions two fictional works with a similar outlook: Lewis Carroll has one of his characters remark: ‘The day must come—if the world lasts long enough—when every possible tune will have been composed, every possible pun perpetrated, and worse than that, every possible *book* written! For the number of *words* is finite.’ (*Sylvie and Bruno Concluded* [London: Macmillan, 1893], ch. 9, p. 131); and Kurd Lasswitz has a character imagine a library generated from the combinations of 25 letters containing all historical and scientific information (‘The Universal Library,’ in C. Fadiman (ed.) *Fantasia Mathematica* [New York: Simon & Shuster, 1958], pp. 237–243). See Jorge Borges, ‘The Total Library,’ in E. Weinberger (ed.), *Selected Non-Fictions* (New York: Penguin, 1999), 214–217 at 215.

⁹ Here and below, I rely on the translation of the concluding paragraph of the essay (F 52–3) in Allison Coudert, *Leibniz and the Kaballah* (Dordrecht: Springer, 1995), 112–3.

the finite number of enunciable propositions, there will necessarily come a time when humanity will *in fact* exhaust all that is has to say, after which time will come only repetitions.

This conclusion recalls the claim from Ecclesiastes that there is nothing new to see or describe since there is ‘nothing new under the sun’: one cannot say ‘see this, it is new’ since ‘it has already been, in the ages before us’ (1:9–10). According to the Church Father Origen, at least, Ecclesiastes teaches in this way that ‘there were other worlds before this one’.¹⁰ Leibniz perhaps hints that we might even unwittingly find ourselves within such a succession of worlds: he adds in the conclusion that even if humanity has existed for all eternity, we would nevertheless always *appear* to ourselves to be saying something new ‘on account of the immense intervals of time that would have destroyed all memory of the previous authors’ (F 53).¹¹ In fact, Leibniz’s main conclusion here that unique statements of a given finite length will necessarily eventually be exhausted will be central to his later argument for the return of individual lives and public histories.

Nevertheless, Leibniz does not explicitly draw any metaphysical or cosmological conclusions in the essay on the horizon of human knowledge (or in its French restatement). In fact, Leibniz doubts whether the combinatory argument can establish the kind of exhaustion of the sayable that might serve as the basis for such metaphysical conclusions. He reminds us, first, that the argument establishes the exhaustion of the sayable not *absolutely*, but only for expressions

¹⁰ *On First Principles*, G. W. Butterworth, trans. (New York: Harper Torchbooks, 1966), III.v.3.

Augustine, for his part, criticizes those who quote Ecclesiastes in defense of a cyclical cosmology (*City of God* 12.14).

¹¹ The thought of such a historical rupture recalls the passage in Plato’s *Timaeus* describing the floods and fires that bring destruction at set astronomical periods, thereby destroying all knowledge and traditions (22c-24b). With each catastrophe, the Greeks ‘have to begin all over again like children and know nothing of what happened in ancient times’ (23a-b). Translation by B. Jowett in E. Hamilton and H. Cairn (eds.), *Plato: The Collected Dialogues* (Princeton: Princeton University Press, 1961).

limited to a *given* finite length, for example the length he supposes a human could read in a lifetime: ‘But perhaps the number of enunciable truths, though finite, would never be exhausted, just as the interval between a straight line and the curve of a hyperbola or conchoid, though finite, is never exhausted’ (F 52–53). And, second, he claims that the thought of humanity saying nothing except what has already been said before conflicts with a metaphysical principle of perfection or plenitude: it would defy ‘the harmony of things’ for humanity to endure in its present state long enough to reach that point (F 53).

Taken together, these two points obliquely raise a possibility that becomes prominent in Leibniz’s subsequent development of these themes in the texts discussed below: that there can be an unending progress in knowledge if and only if we suppose the future is populated by a different kind of intelligent being, presumably with a different sort of body, that could comprehend and discover truths whose complexity places them beyond the horizon of *human* knowledge.¹² But in the present essay, Leibniz is concerned not to establish the reality or even plausibility of such progress. Here, the thoughts about a future in which unending progress might be possible serves only as a contrast with the horizon of knowledge for humans as they exist now. Leibniz thus concludes the essay by bracketing all such thoughts about the future as ‘not fully demonstrated’ and reaffirming the main point of the essay: that there is a horizon that limits (*borne*) human knowledge (F 53). As he notes in the French restatement: ‘here it is not a matter of another life where the human mind will be raised to a more elevated state’ (F 38/‘Calculability,’ 100). That is, the thoughts regarding the future state of things serve merely to

¹² Leibniz thus does not aim in the essay to demonstrate in any unqualified way that future progress must necessarily come to a halt—*pace* Coudert, *Leibniz and Kaballah*, 112 and Antognazza and Hotson, *Alsted and Leibniz: on God, the Magistrate, and the Millennium* (Wiesbaden: Harrassowitz Verlag, 1998), 211. Instead, he aims to demonstrate that future progress must halt *for beings who can comprehend truths only of a given length*; and he explicitly doubts that minds will forever remain subject to the same cognitive limits. This is fully consistent with and even anticipates the view of the ‘Apokatastasis’ essay drafts.

illustrate the nature of the *present* horizon of human knowledge: because the number of truths that are possible for humans in this world is finite, humans would eventually run out of new truths to discover *even if* the species were to make an unending, steady progress toward new discoveries. If such a halt to progress followed by repetition appears to conflict with metaphysical principles, this merely underscores the finitude of human knowledge: progress could continue beyond the state of exhaustion *only if* we suppose that human nature itself will be superseded in the future.

However, there is a further difficulty with the argument, not addressed by Leibniz, that threatens the more basic conclusion regarding the horizon of human knowledge. The difficulty arises from the fact that any particular letter-string might warrant multiple and, for all we know, an infinite number of interpretations.¹³ Leibniz would be justified in concluding that the book of all letter-strings of a certain length expresses only a finite number of truths only if none of those letter-strings admits of an infinite number of interpretations. Since Leibniz's argument in the later 'Apokatastasis' essay drafts also depends on this conclusion, we need to consider at the outset whether Leibniz can plausibly rule out such infinite interpretations.

By asserting that the all the truths expressible in letter-strings of a given length form a proper subset of the strings in the book of all possible strings of that length, Leibniz shows that he assumes that each string warrants only a single interpretation. But there are at least two reasons why that is a problematic assumption: (1) certain sentence-types in a given language have inherently context-dependent interpretive possibilities (e.g. statements with indexicals), and there is perhaps an infinity of truth-conferring contexts; and (2) there are a great many actual and merely possible languages in which letter-strings can be interpreted, and perhaps even an infinity of such languages and hence interpretive possibilities.

¹³ I am grateful to Clinton Tolley, Eric Watkins, Donald Rutherford and other participants at the History of Philosophy Roundtable at the University of California, San Diego for raising a version of this objection to Leibniz's procedure in response to an earlier version of this essay.

The root of the difficulty is that Leibniz ignores the fact that the Latin letters at the basis of his calculation are basically arbitrary indicators of vocalizable words and sentences, which themselves could, in turn, have any number of different meanings and hence express any number of different truths. The book of all possible strings of Latin letters of a certain extreme length therefore cannot be divided in any absolute way into true, false, and nonsense expressions since that division is relative to the interpretation of the strings in a particular context for speakers of a particular language. This relativity of the meaning and truth-value of the letter-strings in the book does not affect the conclusion that every possible truth expressible in a letter-string of a certain length would appear somewhere in the book (assuming that the Latin alphabet is suitable for the written form of any language). But it does undermine the argument for the conclusion that the book contains fewer true statements than unique letter-strings and potentially the more fundamental conclusion that there are a finite number of enunciable truths.

It seems that Leibniz could overcome this objection, then, only if he could show not only (1) that each letter-string has only a finite number of possible interpretations in a given language, but also (2) that there are only a finite number of possible languages with which to interpret the book, or at least that all the truths in any possible language could be adequately translated into at least one among a finite set of languages. These points would not be easy to establish.

In partial defense of Leibniz, we can speculate that despite his talk about the eventual repetition of poems and novels, he is ultimately concerned not with haphazard observations of the sort that would rely on indexicals (Spinoza's perceptions *ex communi naturae ordine*), but rather with general theorems in mathematics, physics, and metaphysics that could be added to an encyclopedia of knowledge. Consider the plan for the organization of a library of arts and sciences that Leibniz describes in the final section of the *New Essays* (completed in 1704). We can abstract away from the historical facts of discovery and from the variety of languages in

which these discoveries are made and presented in order to focus on the ‘general doctrines’ (*doctrines generales*) that can be organized systematically.¹⁴

This privileging of the general over the particular also fits with Leibniz’s view that when statements express truths by matching the nature of reality, it is by means of *general* terms that match *general* features of reality, individuals themselves being *infima species* whose cognition escapes us because it would involve infinity. As Leibniz remarks in the *New Essays*:

You see, paradoxical as it may seem, it is impossible for us to know individuals or to find any way of precisely determining the individuality of anything except by keeping hold of the thing itself. For any set of circumstances could recur [*revenir*], with tiny differences which we would not take in; and place and time, far from being determinants by themselves, must themselves be determined by the things they contain. The most important point in this is that individuality involves infinity, and only someone who is capable of grasping the infinite could know the principle of individuation of a given thing. (NE III.iii.7, A VI. vi. 289)

This is not a denial that statement-types necessitating a context-sensitive interpretation—such as ‘this is a fruit fly’ or just ‘that is a body’—can be truly said in a great many and perhaps even in an infinite number of different contexts. But Leibniz would presumably balk at the suggestion that tokens of those sentence-types could add to the totality of human knowledge: statements of that kind are essentially about certain individuals, and yet we cannot have knowledge of individuals *per se*.

Significantly for our purposes, Leibniz justifies this claim by telling us that no matter how precise an idea we humans may have of individuals, events could always recur in such a way that we could not distinguish the individuals in one sequence of events from another. Thus, in response to Locke’s suggestion that the child’s idea of his mother and nurse are ‘like the persons

¹⁴ P. Remnant & J Bennett (eds. and trans.), *New Essays on Human Understanding* (Cambridge: Cambridge University Press, 1996), Book IV, chapter xxi, A VI. vi. 521-27.

themselves' and that the names that the child uses 'are confined to these individuals' (E III.iii.7), Leibniz replies that even the most foundational elements of the child's knowledge concern *general* features of the world: we can see that a small child doesn't really have an idea of his mother *qua* individual at all since 'he could easily be deceived by a moderate resemblance into mistaking some other woman for his mother' (NE III.iii.7, A VI. vi. 290). Conversely, 'perfect similarity is found only in incomplete and abstract notions, where things are considered only in a certain respect': though we might seem to find identical shapes or homogenous metals or liquids, 'it is not true that they are in all rigor'.¹⁵ Our inability to distinguish individuals *per se* across possible worlds or world ages shows that individuals are beyond the horizon of human knowledge. Human knowledge must stop short of infinity and must stop *somewhere in particular* short of infinity. And the essay on the horizon of human knowledge is an attempt to say something about this.

In sum, we might understand the purpose of the essay 'De l'horizon' to be to remind us that the ability to discover new truths (or even to invent fictions) is limited not merely by our powers of discovery (or imagination), but also by the more fundamental fact that our knowledge of actuality and even mere possibility must be expressible in strings of signs of a finite length. This fact about human cognition reveals what Pascal describes as man's nothingness in comparison with the infinite, a state 'which restricts our knowledge within certain limits [*bornes*] that we cannot surpass'.¹⁶ In this way, the argument supports Leibniz's stated goal of showing 'the limits of the human mind' (*les bornes de l'esprit humain*) (F 39; cf. 53) and 'how small man is in relation to the infinite substance' (F 38/'Calculability,' 100).

¹⁵ 'Primary Truths,' C 519–20/AG 32.

¹⁶ *Pensées de M. Pascal sur la religion et sur quelques autres sujets* (Paris: Guillaume Desprez, 1670), 175. Leibniz approves of Pascal's basic insight here regarding the 'two abysses' of the increasingly large and vanishingly small infinities, but considers it 'only an entrance to my system' (Gr 553–5; translated at <http://leibniz-translations.com/pascal.htm>).

2. THE HORIZON OF EVERYTHING HUMAN AND THE PLATONIC YEAR: TEXTS FROM 1693–1701

The claim about the gulf between finite human science and the infinite substance underscores the fact that the purpose of the essay on the horizon of human knowledge is to demonstrate an aspect of the finitude of human knowledge rather than to make any claims about the future. But Leibniz announces a plan to push the investigation in that direction in the Latin fragment mentioned above (F 54–56).¹⁷ The fragment itself looks to be an abandoned attempt to present a revised version of the essay ‘De l’horizon de la doctrine humaine.’ Indeed, Leibniz at first gave the fragment the title ‘Horizon doctrinae humanae’, which matches the title of the earlier French essay. But he later added ‘actionisque’ to that title and then settled on a new title that promises an essay about the ‘Horizon rerum humanarum’, that is, the horizon of ‘human things’—which is to say, the horizon of human affairs or simply the horizon of everything human.¹⁸

The lengthy full title of the fragment gives us a sense of how Leibniz planned to extend his earlier conclusions. In the first part of title, Leibniz promises to demonstrate a version of the conclusion of the earlier essay, namely that eventually ‘most’ (*plerique*) of what is said or written will have already been said or written by others. But in the last part of the title, Leibniz promises something further, namely to demonstrate that ‘new humans would lead a whole life that appears thoroughly the same to the senses as lives that others have led’ (F 54). Leibniz does not provide any explanation or argumentation for this conclusion in the fragment. But he presumably envisages it as an extension of the conclusion regarding the finitude of human linguistic expression: since human lives are centrally shaped by a series of linguistic expressions (in oral, written, or inner speech), the exhaustion of such expressions seems to imply an

¹⁷ See my translation, ‘The Horizon of Everything Human ...’ at philpapers.org/rec/LEITHO-4

¹⁸ The changes to the manuscript are described by Hübener, ‘Die notwendige Grenze,’ 56, and Fichant, ‘Postface,’ 15–16.

exhaustion of ways one could lead a life. Understood this way, the conclusion remains focused on the finitude of human expression rather than making any claims about the world itself.

Although Leibniz apparently never wrote the full essay envisaged in the fragment on the *horizon rerum humanarum*, he develops the main innovation promised there in a short draft essay from no earlier than 1701. Whereas the earlier essay ‘De l’horizon’ characterized his remarks about the future state of things as ‘not fully demonstrated’, the grandiose title of the draft promises ‘demonstrations’ about precisely such things: ‘Demonstrationes de Universo immenso aeternoque; de Mundis et aevis; deque rerum longiquarum et futurarum statu’, that is, ‘Demonstrations concerning the immeasurable and eternal universe; concerning worlds and ages; and concerning the state of remote and future things’ (F 56–60).¹⁹

Leibniz presents this draft essay as an appendix to the essay on the horizon of human knowledge (F 56). Accordingly, he silently assumes the main conclusion of the essay ‘De l’horizon’, namely that there are a finite number of truths and falsehoods enunciable by human beings. Leibniz begins the essay itself with the familiar corollary that if humanity persisted long enough in its current state, eventually nothing could be said that has not been said before. He also warns us that it is not certain that a day will arrive when nothing new *could* be said (*nihil dici possit*): some things might be left unsaid throughout all the eternity during which nothing new *would* be said (*nihil dicatur*). But this qualification merely serves to remind us that Leibniz’s conclusion in the essay ‘De l’horizon’ regarding the exhaustion of the sayable was never that everything sayable eventually *will be said*; his conclusion was rather that it is certain that eventually *everything we in fact say*—even over an indefinitely long period—will consist only of what has already been said before.²⁰

¹⁹ Strickland translates this text at leibniz-translations.com/immenseuniverse.htm and Coudert also translates most of the essay (*Leibniz and the Kaballah*, 113–114). I have drawn from both translations in quoting from this essay.

²⁰ *Pace* Coudert, *Leibniz and the Kaballah*, 112.

The main innovation of the essay is the extension of this thought of the exhaustion of the sayable to *res humanae*, i.e. to the ‘deeds’ (*gesta, facta*) that our speech and written histories describe:

And suppose that at some point nothing is said that had not already been said before; then there must also be a time when the same deeds would return and when nothing would be done that had not been done before, for deeds provide matter for speech. Indeed, there would necessarily be certain periods like the platonic year, such that in the course of one age exactly the same things would be done, as far as the senses are concerned, as were done before in another age. For the affairs [*res*] of an entire age can be considered one large deed [*factum*], and the history of an entire age can be considered one large statement [*dictum*], such that it is necessary that these affairs themselves be repeated or exhausted, i.e. after their exhaustion they are repeated again. (F 56–8)²¹

Here, for the first time, Leibniz links the exhaustion of the forms of human expression to the cycle of ‘periods like the platonic year’ (*periodos quasdam anno platonico similes*).

Leibniz’s conclusion here does, in fact, echo some of the ancient Platonists. Proclus, writing in the 5th century, argues that since changeable things can undergo only a finite number of changes ‘it is not possible that change should proceed in an infinite straight line’; instead, ‘what

²¹ The available translations of this text (by Fichant, Coudert, and Strickland) all speak more broadly of a return of ‘événements’ or ‘events’ rather than ‘deeds’ (*gesta, facta*) and of nothing happening ‘qui ne soit arrivé auparavant’ or ‘that has not happened before’ rather than of nothing being done ‘that has not been done before’ (*quod non factum sit prius*). I favor the narrower reading here only because Leibniz announces his intention to extend his account to a horizon of *res humanae* or action and, accordingly, remains focused on the content of human lives rather than on events more broadly.

moves perpetually will return to its starting point so as to constitute a period [*periodos*].²² And souls follow the same pattern: each soul returns to its original condition over its infinite reinstatements (*apokatastaseis*) and periods, descending from and ascending back to the gods an infinite number of times.²³ A well-known text presumed to stem from a 2nd century Platonist makes explicit the connection between this exhaustion of changes within a period and the return of the *same* lives: events extend infinitely into the past and future, but fate ‘encloses them in a cycle [*en kuklō*]’ measured by the period or revolution (*periodos*) described in Plato’s *Timaeus*; hence ‘everything that is found in a single entire revolution [*periodos*] will be repeated in similar fashion in each of the entire revolutions as well’, and indeed, ‘when the same cause returns again, we shall once more become the same persons, do the same things and in the same way, and so will all men besides.’²⁴

Leibniz could have been aware of such views from various sources. In the treatise *De Stoica mundi exustione* by Jakob Thomasius, his former mentor in Leipzig, Leibniz would have encountered a wide-ranging attack on the ancient doctrine of eternal recurrence as inconsistent

²² Proclus, *Elements of Theology*, ed. and trans. E R. Dodds (Oxford: Oxford University Press, 1963), prop. 198.

²³ Proclus, *Elements of Theology*, props. 199, 206.

²⁴ Ps.-Plutarch, *On Fate* 3, 569a-c; referring to Plato’s account of the ‘perfect year’ at *Timaeus* 39d. Cited from P. De Lacy and B. Einarson (trans.), *Plutarch’s Moralia in Fifteen Volumes. VII. 523c-612b* (Cambridge: Harvard University Press, 1959). A doctrine of recurrence according to which exactly the same things occur during each world cycle was asserted by some Pythagoreans and, of course, by the Stoics. For an overview of these ancient doctrines, see Richard Sorabji, *Time, Creation, and the Continuum* (London: Duckworth, 1983), 182–90.

with God's providential free choice and promise of salvation.²⁵ Thomasius catalogues the various ancient and modern calculations of the astronomical 'great year' (*annus magnus*) that marks the return of all the celestial spheres to their original positions (Diss. V). (The calculations range up to 3.6 million years.) And he notes the common pagan belief that this great year or *apokatastasis poluchronios* measures the ever-repeating cycle of destruction and regeneration of things or *apokatastasis pragmatōn* symbolized by the phoenix (Diss. IX).²⁶ Thomasius notes, further, that many Stoics held that the resurrection thus consists in our returning merely to lead the same lives over again. He quotes Chrysippus: 'it is evidently not impossible that we too, after our death will return again to the shape we are now after certain periods [*periodoi*] of time have elapsed' (Diss. X.7).²⁷ Leibniz would also have been aware of Clavius's allusion to such views in his 1585 *Commentarius* on Sacrobosco's *De Sphaera*.²⁸ Like Leibniz, Clavius calls such a period the 'platonian year' (*annus Platonianus*). Clavius remarks that some say that this platonian year marks the return of all the stars to the same position again with the result that 'everything in the

²⁵ *Exercitatio de Stoica mundi exustione cui accesserunt argumenti varii sed imprimis ad historiam Stoicae Philosophiae facientes, Dissertationes XXI* (Leipzig: Heirs of Friedrich Lanck, 1676).

²⁶ Thomasius derives these Greek terms from the entry on the phoenix in Horapollo's *Hieroglyphics*. See A. Cory (trans.), *The Hieroglyphics of Horapollo Nilous* (William Pickering, London: 1840), 121. (I thank Monte Johnson for discussion of this text.)

²⁷ Thomasius quotes Chrysippus *apud* Lactantius, *Institutiones Divinae*, Book 7, Chapter 23. Translation from A. A. Long and D. N. Sedley (eds. and trans.) *The Hellenistic Philosophers*, 2 vols. (Cambridge: Cambridge University Press, 1987), item 52B.

²⁸ Christophorus Clavius, *In sphaeram Ioannis de Sacro Bosco commentarius* (Rome: Dominicus Basa, 1585).

world no matter how small must then return to the same order seen now' (*Commentarius*, 55–6).²⁹

Although the origin of Leibniz's reflections on the question of the future exhaustion of the sayable points him to the claim here that such forms of human expression will necessarily repeat over *time*, he adds that this 'also can be extended to diverse places of the same time', i.e., to plural worlds in simultaneous regions of *space* (F 58). Leibniz thereby invokes the ancient atomists' doctrine of the plurality of inhabited worlds, a doctrine—revived by Giordano Bruno, Henry More, Fontanelle, Huygens, and others—that embodies the Copernican denial of our own unique place in the physical universe.³⁰

²⁹ Clavius, for his part, discounts the thought of the return of the same on the grounds the various celestial periods are probably incommensurable (*Commentarius*, 56). In his *Dissertatio de arte combinatoria* of 1666, Leibniz refers to Clavius's account here of the combination of elements and letters (GP iv. 39, 88; referring to *Commentarius*, 33–36) and even uses a diagram from this portion of Clavius's text for his frontispiece (GP iv. 34). I owe the Clavius reference to the discussion in Marwan Rashed, 'Alexander of Aphrodisias on Particulars and the Stoic Criterion of Identity,' in R. W. Sharples (ed.), *Particulars in Greek Philosophy* (Leiden: Brill, 2010), 157–179 at 175–8. Also see note XX [45], below.

³⁰ See Lucretius, *De rerum natura* II 1059–1076. Cited from F. Copley (trans.), *On the Nature of Things* (New York: Norton, 1977). Cf. Thomasius, *De Stoica mundi exustione*, Diss. II.23–26. The plurality of worlds was infamously defended by Giordano Bruno in his *De l'infinito, universo et mondi* (Venice, 1584) and *De immenso et innumerabilibus, seu de universo et mundis* (Frankfurt, 1591). The title of the latter work anticipates that of Leibniz's own essay 'De universo immenso aeternoque' in a striking way. Leibniz praises Bruno's text as early as 1689 (A VI. iv. 2120). In a pair of letters from 1711, Leibniz claims to have a copy of both the Italian and Latin texts. Tracing Bruno's doctrine of the plurality of worlds to Leucippus and Democritus (cf. Diogenes Laertius XI.31), he offers a defense of the doctrine, of a sort, by claiming that Bruno was burned for other beliefs (GP vii. 506, 496). In his *Ars combinatoria* of

Leibniz notes two important, related qualifications concerning the necessity of these platonic periods, both of which are familiar from the earlier essay ‘De l’horizon’. First, ‘it does not agree with the dignity of nature that what is past should repeat itself’ (F 58). In the earlier essay, Leibniz inferred from such a principle that humanity will never reach a point when every expression will be a repetition. But here Leibniz allows that the future could be different but still *indistinguishable* from the past: ‘There is neither such a thing as a perfect return such as in circles or ellipses, nor can it happen that one place or one time in the universe will resemble another perfectly; they can resemble one another rather only to the senses [*sed tantum ad sensum*]’ (F 56). Leibniz includes the same qualification in his statement regarding platonic year quoted above, where he concludes that the same things will be done again only as far as the senses are concerned (*exacte ad sensum eadem*) (F 58). And we have seen that the Latin *Horizon* fragment promises, similarly, a demonstration that new lives will be ‘thoroughly the same to the senses’ (*eadem ad sensum penitus*) (F 54).

Leibniz obviously intends the qualification that the returns are identical only ‘ad sensum’ to remind the reader that two different human lives or parts of nature could be considered wholly identical only in accordance with the incomplete perception of things characteristic of the finite human perspective. Thus, ‘ad sensum’ could be translated as ‘in appearance’, ‘*qua* phenomenon’, or simply ‘as far as we can tell.’ But it might seem odd for Leibniz to invoke the senses in this connection: Leibniz’s argument for the platonic periods is based on the finitude of human linguistic expression and hence abstract thinking, whereas it is precisely the perceptions

1666, Leibniz quotes a remark attributed to Epicurus by Lactantius: ‘He said the atoms are assembled in a varied order and position just as the letters of the alphabet, which, although they are few, yet produce innumerable words by being variously arranged’ (GP iv. 89; quoting *Institutiones Divinae* 3.17). Leibniz also quotes Lucretius’s similar analogy (II 1014–1021). In his essay ‘De l’horizon,’ Leibniz returns to this analogy, alluding to the same lines from Lucretius (F 42). See note 47, below, for Cicero’s version of the analogy.

of the senses that, although confused, admit of infinite variation.³¹ Indeed, Leibniz remarks elsewhere that we have the ability to draw distinctions among the objects of sense that we cannot articulate in speech.³² Thus, it might seem that it is in fact only ‘ad sensum’ that returns of the same are strictly impossible. However, Leibniz frequently claims in different ways that it is the coarseness of our sensory consciousness that prevents us from recognizing that our abstract perceptions are *merely* abstract: no matter how closely we observe nature, there will always be smaller, infinitely diversifying parts that escape the notice of our senses.³³ In short, the

³¹ Leibniz thus ends the Latin *Horizon* fragment by noting that since his conclusions concern only *enunciabile propositions* it is no objection that there are a great many *confused* thoughts and sensations that cannot be enumerated (F 54–6). Leibniz remarks elsewhere that distinct concepts are those that have *notae enuntiabiles* (A VI. iv. 587/AG 24). See Daniel Garber, *Leibniz: Body, Substance, Monad* (Oxford: Oxford University Press, 2009), 218–19.

³² E.g. GP iv. 422–3/AG 24; and *New Essays* II.xxix.2, A VI. vi. 255.

³³ For example, it is because ‘our senses allow us to judge only superficially’ that we come to believe that a piece of marble would be intrinsically the same in all respects even if it had a different history (A II. ii. 49.8/AG 73). Also see ‘Primary Truths,’ C 522/AG 34; *Discourse on Method* §12, AG 44; and GP vii. 563. For discussion of these texts, see Samuel Levey, ‘Leibniz on Precise Shapes and the Corporeal World,’ in D. Rutherford & J. A. Cover (eds.), *Leibniz: Nature and Freedom* (Oxford: Oxford University Press, 2005), 69–94, and Garber, *Leibniz: Body, Substance, Monad*, 158–161. Leibniz offers a version of this account of exactness ‘ad sensum’ already in one of his earliest texts, the *Hypothesis physica nova* of 1671 (§59, A VI. ii. 255). See Philip Beeley, ‘Mathematics and Nature in Leibniz’s Early Philosophy,’ in S. Brown (ed.), *The Young Leibniz and His Philosophy (1646–76)* (Dordrecht: Springer, 1999), 123–146 at 126–127 and ‘Leibniz, Philosopher Mathematician and Mathematical Philosopher,’ in N. Goethe, P. Beeley, and D. Rabouin (eds.), *G.W. Leibniz, Interrelations Between Mathematics and Philosophy* (Dordrecht: Springer, 2015), 23–48 at 33–36.

qualification is a reminder that deeds could appear the same only when given a finite, abstract description.

The second, related qualification that Leibniz adds here is that ‘progress in knowledge can go on to infinity.’ In fact, Leibniz positively asserts that if we assume that intelligent substances continue to exist throughout all these times, then it follows from the impossibility of exact returns that the future will bring ‘more perfect intelligences’ who are capable of ‘longer and more complex truths’ (F 58). Here, Leibniz rejects the Platonist view that changeable things cannot undergo an infinite number of changes. But he nevertheless echoes certain Platonists with the suggestion that the progress of minds ultimately requires the transcendence of human nature.³⁴ Leibniz depicts this progress in his own way, of course: it would be a transcendence of the combinatorically determined horizon of human knowledge. The immediate implication of the possibility of such transcendence is that as long as a capacity for the comprehension of ever-longer strings of signs continues, knowledge can approach reality asymptotically without ever being exhausted or reaching completion, even over an indefinitely long period of time.

These are obviously significant qualifications to the conclusion regarding platonic periods. But it is important to see that Leibniz does not present them as requiring a retraction of the conclusion, but only as illuminating the nature of the periods at issue. In keeping with his overarching goal of illustrating the limits of human knowledge and human affairs, Leibniz makes clear from the start that the platonic periods are not *absolute* but are rather always *relative* to a

³⁴ Iamblichus (writing near the turn of the 4th century) offers the following neo-Pythagorean account of our choice in favor of virtue and thus in favor of our own primary, intellectual, and thus divine nature: ‘Then, if we leave the body and pass to the aetherial region, thereby changing the human nature into the purity of the gods ... we by these acts are restored to the divine order and received into the divine circuit [*eis tēn autēn ousian te apokathistasthai parechei kai meta theōn periodon*], which was our condition prior to our descent into human form’ (*Protrepticus* 3). Cited from T. Johnson (trans.), *The Exhortation to Philosophy* (Grand Rapids: Phanes Press, 1988). [Page reference?](#)

certain finite mind. Indeed: ‘it may be that some creatures have Platonic periods, while others do not’ (F 58). Leibniz thus proceeds to express a commitment to the conclusion, albeit a qualified one: ‘I see that one cannot avoid Platonic periods, at least with respect to notions that must remain or that are distinct, where there is no novelty in their matter but only in their form or combination, which is limited’ (F 58).

For Leibniz, we can have only confused perceptions of what makes individuals unique. When we have distinct perceptions, by contrast, it is always of *general* features of the world that can be repeated. And if all our distinct notions are composed of a finite number of primitive notions (on analogy with the letters of the alphabet), then the only novelty in knowledge based on such notions would be in terms of the various combinations of these primitive notions, which are finite in number.³⁵

3. THE EXHAUSTION OF ‘SUFFICIENTLY’ DETAILED HISTORIES IN THE 1715 ‘ΑΠΟΚΑΤΑΣΤΑΣΙΣ’ ESSAY DRAFTS

These points regarding the platonic periods and infinite progress come into sharper focus when Leibniz returns to same themes in two undated essay drafts likely from 1715: ‘Αποκατάστασις πάντων’ (F 60–66) and ‘Αποκατάστασις’ (F 66–77).³⁶

³⁵ In a draft essay from around 1679, he fondly recalls the thought from his early *Ars Combinatoria* ‘that a kind of alphabet of human thoughts can be worked out and that everything can be discovered and judged by a comparison of the letters of this alphabet and an analysis of the words made from them’ (GP vii. 185/L 222; see GP iv. 72–3).

³⁶ The longer ‘Αποκατάστασις’ seems to be a later reworking of material from the shorter ‘Αποκατάστασις πάντων’. For simplicity, I will refer to these as the ‘Apokatastasis’ essay drafts. The main changes between the drafts are discussed below. My own translation of the earlier draft, as ‘Apokatastasis panton,’ is available at philpapers.org/rec/LEIAPA-4. Lloyd Strickland has translated the

The unusual titles that Leibniz gives his drafts warrants a comment. The expression ‘*apokatatastasis pantōn*’ that forms the basis for these titles (but which does not otherwise appear in the drafts) derives from the Scriptural prophecy of a ‘restitution of all’ (Acts 3:21). The expression invokes, more particularly, the interpretation of that prophecy as a promise of universal salvation, an interpretation traditionally associated with the Church Father Origen. But the more immediate inspiration for Leibniz’s title is surely Johann Wilhelm Petersen’s universalist (and millenarian) tract *Μυστήριον ἀποκατάστασεως πάντων*.³⁷ Leibniz showed enough interest in this book to publish (anonymously) a long summary;³⁸ and he later speaks of the book sympathetically, both in private correspondence and in the *Theodicy* (§§18, 156).³⁹ Moreover, during the time of the composition of his own ‘Apokatastasis’ essay, Leibniz was engaged in guiding Petersen in the composition of an epic Latin poem about future state of the world and the final *apokatatastasis pantōn*.⁴⁰

longer version of the essay as ‘Revolution’ at leibniz-translations.com/revolution.htm. I have utilized this translation in what follows. Rescher (*On Leibniz*, ch. 6) gives a very useful discussion of Leibniz’s investigation into the possibility and limits of recurrence in terms of combinatory calculations.

³⁷ *Μυστήριον ἀποκατάστασεως πάντων, das ist, das Geheimniß der Wiederbringung aller Dinge* (Pamphilia [= Offenbach am Main?], 1700). The main part of the book consists in a dialogue, ‘Gespräch ... von der Wiederbringung aller Dinge,’ in three separately paginated parts.

³⁸ ‘Μυστήριον ἀποκατάστασεως πάντων, das ist, das Geheimniß der Wiederbringung aller Dinge’ [Petersen Review], *Monatlicher Auszug aus allerhand neu-herausgegebenen nützlichen und artigen Büchern*, April 1701, 1-37.

³⁹ In the *Theodicy* and correspondence, Leibniz refers to this book with the short title (appearing on its half title page) *Ἀποκατάστασις πάντων*. See A I². xx. 811 (translated at <http://www.leibniz-translations.com/burnett.htm>).

⁴⁰ See Antognazza and Hotson, *Alsted and Leibniz*, 170–199, 211–212.

Given this background, Hans Blumenberg is clearly correct to say that Leibniz's title 'alludes' to Origenism.⁴¹ But the drafts themselves contain no statements regarding any of the central points of contention in the debate about universal salvation: e.g. whether human sins can be infinitely enduring and whether divine justice allows or requires eternal punishment—to say nothing of the finer points of Scriptural interpretation. Indeed, the drafts make no mention at all of sin, divine punishment, or salvation. Thus, despite their titles, we cannot say that the drafts represent a contribution to the debate on the doctrine of universal salvation.⁴² The drafts could be said to reflect the Scriptural idea of the *apokatastasis pantōn* only in the wide sense that they concern the basis for our hope for the future: like the earlier essay 'De universo immenso aeternoque', they consider the progress of minds beyond the limits of human nature in a way that allows us to conceive the future as holding something *better*.

In fact, if the titles represent an image of the basis for our hope for the future, they equally represent the threat to this hope posed by the specter of the 'annus Platonicus' or platonic year. We have seen above that the term '*apokatastasis*' can refer to long astronomical periods and to the cyclical return of the same lives often associated with those periods.⁴³ Petersen himself notes

⁴¹ Hans Blumenberg, 'Eine imaginäre Universalbibliothek,' *Akzente: Zeitschrift für Literatur*, 28 (1981), 27-40 at 28. Fichant is likewise correct that an essay with this title would raise the reasonable expectation among readers that the text would provide a statement on Origenism ('Postface,' 173).

⁴² Di Bella's claim that the drafts are 'inspired by' Origenism thus seems too strong (*The Science of the Individual*, 359). Even Antognazza's and Hotson's claim that Leibniz seeks to 'reconceptualize' Origen's *apokatastasis pantōn* is misleading in this context (*Alsted and Leibniz*, 212). Coudert goes still further, claiming that after initially accepting the Stoic doctrine of endless cycles of repetition, Leibniz fully embraced Origenism by the time of the composition of the 'Apokatastasis' drafts (*Leibniz and the Kaballah*, 110).

⁴³ See notes XX, XX, XX, [23, 26, 29], and [34], above.

this astronomical usage, citing Pseudo-Dionysius on the ‘periodkē apokatastasis’ and equating the more comprehensive astronomical return with Plato’s ‘great year of revolution’ (*grosses Revolutions-Jahr*) and Cicero’s ‘year of revolution’ (*vertens annus*) from Scipio’s Dream.⁴⁴ And Leibniz calls attention to this in his summary, where he equates the astronomical *apokatastasis* with the ‘annus Platonicus’.⁴⁵ Thus, the titles are apt not because the drafts engage with universalism, but rather because the ambiguity of the term ‘*apokatastasis*’ reflects Leibniz’s aim of exploring the compatibility of the hope for a better future with the progress-denying eternal return of everything that seems an inevitable corollary to horizon of human knowledge.

The essays feature the same kind of combinatory argument that Leibniz had earlier used to argue for the exhaustion of the humanly sayable. But the focus shifts here from the question whether humans will eventually repeat themselves to the question whether there are only a finite

⁴⁴ *Μυστήριον ἀποκατάστασεως πάντων*, ‘Gespräch,’ Part I, 4.

⁴⁵ Petersen review, 10. Leibniz’s use here of the term ‘annus Platonicus’ (which is not found in Petersen) matches his usage in the contemporaneous essay ‘De universo immenso aeternoque’ and in the later ‘Apokatastasis’ drafts. Also relevant here is the account of the future state of things in Thomas Burnet, *Telluris theoria sacra*, 2 vols. (London: Kettelby, 1681–1689). Petersen quotes a long passage from the end of the first volume in which Burnet refers to the future ‘apokatastasis kai palingenesia’ and expresses that vision in a poem (*Μυστήριον ἀποκατάστασεως πάντων*, ‘Gespräch’ I, 87; quoting *Telluris theoria sacra*, 1:305-6). Leibniz notes all of this in his summary of Petersen’s book (Petersen review, 21), and later uses part of the poem in *Theodicy* §18. For a preliminary consideration of the significance of Burnet in this connection, see David Forman, ‘The Apokatastasis Essays in Context: Leibniz and Thomas Burnet on the Kingdom of Grace and the Stoic/Platonic Revolutions,’ in Wenchao Li (ed.), *Für Unser Glück oder das Glück Anderer. Vorträge des X. Internationalen Leibniz-Kongresses* (Hildesheim: Olms, 2016), Bd. IV, 125–137.

number of *descriptions* we could give to future periods such that the periods themselves must necessarily repeat.

In the 1693 ‘De l’horizon’ essay, Leibniz blocked the inference from the necessary exhaustion of the humanly sayable to a conclusion that, in some distant future, everything that is said will be nothing but repetition: ever-longer strings of signs could be added to science as long as there will be creatures in the future with an ever-greater capacity to comprehend such strings. And this possibility also informs Leibniz’s conclusion in ‘De universo immenso aeternoque’ that platonic periods are always relative to the minds of the beings in question. In the 1715 ‘Apokatastasis’ essay drafts, by contrast, Leibniz detaches the question of the platonic periods from that of the horizon of human knowledge—at least to begin with—by simply fixing the length of the book that we would consider ‘sufficient’ to capture the history of a given time-period and location.

Leibniz begins by supposing that a public history of a year on earth can be recorded sufficiently (*sufficenter*), with room to spare, in a ten-thousand-page book consisting of a string of 10^8 Latin letters (F 60, 66). But in case we think such a book does not have enough detail about all the common people who might fail to appear in any such public history, Leibniz allows that we could instead compose a chronicle ‘in which would be described in the most detailed way what all individual people have done in the whole world within a year.’ Here he supposes that there could be a billion (10^9) individuals and that we could grant each ‘private individual history’ the same length as seemed sufficient for the annual public history of the whole earth (such that for each individual we can devote a page of roughly ten thousand letters to each hour of their year). This collection of annual biographies would thus be a billion times longer than the public history, and would exceed in length by several orders of magnitude what Leibniz determined in ‘De l’horizon de la doctrine humaine’ to be the maximum length of an expression that could be included within the scope of human knowledge. Regarding the length of this collection of biographies, Leibniz says: ‘this of course is obviously sufficient’ (F 68; cf. 62).

What is important, of course, is not the precise length of such a book, but rather that a ‘sufficiently’ detailed history can be contained in book of a determinate and hence finite length. For that implies that there are also a determinate number of such possible histories that could be used to describe future periods of the same length. In this way, the stipulated length of the chronicles avoids the doubt that there could always be a more detailed history consisting of more letters and thus that there would be no necessity of an exhaustion of such histories.

A second, related feature of this approach that distinguishes it from the earlier essays is the prospective nature of the annals. The essay ‘De l’horizon’ concluded with the question whether future human beings could *themselves* say something new and hence arrive at truths that are new *for them*. But in the ‘Apokatastasis’ essay drafts, the question of the main argument is instead whether someone, an objective observer, would have to use one of the annals again in order to describe a time and place and the public history and biographies of whatever human beings might be found there. Thus, Leibniz says that he assumes the continued existence of humanity ‘so that it can produce material for the public histories’ (F 68) or for the histories of private individuals (F 70). In this way, the set of chronicles generated by the combinatoric functions much like Aristotle’s claim that ‘a sea battle must either take place tomorrow or not’: all the accounts of a given length one could possibly give in one’s own language (or some stipulated language such as Latin) about future time-periods are *already* contained somewhere in this set of annals; and hence whatever one can say, and thus can say *truly*, about a future period is already in one of these chronicles.⁴⁶

⁴⁶ ‘For it certainly is now true that a future predicate will be’ (‘Primary Truths,’ C 520/AG 32). See Aristotle, *De Interpretatione* 9. To this extent, Hans Blumenberg is correct to say that the essays concern the relationship between possibility and actuality and that there are finite number of *possible* histories—of a given a length (‘Eine imaginäre Universalbibliothek,’ 28–9). In this vein, Di Bella compares the possible histories to the ‘book of fates’ Leibniz describes at the end of his *Theodicy* (Di Bella, *The Science of the Individual*, 361–2; referring to *Theodicy* §§414–6). However, whereas Aristotle’s

Of course, even the annals in the collection that turn out to be true will remain silent regarding many minor details that an even more detailed account could have contained. But these annals would still accurately capture not only the broad outlines of the history of that year, but also a great many of its details. Nor would it matter if some far distant year contains many strange occurrences and creatures (perhaps speaking strange languages) that are difficult to describe economically in our own language. Surely we could write the history of such a place even if the additional commentary required to describe the history of such a place in our own language would necessitate sacrificing some of the detail that would be contained in the annals describing worlds more like our own.

If the events of any year can, in this way, be recorded sufficiently in a book of the stipulated length, then at least one of the books generated by the combinatoric will sufficiently relate the history of any given future year in a given language.⁴⁷ And since this set of combinatorically

disjunction represents all *logical* possibilities with respect to there being a future sea battle tomorrow, and the book of fates represents all logically possible worlds (or collections of compossible individuals), the set of combinatory-generated chronicles represents instead the possibilities for *human expression* with respect to a future time-period. Accordingly, more fundamental to the essays than the relation of the possible to the actual is the relation of human expression to reality and hence of the finite to the infinite.

⁴⁷ This claim, fundamental to the argument, recalls Cicero's rebuke (in the voice of Balbus the Stoic) of the Epicurean view that the order of the cosmos is the result of the chance collisions of atoms: this is akin to believing that if 'a countless number of copies of the twenty-one letters of the alphabet ... were ... shaken out on the ground, it would be possible that they should produce the *Annals* of Ennius, all ready for the reader' (*De natura deorum* 2.37). Translation from H. Rackham (trans.), *On the Nature of the Gods* (Cambridge, MA: Harvard University Press, 1972), 213. The passage is mentioned by John Ray in *The Wisdom of God Manifested in the Works of the Creation* (London: Samuel Smith, 1691), 19, a work praised by Leibniz (see A I². xx. 810). Borges also mentions the Cicero passage ('Total Library,' 216) and

generated histories is finite in number, these histories will eventually be exhausted, and an old one will have to be used again: ‘it is necessary that the earlier public histories return exactly at some point’ (F 68; cf. 62). It could happen that after the period covered by just one such history elapses, the events of the next period are so similar to the previous one that the same exact history can be used again right away to describe the next period with complete faithfulness. Or it could happen that we need to use *all* the combinatorically generated histories before the need arises to use an old one again, in which case the time before the return would be the time-period covered by the history multiplied by the total number of histories generated by the combinatoric. This is the time before which a return is *necessary* (F 62, 68).

In the earlier draft of the essay, Leibniz comments regarding the conclusion that public histories necessarily return: ‘And so it is necessary that our Leopold and Louis and William and George would return with all their deeds [*gesta*] within this time span’ (F 62).⁴⁸ Applying the same reasoning to individual annual biographies, Leibniz concludes that as long as humanity endures in its current state:

...the time would arrive when the same life of individuals would return, bit by bit, through the very same circumstances. I myself, for example, would be living in a city called Hannover located on the Leine river, occupied with the history of Brunswick, and writing letters to the same friends with the same meaning. (F 64)

In ‘De universo immenso aeternoque’, Leibniz considers such a return of individuals to be ‘equivalent to the resurrection of the body’ (F 58), speculating this may have also been the

includes in his own story that the combinatorically generated library will include ‘the detailed history of the future’ and ‘the lost books of Tacitus’ (‘The Library of Babel,’ 115).

⁴⁸ Leibniz is presumably referring here to recently and currently reigning monarchs: Holy Roman Emperor Leopold I, William of Orange, Louis XIV, and George I of Great Britain.

view of Democritus (F 60).⁴⁹ Perhaps, he adds there, individuals can ‘return to pick up the thread’ (F 60). In the ‘Apokatastasis’ essay, he notes only that questions about whether this future life is the same or just a similar person ‘cannot be determined by the calculus and pertains to the doctrine of the fittingness of things, i.e. of what is best and most in keeping with divine wisdom’ (F 72).⁵⁰

In fact, the manner of resurrection imagined here is difficult to reconcile with Leibniz’s demand that an immortality that could sustain a hope for the future would have to preserve memory.⁵¹ And there is a further difficulty. The thought of a future in which Leibniz’s life returns ‘bit by bit, through the very same circumstances’ ~~is that such a future~~ appears quite opposed to the hope that the world to come will bring something better for him. The image

⁴⁹ Lucretius writes: ‘For when you think of the whole measureless span of time gone by, and of matter—how it moves in myriad ways, then you may well believe that these same atoms of which we are composed were often arranged just as they are today’ (III 854–8; also quoted in Rescher, *On Leibniz*, 119). However, Lucretius’s aim in this passage is not so much to affirm the recurrence as to assert against the Stoics that such a recurrence would not amount to a personal resurrection ‘even if after our death time should assemble our atoms, and set them again as they now stand’ (III 846–869).

⁵⁰ Although Leibniz rejects ‘metempsychosis’ or the transmigration of souls, he accepts the possibility of the ‘resuscitation’ of animals (and human beings) through what he calls their ‘metamorphosis,’ ‘metaschematismis,’ or transformation. Because the soul of each animal (and thus human being) exists in a preformed living seed prior to conception and continues to exist along with a ‘rarefied body’ after the ‘coarse body’ is destroyed, it is possible for it to take on a new ‘coarse body’ at a later time. Leibniz speculates that Democritus held something like this view. See Letter to Arnauld of 30 April 1687, A II. ii. 189/AG 88; *Principles of Nature and Grace* §6, AG 209; and *New Essays*, A VI. vi. 233/AG 141.

⁵¹ GP iv. 300–1/A ii i. 779–80 /AG 243. Also see *New Essays* II.xxvii.26, A VI. vi. 246.

of the philosopher's life returning in this way instead recalls in a dramatic way the Stoic view as related by Nemesius (a 4th century Christian):

The Stoics say that when the planets return to the same celestial sign ... at set periods of time [*chronōn periodoi*] they cause conflagration and destruction of existing things. Once again the world returns anew to the same condition as before [*palin ex huparchēs eis to auto ton kosmon apokathistasthai*]. ... For again there will be Socrates and Plato and each one of mankind with the same friends and fellow citizens; they will suffer the same things and encounter the same things ... The periodic return of everything [*apokatastasis tou pantos*] occurs not once but many times; or rather, the same things return indefinitely and without end ... [And] there will be nothing strange in comparison with what occurred previously, but everything will be just the same and indiscernible down to the smallest details.⁵²

We can plausibly imagine that Leibniz had this particular text in mind when writing about himself in the Hanover of a future world age corresponding with the same friends: his

⁵² Nemesius, *De Natura Homines. Graece et Latine*, ed. by C. Matthaei (Halle: J. J. Gebauer, 1802), 309–311. Translation from Long and Sedley, *The Hellenistic Philosophers*, item 52C. This also recalls Augustine's characterization the periodic cycles: 'According to this theory, just as in our own age Plato taught his disciples at Athens in the school called the Academy, so in innumerable past ages, separated by immensely wide and yet finite intervals, the same Plato, the same city, the same school, the same disciples have appeared time after time, and are to reappear time after time, and are to reappear time after time in innumerable ages in the future' (*City of God* 12.14).

mentor Jakob Thomasius cites the text several times in his book on Stoic cosmology—doing so with the express intent of repudiating the Stoic account of the restoration of the world.⁵³

However, Leibniz is still very far from showing that he himself or any other given individual can expect to return in this way, even granting his assumption that humanity as a whole will continue throughout all these times. If we suppose that each of the annual chronicles generated by the combinatoric is *equally likely* to be instantiated, then any given chronicle, including one sufficiently detailing a year of our own life, would almost surely return at some point over an infinite time. Indeed, in such a universe of pure chance, it is assured that *any* arbitrarily long history portion will return *infinitely* often in an infinite future time. However, no such supposition is built into the combinatory argument. Leibniz's argument considers only the time by which unique histories will necessarily be exhausted and is thus completely indifferent to the *probability* of the occurrence or reoccurrence of any of the world-age histories generated by the combinatoric.⁵⁴

This serves to underline the fact that the calculation does not show the period before the necessary return of any *given* history, but only the period before it is necessary that *some*

⁵³ Thomasius quotes the passage in Latin at *De Stoica mundi exustione*, Diss. X.6 and later quotes the portion of the original Greek that includes the reference to the *apokatastasis tou pantos* again at Diss. XI.3 and then a third time at Diss. IX.297.

⁵⁴ By contrast, an (unfounded) supposition of chance seems to be at work in David Hume's argument for the 'Epicurean hypothesis' of recurrence (in Part 8 of his *Dialogues concerning Natural Religion*) as well as in the argument for the doctrine of eternal recurrence that Nietzsche offers in a posthumous fragment from early 1888 ([http://www.nietzschesource.org/#eKGWB/NF-1888,14\[188\]](http://www.nietzschesource.org/#eKGWB/NF-1888,14[188])).

history or other (of a determinate length and detail) must return.⁵⁵ In particular, the calculation cannot show regarding the histories of *our own* life or world when or how likely ~~it is~~they are to return. In this way, the calculation parallels the earlier essays, which concluded not that everything it is possible to say will eventually be said, but only that eventually everything that is said will already have been said before.⁵⁶

Assuming that future time is infinite, the argument does establish that *at least one* history from the same set of combinatorically generated annals from which an accurate history of our own age is drawn will accurately describe a future age an infinite number of times. In this sense, the combinatory argument justifies the conclusion that ‘these revolutions, while humanity remains in this state, would take place not just once, but many times, indeed a greater number of times than can be assigned’ (F 72f.; cf. 64). And the conclusion of the combinatory argument thereby reflects the second main aspect of the Stoic *apokatastasis* as related by Nemesius, namely that the world will return again ‘indefinitely and without end.’ Hence Leibniz remarks that this is what the ancients seem to have had in mind when they spoke of the ‘revolutions of the great platonic year’ (F 64; cf. 74). But the calculation does not tell us *which* history or histories will return an infinite number of times: it is consistent with our own (or any given) history repeating itself infinitely many times and also with it never repeating once even throughout an infinite time.

We have seen that in the shorter version of the essay Leibniz boldly declares that the kings of his own age will return again in the future. In the longer version of the essay, Leibniz is more careful. In the process of composing this revision, he writes and then strikes out a version of the claim that these kings will return (F 68n). And he also chooses not to

⁵⁵ This is made especially clear in Overbeck’s Letter to Leibniz of 7 July 1715 (F 88f.). See Rescher, *On Leibniz*, 128. Rescher seems to follow Ettliger in taking this letter to be written by Leibniz (cf. Hübner, ‘Die notwendige Grenze,’ 66n19).

⁵⁶ See note XX [20], above.

repeat the claim from the shorter essay that he himself will return to write the history of Brunswick. He notes instead:

However, it could not be demonstrated from the calculus alone that precisely Leopold I or Louis XIV or myself or another individual would return, because if some others return often it is not necessary that all return. (F 72)

That is, while the combinatory argument applied to biographies of determinate length demonstrates that *at least one* future life will be a ‘return’ of a prior one (that is, that a year of some such life would need to be described with a biography that has already been used), nothing in the argument requires that any *particular* individual will return.

Leibniz might be thought to move somewhat closer to that conclusion by considering matters in terms of the whole collection of annual biographies and by expanding them from recording a single year to recording periods that are significantly longer. Then we can see that it would necessarily happen that a whole year of humanity would at some point return such as it was before, with all its circumstances. And it can be demonstrated in the same way that there would be a time in which a whole century [or ‘age’: *seculum*] would return; indeed, a whole millennium; or even a whole million or a millionion [i.e. 10^{12}] years. (F 70f.)

Here the returns would not be of isolated individuals, but of whole world ages. But this expansion of the scope of the history and hence of the return obviously does not change in any fundamental way the nature of the argument or its conclusions. For even expanding the history in question to cover a trillion years does nothing to establish the probability that that trillion-year history will return.

Unlike in the earlier ‘De l’horizon de la doctrine humaine’, here Leibniz makes no attempt to calculate the number of chronicles generated by the combinatoric and hence also no attempt to determine the time before which a return would be necessary. Overbeck does take it upon

himself to estimate the number of books that were at issue in their discussions on *apokatastasis*, expressing it as the numeral ‘1’ followed by 10^8 zeros (F 92). Overbeck must be referring either to the number of possible annual biographies of a single individual or, more likely, the number of possible ‘public histories’ of a year on earth (each were stipulated to be 10^8 letters long). But the largest book that Leibniz considers in the essays is much longer: the collection of 10^{12} years’ worth of 10^9 annual biographies each of which are 10^8 letters long. The length of that book is 10^{29} letters, and hence the number of such books would contain somewhere between 10^{29} and 10^{30} digits. And the number also represents, approximately, the number of years before the necessity of the return of the history in one of these books. (Multiplying that number by the trillion years covered by each history adds a comparatively paltry twelve zeros.) We can thereby see that whether the history covers a year or a trillion years makes comparatively little difference to the time before the necessity of a return. An additional nine Latin letters in the history would by itself increase the number of histories by two trillion, thus surpassing the difference in time-to-necessity-of-return between an annual history and a trillion-year history, assuming each had the same number of letters. In short, it is the degree of detail in the history that determines the length of the combinatorically calculated ‘great platonic year’.

Consider the other extreme. The minimal possible detail in a history would be such that there are just two possible histories and thus one ‘bit’ of information. For example, we might have a set of histories devoted solely to the question whether or not the temperature dropped below freezing in Hannover that day.⁵⁷ In this example, the period before which the return of an identical history would be necessary would be just two days: the third day will necessarily repeat the history of one of the prior two days. Of course, the repetition could come already after the first day: the argument establishes that two days is the *maximum* time during which unique histories can be used, but it obviously could freeze two days in a row. Moreover, as far as the combinatory argument is concerned, it could happen that this single history is repeated an

⁵⁷ The example is modified from Rescher, *On Leibniz*, ch. 6.

infinite number of times without the other possible history every being accurate: it is only because of our knowledge of physical facts that we are justified in thinking that it can be sometimes above and sometimes below freezing in Hannover.

In this way, the combinatory argument can establish the time before the necessity of a return of some history or other, but it cannot establish that there will be a return of the history used to accurately described our own world age or lives. Whether or not the combinatory argument establishes that a world age like mine inhabited by an individual just like me will return in the future, the fact that there are only a finite number of such histories has definite implications for how I can *conceive* of a possible infinite future for myself.

4. BEYOND COMBINATORY EXHAUSTION: THE PRINCIPLE OF INTERCONNECTION AND AN (EQUIVOCATING) ARGUMENT FOR *TOTAL* RECURRENCE

In the earlier of the two ‘Apokatastasis’ essay drafts, Leibniz argues for the ‘revolutions’ solely in terms of combinatory exhaustion. But in the revised draft, he invokes a metaphysical principle of interconnection or harmony in order to move the argument closer to an argument for a total recurrence. After acknowledging that the combinatory argument alone cannot demonstrate that the any given individuals (such as the kings of Europe or Leibniz himself) will return, Leibniz offers an alternative means to approach that conclusion. In terms the calculus of combinations, ‘it is not necessary that all return’.

Nevertheless, since it is established by metaphysical reasons that the present is pregnant with the future, it can be concluded that when one age returns exactly enough [*exacte satis*], more will return exactly enough too, since it is fitting that nearly the same [*ferè eadem*] effects should return when nearly the same causes return. (F 72)

This deployment of the principle of interconnection marks the end of the main line of argumentation of the essay. But Leibniz is silent regarding what exactly we are meant to conclude from this principle. Since he fails to state a conclusion, we should consider what

principle Leibniz means to invoke here and what conclusion that principle might justify in conjunction with the combinatory argument.

Leibniz expresses the basic thought behind this principle in the *Discourse on Metaphysics* when he claims that ‘when we consider carefully the connection of things’, we see that each thing possesses ‘traces of everything that happens in the universe’ (§§8–9, A VI. iv. 1541f/AG 41f.). In later years, Leibniz favors the metaphor used here: the presence of all these ‘traces’ means that ‘the present is pregnant with the future; the future can be read in the past; the distant is expressed in the proximate.’⁵⁸ In its fundamental form, the principle expresses the perfect harmony and mirroring among all the infinite substances in the universe. Of course, exactly *how* all these infinite substances are connected is beyond the horizon of human knowledge and indeed beyond any conception of things short of infinite completeness. However, Leibniz introduces the principle into the present argument to establish that there is also regularity and connection among things understood in the incomplete or abstract way that could be described in books: if A causes B, then insofar as there is a reason why A causes B, we can also conclude that a different thing that *appears* like A in the relevant respects will cause something that *appears* like B in the relevant respects. Call this ‘the principle of interconnection among *sensibilia*’. Without assuming some such principle, reasoning would be restricted to abstract thinking and could not be applied to reality.⁵⁹

⁵⁸ *Principles of Nature and Grace* §13, GP vi. 604/AG 211. See *Monadology* §22, AG 216; *New Essays*, Preface, A VI. vi. 55; and Letter to de Volder of 21 January 1704, GP ii. 262/L 533.

⁵⁹ Hence Leibniz remarks in the *New Essays* that humans surpass beasts insofar as they not only *expect* that ‘what has happened once will happen again in a case which is similar’ (i.e. a case that *appears* similar), but are also able to ‘judge whether the same reasons are at work.’ By applying ‘necessary inferences’ based on the knowledge of such reasons, humans have ‘a way of foreseeing events without having to experience sensible links between images’ (Preface, A VI. vi. 50–51). Hence the principle that

Leibniz does not repeat the claim from the earlier draft that the kings of his age or he himself will return. This suggests Leibniz has not completely overcome his doubts. But Leibniz implies here that such a conclusion is at least made probable by the principle of interconnection among *sensibilia*: if the William of Orange of our own age returns *exacte satis* in the future with his all his deeds, then we should expect this return to be accompanied by the return of other individuals connected to him in our age—not in all their infinity of course, but also *exacte satis*. Thus, if William of Orange returns, King George must return; and if George returns, Leibniz must, in turn, return too.

Moreover, this thought generalizes beyond the connection among individuals of one time and even beyond human individuals. The combinatory argument establishes that at least *some* part of the universe will return. And Leibniz is causally connected to (or, if one prefers, stands in a pre-established harmony with) *every* part of the universe, no matter how small or distant. For the universe is ‘an infinity of infinities infinitely replicated’:

That is, each small portion contains, in an infinity of ways, a living mirror expressing the whole infinite universe that exists with it; so that a sufficiently great mind, armed with a sufficiently penetrating view, could see here everything everywhere. But there is much more: it could even read the whole of the past there, and even the whole infinitely infinite future, since each moment contains an infinity of things, each of which envelops an infinity, and since there is an infinity of moments in each hour or other part of time, and an infinity of hours, of years, of centuries and eons in the whole of future eternity.⁶⁰

nothing happens without a reason is confirmed by experience itself ‘to the extent that we can penetrate things’ (A VI. iv. 1651.10–15/AG 29).

⁶⁰ Gr 554; translated at leibniz-translations.com/pascal.

Thus, if an hour of an individual life history (or even an arbitrarily small portion of that hour) reoccurs, and if that hour (or millisecond) returns not just down to the greatest detail imaginable, but also down to all the detail there is *in fact*, then, given Leibniz's view that nothing in the world is explanatorily independent of anything else, we can say that the return of the history of that individual's hour (or millisecond thereof, etc.) entails the return of the world as a whole. In short, because of the perfect interconnection of things, the return of *anything* at all entails the return of *everything*.

Taken together with the combinatory argument, the principle of interconnection suggests a compelling argument for the return of the same or *apokatastasis* that the ancients might have been tempted to accept:⁶¹

- (1) Given the finite number of possible written histories, it is necessary that in the infinity of future time at least *one* portion of history (even one covering an arbitrarily long period of time with an arbitrarily great degree of detail) will return an infinite number of times down to the smallest detail.
- (2) Given the perfect interconnection of things, if *any* portion of history (even one that is arbitrarily short) returns in all its details, then *every other part of the universe* will also return down to the smallest details.

∴ It is necessary that *everything* will return in all its details an infinite number of times.

⁶¹ Leibniz notes that we do not really understand the ancient doctrine of the eternal recurrence since the arguments in support of the doctrine are not preserved (F 64, 74). Long and Sedley agree that this feature of Stoic cosmology is 'asserted rather than proved in our surviving evidence.' Their suggested reconstruction of an argument from Stoic premises actually parallels the argument below fairly closely (*The Hellenistic Philosophers* 1:311).

In this way, the argument from the later draft offers what Leibniz acknowledges was missing from the first: a reason to think that *our* world age and *our* lives will return.⁶² And, significantly, the argument does not depend on any stipulations regarding the future state of humanity.

One way to resist the argument would be to deny the thoroughgoing interconnection of all things on which the second, totalizing premise rests. The Stoics themselves would presumably agree that the doctrine of the eternal return of all things stands or falls with their view that all things stand in a relation of ‘sympathy’, or universally mutual influence, under the governance of a single ineluctable fate.⁶³ Leibniz, too, accepts the universal scope of fate and, more generally, what we might call the ‘co-fatedness’ or, in Leibniz’s term, ‘the Stoic connectedness [*connexion*]’ of all things.⁶⁴

⁶² Fichant, by contrast, claims that the second and more definitive version of the essay moves *away* from the thought of a total return since Leibniz abandons the claim that there will be a future Leibniz. For Fichant, this ‘moderation’ is reflected in the fact that second draft is titled simply ‘apokatastasis’ without the ‘pantōn,’ i.e. ‘of all’ (‘Postface,’ 143–44).

⁶³ See René Brouwer, ‘Stoic Sympathy,’ in E. Schliesser, (ed.), *Sympathy: A History* (Oxford: Oxford University Press, 2015), 15–35. In causal terms, the Stoics say ‘that it is impossible that where all the same circumstances obtain with respect to the cause ... that a result which does not ensue on one occasion should ensue on another. For if this happened, there would be an uncaused motion’ (Alexander, *On Fate*, 192; in Long and Sedley, *The Hellenistic Philosophers*, item 55N).

⁶⁴ GP iv. 523–4/L 496. For an account of the proximity of Leibniz’s views in this area to the Stoics, see David Forman ‘Leibniz and the Stoics: Fate, Freedom, and Providence,’ in J. Sellars (ed.), *The Routledge Handbook of the Stoic Tradition* (Abingdon: Routledge, 2016), 226–242 at 226–229. The sort of determinism required to reach the conclusion of a total recurrence (i.e. a perfectly cyclical cosmology) depends on whether the world is eternal. If the past is *finite*, then the conclusion requires not only the principle that identical causes issue in identical effects, but also the principle that identical effects follow

But while the second, totalizing premise rests on a principle of interconnectedness central to Leibniz's metaphysics, the role of the principle in the argument is uncertain. As formulated above, the argument itself rests on an equivocation: the first premise appeals to the maximum detail of a history portion *sub ratione doctrinae humanae*, whereas the second appeals to the maximum detail of a history-portion *sub ratione rigoris metaphysici*.⁶⁵ That is, the argument slides from the concept of a history portion with an *arbitrarily great* degree of detail, to the concept of a history portion with *metaphysically complete* detail. And the *infinite* detail in the account of a world age that would be needed to underwrite the totalizing second premise without qualification would increase to *infinity* the period before which a return of *any* history-portion would become statistically necessary according the first premise. In short, insofar as we consider things *sub specie rigoris metaphysici*, the combinatory calculation tells us that *there is no necessity of a return of any history portion at all*.

Nevertheless, it seems that the argument could be made sound if there were a perfect interconnection among things not only *sub ratione rigoris metaphysici*, but also among things

from identical causes. If the past is instead *infinite*, then the latter principle is not required. Leibniz, for his part, usually follows Christian orthodoxy in rejecting the past eternity of the world. But this will not help Leibniz avoid a cyclical cosmology of the future insofar as his account of the 'mirroring' of substances implies that we can infer the cause from the effect ('Primary Truths,' A VI. iv.1648/AG 34). Leibniz avoids a thoroughgoing cyclical cosmology instead by insisting on the infinite complexity of creation.

⁶⁵ The equivocation therefore can be compared to the *sophisma figurae dictionis* (namely *a dicto, secundum quid, ad dictum simpliciter*) that Kant identifies as underlying all metaphysical illusion, namely the equivocation between 'empirical' and 'transcendental' meanings of the terms involved (or, more specifically, the equivocation between the schematized categories that figure in all possible *human* knowledge and the *pure* categories that have a wholly intellectual content). See Kant, *Kritik der reinen Vernunft* (Riga: Hartknoch, 1787), 411 and *Jäsche Logik*, AA ix. 111f.

understood at some level of abstraction that would admit of a finite description, that is, among *sensibilia*. Then, the second, totalizing premise could be made to accord with the combinatory premise. This would be the case if the past and future could be read perfectly from the present not only by God, but also by some hypothetical finite being such as a Laplacean demon. Leibniz would obviously deny that such a being could predict the future in all its infinite detail; no finite being could predict even some obvious immediate future in this way. But it would not have to. All that is needed is that it be able to predict the future at some given level of abstraction from the absolute. It is true that, for Leibniz, no interconnection among *sensibilia* could be characterized by a demonstrative ‘certainty’: no future predicate or event is contained with certainty in any merely incomplete concept of a substance or in a substance insofar as it is conceived only *sub ratione generalitatis* (A II. ii. 52/AG 76). But this implies only that a perfect interconnection among *sensibilia* would be a contingent feature of this world rather than a necessary feature of any world.

Although Leibniz clearly thinks that a principle of interconnection among *sensibilia* strengthens his conclusion regarding the revolutions or returns, he remains silent on the question whether that interconnection is perfect or instead imperfect or loose. But he gives no indication in the draft that he considers it to be loose. He does not say, for example, that if a present cause were to return ‘exactly enough’, effects would return that warrant the use of a history that is *somewhat like* the history in which the present effects appear. Nor does he say that it is *somewhat likely* that effects would follow that warrant using the same history for the future effects as were used for the present ones. Instead, he says only that it is fitting that when one individual or world age returns ‘exactly enough’ that more will return ‘exactly enough’ too. Leibniz proceeds in the sequel, accordingly, not to deny a perfect connection between abstractly conceived causes and effects, but rather to stress that he is talking only about things returning ‘exactly enough’ to warrant using the same history to describe it: when a past age does return, it will not do so not ‘completely in all respects’ (*omnino quoad omnia*) but only ‘with respect to what can be sensed’ (*quoad sensibilia*), that is, with respect to ‘what can be described in books’ (F 72).

It is in this context that Leibniz first introduces into the discussion his doctrine of the infinite diversity of every part the continuum. The basic structure of the main line of argumentation leaves open the possibility that when a past age returns there will be differences between the old and new ages that could not be included a book of the stipulated length. But the doctrine of the real infinity of things implies that there will *always* be differences no matter the length of the book in question. One could deny this only with very different metaphysical assumptions:

Certainly, if bodies consisted of atoms, all things would return precisely into the same collection of atoms, as long as new atoms were not added from elsewhere; just as if Epicurus's world were supposed, which is separated from other worlds by the spaces between worlds. But such a world would thus be a mechanism that a creature of finite perfection could know perfectly, which does not hold good in the real world. (F 72)

That is, in the atomistic world of Democritus, Epicurus, and Lucretius, the returns would be metaphysically *exact*: the old and the new ages would be literally indiscernible—as long as the stipulated length of the histories were long enough to include all the finite number of possible states of all the atoms in the universe. In short, Leibniz does not deny a perfect connection among *sensibilia*, and he also does not deny ~~that~~ the implication of such a connection that returns will to *total*; he denies only that the returns will be metaphysically *exact*.

It seems clear, then, that Leibniz introduces the doctrine of the infinite diversity of the continuum to ensure the proper *interpretation* of the conclusion regarding the revolutions, not to withdraw or undermine that conclusion.⁶⁶ This is consistent with his earlier attempts at such an

⁶⁶ Phillip Stoellger, by contrast, calls the introduction of the infinite diversity of the continuum into the argument 'die schlagende Widerlegung der Apokatastasis'. See 'Die Vernunft der Kontingenz: Vom Umgang der Vernunft mit Widervernünftigem und Übervernünftigem,' in I. Dalferth & P. Stoellger (eds.) *Vernunft, Kontingenz und Gott: Konstellationen eines offenen Problems* (Mohr Siebeck: Tübingen, 2000), 73–116. Di Bella concludes, similarly, that the main point here seems to be that the 'combinatorial

argument: the Latin *Horizon* fragment says that new human beings will lead lives that are thoroughly the same ‘ad sensum’ as those that others have lead (F 54); and the essay ‘De universo immenso aeternoque’ says that prior world ages will return ‘exacte ad sensum’ (F 58). Thus when Leibniz briefly recalls the conclusion of his ‘Apokatastasis’ argument in a letter to Overbeck, he emphasizes precisely this point: the differences between old and new must consist in mere *imperceptibilia* (F 86; cf. F 72).⁶⁷

Despite all this, Leibniz can do no more than leave open the bare logical possibility that a perfect interconnection among *sensibilia* obtains in the actual world. And such an interconnection might even appear doubtful. We know from experience that some of the small causes that might not be included even in the very detailed histories that Leibniz envisages can have large-scale effects that would. Insofar as such difference-making small causes are excluded from the histories, there would be no interconnection of the sort that Leibniz needs to reach the conclusion of a total return: the return of one individual or age need not be accompanied by the return of adjacent individuals and ages. Consider an example relevant to Leibniz’s implication that the return of the biography of King George would have to come together with the return of the biography of Leibniz himself spending his last years in Hannover: ‘a fly could change the

recursivity is overcome’ by the real infinity of things (*The Science of the Individual*, 362). Also see Fichant, ‘Postface,’ 194–197 and ‘Ewige Wiederkehr oder unendlicher Fortschritt: Die Apokatastasisfrage bei Leibniz,’ *Studia Leibnitiana* 23 (1991), 133–150 at 145–150.

⁶⁷ Leibniz amplifies this point in the letter in a way that goes beyond the essay: ‘And these differences would themselves be lessened in the course of repeated revolutions’ (F 86). Perhaps Leibniz is alluding to the fact that the less detailed and hence less exact histories have a shorter time to the necessity of a return and so *ceteris paribus* will happen more often. But the combinatory argument alone does not justify the conclusion that less exact histories will *actually* return sooner.

whole government of the state if it buzzed around a great king's nose just as he is occupied with important proposals.'⁶⁸

The argument for a total return of the same thus hinges on whether there is any finite account of the world that could include all the small causes that make a difference to predicting what will be observable in the future. But Leibniz's examples of difference-making small causes hardly rule out such a possibility. After all, the atomist could give a parallel account of human predictive fallibility: a perfect prediction of the future would require a knowledge of all the many difference-making small causes; and that would require a knowledge reaching the atomic level, that is, a knowledge beyond any human capacity, but still finite.

Leibniz does assert in one letter that no finite account of things could include all the difference-making small causes needed to predict the future appearance of things:

There is no devil or angel who can foresee all these small things which give rise to such great events, because nothing is so small which does not arise from a great variety of even smaller circumstances, and these circumstances from others again, and so on to infinity. ... [A]nd often the springs [*les ressorts*] are set up as in a rifle, where the slightest action that occurs makes the whole machine discharge. Therefore one could not be certain of the detail of any future event through the consideration of causes or through foresight unless one is endowed with an infinite mind.⁶⁹

⁶⁸ Likewise, a seemingly unnoteworthy change in the position of a cannon could make a difference in the outcome of a war and hence change all subsequent history ('Vom Verhängnisse,' GP vii. 119).

⁶⁹ Letter to Princess Sophie of October 13/23 1691 (A II. ii. 454). Translation from Lloyd Strickland (ed. and trans.) *Leibniz and the Two Sophies: The Philosophical Correspondence [Two Sophies]* (Toronto: Centre for Reformation and Renaissance Studies, 2011), 78. Fichant ('Postface', 144–145 and 'Ewige Wiederkehr oder unendlicher Fortschritt,' 196–7) and Di Bella (*The Science of the Individual*, 363) also discuss this letter in connection with the *apokatastasis* essays.

Leibniz may be exaggerating here his own opposition to the possibility that a finite mind could predict the future.⁷⁰ He certainly does not introduce any convincing empirical or metaphysical reasons for such an outright denial. Nevertheless, his willingness to entertain this position in the letter underscores the fact that Leibniz also cannot positively establish that a perfect interconnection obtains among *sensibilia*. And this would explain why he never claims in the revised essay that he himself will return or that there will be a total return. He claims only, more modestly and vaguely, that when one individual or age will return (as they must), ‘more’ (*plura*) will return too.⁷¹

In the end, Leibniz cannot demonstrate that he himself or his own world age will return—even in the qualified way that can be described in books. Indeed, he cannot even demonstrate that the probability of such returns is greater than zero. However, the argument for a total return of the same outlined above does not rest on any premises he would consider false and does not issue in a conclusion Leibniz must reject: the conclusion that his own world age will return is

⁷⁰ The context, after all, is his attempt to dissuade his correspondent from giving credence to contemporary alleged *human* prophecies. In fact, even here, Leibniz stresses that it is the *detail* of any future event of which no finite mind could be certain, predictions of the future in very *general* terms being more or less easy (A II. ii. 454–5; cf. GP iii. 191). Speaking to a different correspondent about such alleged human prophecies, Leibniz affirms again that ‘the present is pregnant with the future,’ adding: ‘I would not even oppose someone who maintains that there are spheres [*globes*] in the universe in which prophecies are more common than in ours ...; perhaps there may also be spheres in which *genii* have greater leave than they have here below to interfere with the actions [*se meler des actions*] of rational animals. But when it is a question of reasoning about what actually happens here, our presumptive judgment must be based on what is usual in our sphere’ (GP iii, 403–4/AG 195–6; cf. GP vii. 531 and *New Essays* IV.ix.16, A VI. vi. 505–509). On the predictive or divinatory power of *genii*, see Gr, 147.

⁷¹ I am grateful to Jeff McDonough for his input on this issue.

consistent with his commitment to the infinite diversity of the continuum and even his considerations regarding difference-making small causes. Instead, the argument is inconclusive. That is, it seems that it remains an open possibility that total returns *could* be demonstrated: what is needed is a demonstration that there is a perfect interconnection of things at some finite level of comprehension that could be described in books, that is, among *sensibilia*. In sum, to determine whether a return of our own world age is necessary, probable, or impossible, we would need a deeper insight into nature.

5. PROGRESS IN INFINITUM AND POST REVOLUTIONES

In the concluding paragraphs of both drafts of the ‘Apokatastasis’ essay, Leibniz returns to the theme from the earlier essays ‘De l’horizon de la Doctrine’ and ‘De universo immenso aeternoque’ that he brackets in the main part of the argument: the advancement of capacity minds to comprehend ever-longer letter-strings. This concluding portion of the essay is even more cryptic than the main argument. But the underlying assumptions are familiar from the earlier essays: (1) that the progress of knowledge is a progress in discovering truths that can be expressed in sentences; and (2) that if humanity were to continue in its present state, eventually everything that is said will have been said before. In short, if humanity or even a future more advanced species is limited to comprehending sentences of some given length, then minds will eventually reach a point when progress in knowledge would cease: new minds could discover only truths that have already been discovered and demonstrated before. Hence Leibniz remarks here that if there are to be ever-new discoveries and hence a continual progress of minds, the theorems would have to grow *in size* into infinity (*crescere magnitudine in infinitum*) (F 64, 74).

Leibniz gives us only a hint of what this new knowledge might be like: just as we can derive truths from the definition of a circle by means of demonstration, so too a future more advanced mind will be able to demonstrate truths, including future contingent truths, from the definition of a fly, or even from the definition of an individual fly (F 76). In this scheme, the infinite variety in the content of sensible experience is important only insofar as it is the source of a never-ending

supply of ‘new material for and new items of knowledge, i.e. in theorems of increasing length’ (F 76; cf. 64f.). Leibniz claims, further, that a metaphysical principle of fittingness allows us to believe that minds will in fact exist in the future with such an ever-increasing capacity to comprehend, discover, and demonstrate these ever-lengthier theorems: ‘things must progress towards the better, either gradually or even sometimes by leaps’ (F 74).⁷²

The claim that there is a progress in knowledge into infinity might look like a rejection of the thought of the revolutions.⁷³ After all, the thought that the future Leibniz will write the same theorems as the Leibniz of our age hardly seems compatible with the kind of progress Leibniz describes here. Moreover, immediately before introducing the topic of progress, Leibniz apparently rescinds his earlier stipulation that humanity will continue to endure in its present state (F 62, 64, 68, 70, 72): the argument that proceeds under the stipulation of a constancy in human nature leads to the conclusion that there will be the infinite revolutions of the platonic great year; and yet ‘it is not consonant with divine harmony always to play the same chord’ (F 74).

⁷² In a letter to Letter to Sophie (of 6 Feb 1706), Leibniz says that the order of the universe suggests that there are rational souls more perfect than ours that we can call ‘genii’ (i.e., demons, angels or higher spirits) and that ‘we could well be of their number one day’ (GP vii. 569; cf. GP iii, 344/*Two Sophies*, 349; cf. 312). Cf. *New Essays* IV.xvi.12, A VI. vi. 472 and xvii.16, A VI. vi. 490. The irony here is that the power to demonstrate future contingents that Leibniz ascribes to future minds presupposes the sort of interconnection among *sensibilia* on which the argument for total returns rests.

⁷³ Compare Leibniz’s comment from around 1689 that he believes that ‘the world continually increases in perfection and does not return cyclically as if in revolution [*per revolutionem*]’ (A VI. iv. 1642; translated by D. Rutherford as ‘On the Continually Increasing Perfection of the World’ at philosophyfaculty.ucsd.edu/faculty/rutherford/Leibniz/translations.php).

Such claims might suggest that Leibniz's overall argument in the essay takes the form of a *reductio* or indirect argument: if the conclusion regarding the revolutions can be denied by appeal to a metaphysical principle of progress, then we can also positively deny the questionable stipulation on which the conclusion rests, namely that human nature will remain constant during all the times under consideration. However, the argument that the capacity of minds must make progress *in infinitum* is independent of the main line of argumentation for the revolutions. Indeed, in the first draft, the progressive capacity of minds to comprehend ever-longer letter-strings appears in merely hypothetical terms: such progress would be necessary *if* there is to be an infinite progress in the discovery of demonstrable theorems (F 64). And a hypothetical claim is ill-suited to refute any part of the main argument. Alternatively, we might read the concluding paragraphs as a direct denial of the stipulation on which the argument for the revolution depends. On either of these readings, the argument for the revolutions is cancelled by the final paragraphs regarding the progress of human knowledge.

However, if the essays had the ultimate aim of either denying the revolutions or rejecting the argument for the revolutions, then we would reasonably expect Leibniz to give us some indication of this. But whereas Leibniz flags the main conclusion of the combinatory portion of the argument in both drafts with a 'Q.E.D.' (F 62, 68), he nowhere indicates that he has demonstrated a further conclusion in the final paragraphs that cancels an earlier one—even though this would be the dominant conclusion of the essay.

More importantly, there is no straightforward contradiction between the claim that progress in knowledge can continue *in infinitum* and either the main conclusion regarding the revolutions or any stipulation under which alone that conclusion would follow. Even if a principle of divine harmony or plenitude establishes that human nature will not always remain the same, nothing in the principle itself guarantees that these differences would appear in a history of a given finite length: they might all be found among what, for us, are *imperceptibilia*.

To be sure, some conception of the current state of humanity does shape Leibniz's estimation of the number of letters required to relate a given history portion 'sufficiently.' But nothing that

Leibniz actually says in the drafts gives us reason to deny that we could ‘sufficiently’ describe in a book of some given finite length what these ever-advancing beings are doing. For the histories do not need to include all these theorems of ever-increasing length. Summaries would be enough. And maybe even that wouldn’t be necessary, depending on one’s tolerance for exactness. In our own prospective histories of future ages populated by such beings, these ever-lengthening theorems would be akin to the small causes that escape our notice without preventing us from having a historical knowledge of the age that touches on the generalities that fit into the history.

Reading Leibniz in this way also fits with his important initial statement on progress a few paragraphs earlier. Following his discussion of the fact that each of the infinite revolutions will have its own imperceptible individuating differences, Leibniz adds:

And for this reason, it could happen that things gradually [*paulatim*] make progress toward the best, albeit imperceptibly, after the revolutions [*post revolutiones*]. It could even be asked whether those whose history is to be repeated more than once would be the same, equipped with a soul numerically the same (perhaps progressing gradually), or whether they would be actually different, although very similar. (F 72)

That is, since there will always be imperceptible *differences* from revolution to revolution, there could also be imperceptible *progress* from revolution to revolution.⁷⁴

In this way, Leibniz revisits the conclusion of his earlier ‘De universo immenso aeternoque’. There, he concludes that despite the ‘platonic periods’ to which finite minds are subject, ‘knowledge will be able to progress into infinity’ (F 58). If human minds experience platonic years, then it is fitting that ‘the same human being returns, not so that he simply returns to the earth, but so that in a spiraling or coiled way, as it were, he progresses thenceforth to something greater’ (F 58). Thus, the returns should be depicted not as a circle (F 56), but rather as a

⁷⁴ Antognozza and Hotson thus find the drafts to present an image of progress ‘as a continually ascending spiral, which reconciles the concept of a cyclical return with that of unending progress’ (*Alsted and Leibniz*, 212).

‘secondary cycloid’ (F 58) or as ‘a spiraling progression or Platonic year with advancement, so that it is possible to believe that the same minds return to pick up the thread’ (F 60).⁷⁵ That is, the progress occurs not in an uninterrupted way, but rather from revolution to revolution or *post revolutiones*.

Here we can see a further sense in which Leibniz’s presentation could be considered inspired by his engagement with Petersen’s Origenist universalism. A central feature of Petersen’s defense of universalism is his claim that we mistakenly think that Scripture refers to damnation without end where it speaks merely of punishment for ‘ages of ages’ (*aiōnes tōn aiōnōn, saecula saeculorum, or periodorum periodi*)—an ‘age’ being what we commonly call a ‘world’.⁷⁶ It is with this understanding of an ‘age’ and ‘world’ in mind that Petersen endorses Origen’s provocative claim that ‘this world, which is itself called an age, is said to be the conclusion of

⁷⁵ Here Leibniz contrasts the ‘direct’ progress represented by the ‘primary cycloid’ with the ‘regressive’ or ‘coiled’ advancement represented by a ‘secondary cycloid.’ Leibniz must be referring, more particularly, to what John Wallis calls a ‘contracted’ secondary cycloid. See John Wallis, *Tractatus Duo. Prior, de cycloide et corporibus inde gentis; posterior, epistolaris in qua agitur de cissoide, et corporibus inde gentis, et de curvarum* (Oxford: Lichfield, 1659), 77; and *Mechanica, sive de motu, tractatus geometricus* (London: William Godbid, 1670) 388, 428; cf. A I, xiii. 450; and A VII. vi. 506–7. This curve, equivalent to what is now commonly called an ‘extended’ or ‘prolate’ cycloid, progresses with respect to its linear base in a looping or, as Leibniz says here, [in a](#) ‘regressive’ or ‘coiled’ way: the curve regresses with each revolution of its generating circle, but still makes overall progress. Fichant supposes that by ‘secondary cycloid,’ Leibniz instead means an epicycloid (‘Postface,’ 109–110; cf. A VII. iii. 486 and A VIII. ii. 123–4). (I am grateful to Siegmund Probst for tracking down these references to Leibniz’s different uses of the term ‘secondary cycloid.’)

⁷⁶ *Μυστήριον ἀποκατάστασεως πάντων*, ‘Gespräch’ II, 19. See Leibniz, Petersen review, 4, 35.

many ages'.⁷⁷ To give a sense of what salvation looks like on this view, Petersen quotes Origen's account of the resurrection as the transformation of the earthly body into the glory of a spiritual body when the restitution of all is attained (*cum omnia restituentur*):

But this is to be understood as happening not suddenly but gradually [*paulatim*] and in piecemeal fashion, over the infinite and immeasurable elapsed ages, seeing that the process of emendation and correction takes place little by little and in each individual.⁷⁸

Here Origen offers a model for Leibniz's own reconciliation of successive world ages and a resurrection that could sustain our hope for the future.

For Leibniz, however, the image of a progress occurring over infinite world ages serves a different purpose. The thought of the revolutions reminds us that while any finite history can represent moments of regress or progress, the overall trajectory of the infinite universe and its minds remains *necessarily* hidden from any finite mind. This is why our own meager experiences and historical knowledge of regress can never justify any conclusions about the overall trajectory of the universe. Thus, regarding the claim that principles of fittingness establish that things progress 'gradually or even sometimes by leaps' (*vel paulatim vel etiam aliquando per saltus*), Leibniz remarks here: 'For although things constantly seem to get worse, this should be thought to happen in the same way that we sometimes step back in order to jump with a greater impetus' (F 74; cf. F 58).

The conclusion of the 'Apokatastasis' essay thereby serves as a vivid illustration of a central point from the *Ultimate Origination of Things* of 1697. Leibniz claims there that the afflictions

⁷⁷ *Μυστήριον ἀποκατάστασεως πάντων*, 'Gespräch' I, 68; quoting *On First Principles* II.iii.5. Jakob Thomasius, by contrast, approvingly quotes Jerome's claim that Origen's view there are 'innumerable worlds succeeding each other in eternal ages' is 'supremely heretical' (*De Stoica mundi exustione*, Diss. XVII.3, quoting *Apologia adversus Rufinus* 2.12; cf. Theses 16–17 and Diss. XVII–XIX).

⁷⁸ *Μυστήριον ἀποκατάστασεως πάντων*, 'Gespräch' I, 43; quoting *On First Principles* III.vi.6.

suffered by the good are not contrary to divine justice: they can be considered as akin to ‘stepping back in order to leap [*ut saltum facias*] forward with greater force’ (GP VII 308/AG 154). Although the world may *appear* to finite knowers as so far from improving that it can even seem to be getting worse, we can conclude on general metaphysical grounds that ‘this very destruction and burying leads to the attainment of something better’ (GP VII 308/AG 154f.).⁷⁹ Leibniz illustrates the significance of this abyss between our historical knowledge and the infinite universe with an image reminiscent of Plato’s cave:

We know but a small part of the eternity which extends without measure, for how short is the memory of several thousand years which history gives us. But yet from such meager experience we rashly make judgments about the immense and the eternal [*de immenso et aeterno*], like people born and raised in prison or, if you prefer, in the subterranean salt mines of the Sarmatians, people who think that there is no light in the world but the dim light of their torches, light scarcely sufficient to guide their steps. [GP VII 306/AG 153]

Progress established on metaphysical or theological principles cannot be confuted by any finite account of the details of the infinite universe.

The thought of the revolutions sharpens this point in a dramatic way. The idea of an eternal return of the same or of platonic revolutions represents an extreme denial of progress: if

⁷⁹ Leibniz connects this picture with an account of the next world in the letter to Sophie (of 6 Feb 1706) mentioned above: ‘And just as there are grounds to think that the universe itself develops more and more, and that everything tends towards some goal ... it can likewise be believed that souls, which endure as long as the universe, also proceed to get better and better (at least physically), and that their perfections carry on growing; although more often than not this happens only insensibly, and sometimes after large steps backwards. It is often necessary to move back for a better jump: death and sufferings would not exist in the universe if they were not necessary for great changes for the better’ (GP vii. 568/*Two Sophies*, 348–9).

everything happening now will happen again an infinite number of times in the future, then things cannot be said to be getting better overall. Taken in an absolute sense, the revolutions thus represent a naturalism that denies a wise governance of the universe and of minds by denying that injustice and other imperfections of the world here below will receive compensation, once and for all, in the world to come. But the discussion of progress *post revolutiones* that concludes the final ‘Apokatastasis’ essay draft shows how even the most extreme denial of progress *regarding what we can experience or write in books* remains consistent with a form of progress of minds *in infinitum*. And this has an additional important implication that Leibniz should accept: the fact that we have general metaphysical reasons for supposing that the future will hold something better for us does not itself imply that such progress is one we could actually experience or even imagine.

The ‘Apokatastasis’ essay reminds us, in short, that a general conception of progress, even of a progress of minds, does not imply a progress at the level of appearance or ordinary history. The essay thereby offers an important insight into the significance and scope of the metaphysics or rational theology that Leibniz thinks can ground a hope for the future. In particular, it shows that natural explanation or ordinary history must be considered radically autonomous with respect to such theological principles: the operation of grace in nature might be hidden from us on account of the very constitution of our cognitive faculty.