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Chapter 3
Leibniz's Rationality: Divine Intelligibility and Human Intelligibility

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1 Introduction

My primary purpose in this paper is to account for the presence of and the relations between two pictures of rationality – termed by Marcelo Dascal and Heinrich Schepers "radical" and "softer" reason (Dascal 2003) – in Leibniz's metaphysics. In his reply to Schepers in the *Leibniz Review*, Dascal has written:

> The issue at stake [...] is not the *existence* of 'soft rationality' or 'something like it' in Leibniz's writings, which Schepers, in spite of this attempt to downgrade its specificity, does in fact acknowledge. Nor is it the *existence* of a 'radical picture', which Schepers, in spite of his attempts to confine it to the SG mega-project, actually upgrades to the role of the paradigm of *recta ratio*. The issue is to what extent these pictures differ and how they are related (Dascal 2004: 143).

I fully agree with the last line of the passage above, namely, that a major challenge facing Leibniz's interpreters is to describe adequately the relations between these two pictures or rather modes of rationality.

Accordingly, I will suggest that Leibniz's two modes of rationality do not exclude one another but rather play complementary roles in his metaphysics. In doing so, I will also attempt to shed some light on Leibniz's view of possibility, which is an indispensable aspect of his rationalism and plays a crucial role in his philosophy. I will argue that some of the differences between Leibniz's two pictures of rationality and their complementary roles stem from his supposition of two different contexts of rationality: on the one hand, divine rationality that defines all intelligible concepts formally, and, on the other, human rationality that seeks to represent and discover these concepts by particular examples and pragmatic means. My suggestion is that Leibniz's two modes of rationality partly correspond to two contexts of rationality, divine intelligibility and human intelligibility, both of which play an essential role in his philosophy. If adequate, this mapping clearly speaks against the attempt to ascribe primacy to Leibniz's hard or radical rationalism, defended by Schepers

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M. Dascal (ed.), *Leibniz: What Kind of Rationalist?*,

(2004 and this volume). Rather, I will argue that Leibniz's two modes of rationality are essential aspects of his logic and metaphysics.[1]

In the first section, I present Leibniz's notion of rationality as intelligibility. In the second section, I present the notion of intelligibility in its divine context, which also corresponds to Leibniz's presuppositions about the notion of possibility. In the third section, I present Leibniz's notion of intelligibility in its human context. I conclude by pointing out some of the intrinsic connections between these two contexts of rationality in Leibniz's philosophy.

2 Leibniz's Rationality as Intelligibility

Let me begin with a brief reminder of Leibniz's two principles of reason and their role: while the principle of contradiction defines the space of logical possibilities and necessities, the principle of sufficient reason is used for choosing the best (and allowing non-deductive deliberation) among logical possibilities. It goes without saying that Leibniz's notion of rationality itself can be partly characterized through his employment of his "two great principles of reason".

Leibniz is very clear in using the principle of non-contradiction (or self consistency) to characterize the realm of the intelligible, which he equates with the possible. As he writes, "all truths that concern possibles or essences and the impossibility of a thing or its necessity rest on the principle of contradiction..." (*On Freedom and Possibility* (1680–1682); A&G 19). Accordingly,

> the possible is *what* can be conceived, that is so as not to make the word 'can' occur in the definition of 'possible' *what is understood clearly by an attentive mind*; the impossible—what is not possible (*Confessio*; A VI 3 126–127).

"What is understood by an attentive mind" is defined by the principle of contradiction, so that, in this sense, any (and only) consistent thought is deemed intelligible or possible. As Leibniz says, "the possible is that which does not imply a contradiction" (A VI 2 475).[2] is clear that by "attentive mind" Leibniz refers primarily to God's mind. As he writes, "God is that which perceives perfectly whatever can be perceived" (A VI 3 519; SR 79).

While this view of intelligibility might seem all too familiar, I would like to draw attention to a number of non-trivial features of Leibniz's rationality that are closely related to it:

(1) The scope of rationality is more extensive than that of truth and validity. If intelligibility is defined in terms of self-consistency, it follows that the realm of the rational is more extensive than the realm of truth, as well as of valid inferences. This also extends considerably the traditional scope of logic. Indeed, in Leibniz, logic is not limited to inferential relations between concepts (syllogistics); it also includes the content and structure of concepts. In other words, as Leibniz's examples amply show, he is not interested only in the formal aspect of concepts but also in their content and semantics. Likewise, logic is not limited to examining the truth value of propositions but also examines their intelligibility and the intelligibility of their

constituents, that is, the terms from which they are made up. This notion of logic and rationality is intrinsically related to Leibniz's combinatorial theory of intelligibility, which I shall sketch in Section 3.

(2) Leibniz sees logic as intrinsically related to what he calls "Divine Combinatorics" and the human attempt to model it. He considers his logic as a part of a combinatorial activity, which he ascribes both to God and to humans. According to Leibniz, combinatorics is the most general science and, accordingly, its objective is to capture the most general laws of thought.[3] In this way, the scope of Leibniz's logic includes all possibilities or all intelligible concepts in the sense of capturing how they are formed in God's understanding. This has been his conception of logic since his early work, *De Arte Combinatoria* (1666), which consists both in the art of discovering new concepts and propositions and in the art of ascertaining their truth value.

(3) As we have seen, intelligible concepts are defined in terms of consistent combinations of terms, which imply complex concepts or propositions. Leibniz's position implies that his notion of truth presupposes that of possibility and intelligibility.[4] And indeed, since his Paris years Leibniz is clear that assessing the truth of propositions requires real definitions, which show that the concepts used in propositions are possible or self-consistent. The paradigmatic and formative example of this approach is his attempt to provide a real definition of the notion of (and thus to prove the possibility of) the *Ens Perfectissimum* as a precondition for asserting its existence. As he writes,

> A real definition is one according to which it is established that the defined thing is possible, and does not imply a contradiction. For if this is not established for a given thing, then no reasoning can be safely taken about it, since if it involves a contradiction, the opposite can perhaps be concluded about the same thing with equal right. And this was the defect in Anselm's demonstration, revived by Descartes, that the most perfect or the greatest being must exist, since it involves existence. For it is assumed without proof that a most perfect being does not imply a contradiction; and this gave me occasion to recognize what the nature of real definition was (*A Specimen of Discoveries*, circa 1686; cited from Leibniz 2001: 305–307).

The truth (or falsity) of the claim "God exists" presupposes the possibility or intelligibility of the notion of "God", defined as "the greatest or most perfect being". It is interesting to observe that Leibniz's paradigmatic example of an impossible notion is a very similar notion, namely, that of "the greatest number".[5] Why did Leibniz think that "the greatest being" constitutes a paradigm of possibility and "the greatest number" a paradigm of impossibility is a fascinating question that I address elsewhere (Nachtomy 2005).

(4) Leibniz's celebrated theory of truth as the inclusion of a predicate in a subject also follows from his analysis of intelligible notions in terms of the principle of contradiction. This can be presented along the following lines: Anything that can be said – either truly or falsely – presupposes a proposition. A proposition presupposes predication, that is, an ascription of a predicate-term to a subject-term. As part of his compositional view of concepts, Leibniz presupposes that all complex concepts have logical predicates, which he identifies with its logical constituents – the various

conceptual elements that make it up. Thus, if an ascription of a predicate to a subject picks out one of the subject's constituents, the proposition is true; otherwise, it is false.

(5) Leibniz's notion of possibility is also logically prior to his notion of existence. Anything that can exist must be conceived as a possibility in the mind of God, who may create it or not. This is true of the actual world and it is consistent with Leibniz's metaphysical account of creation, according to which the actual world is selected among many possible worlds, according to the principle of the best. However, note that, in applying the principle of the best, one goes beyond the principle of contradiction into questions that involve moral considerations as well as non-deductive reasoning.

3 Intelligibility in the Divine Context

Let me now present in some more detail (yet still very briefly) Leibniz's presuppositions about possibility.[6] As I already noted, for Leibniz, possibilities are conceived in God's mind. More specifically, possibilities are conceived as consistent or intelligible thoughts in God's mind. The definition of possibility in terms of the consistency relation implies that the notion of possibility applies to complex thoughts alone. This is the case, since, thus defined, possibilities require a (consistency) relation between terms. For this reason, complex thoughts or concepts presuppose simple constituents.[7] Leibniz indeed presupposes absolutely simple constituents or forms. He writes that, "there are necessarily simple forms" (A VI 3 514; SR 69), and that "nothing can be said of forms on account of their simplicity" (ibid.). He also stresses that these simple forms are unanalyzable and indefinable (A VI 3 572; A VI 3 590) and that humans cannot know what they are – a point to which we shall return.[8]

Interestingly, Leibniz identifies the simple forms with the attributes of God. He writes that "God is the subject of all absolute simple forms" (A VI 3 519; SR 79) and that "[a]n attribute of God is any simple form" (A VI 3 514; SR 69). As we shall see, this accords with his view of the production of possibilities as consistent thoughts in God's mind.

It is also significant that God's simple forms are unique, so that each differs from all others. This difference constitutes what Fichant (1998: 85–119) has called the "source of negation". In Leibniz's words,

> There are necessarily several affirmative primary attributes; for if there were only one, only one thing could be understood. It seems that negative affections can arise only from a plurality of affirmative attributes (A VI 3 572–573; SR 93).

He also writes: "I cannot explain how things result from forms other than by analogy with the way in which numbers result from units – with this difference, that all units are homogeneous, but forms are different" (A VI 3 523; SR 85). The postulation of unique simple forms would allow Leibniz to account for negations and the incompatibility relations among predicates of complex concepts. As Fichant

argues convincingly, unless a variety of simple forms are supposed, it would be impossible to account for exclusion relations among complex concepts ("L'origine de la négation", reprinted in Fichant 1998: 117). Without such a supposition, it would be impossible to account for the variety of possible individuals and the compossibility relations between them, which are necessary for the formation of possible worlds. Thus, without grounding his theory of the production of possibilities in unique simple forms, Leibniz would not be entitled to his doctrine that each individual has a complete concept (*Discours de Métaphysique* 13) and that they are distributed in possible worlds in God's mind.

As the "subject of all perfections" and as an active (thinking) agent,[9] God thinks the various combinations among his simple forms, so that complex concepts or possibilities arise in his mind (see A VI 3 514; SR 71). As Leibniz puts it, "God thinks out infinitely many things in infinitely many ways" (A VI 3 515; SR 71). Thus, Leibniz's notion of possibility presupposes simple forms and their mental combination in various ways. All the consistent results of these mental compositions are seen as logical possibilities and inconsistent ones are seen as impossibilities.

In addition, according to Leibniz, God's thinking implies reiterative reflection. This point can be put briefly thus: For Leibniz, thinking implies reflection, and reflection implies reiterative reflections. Regarding the first point, he writes, "[a] necessary being acts on itself, or, it thinks. For to think is nothing other than to sense oneself" (A VI 3 587; SR 113). "Thinking is internal action on itself, reflection and perception" (A VI 2 493). He even goes as far as claiming that "God understands because he acts on himself" (A VI 3 463; SR 11).

Regarding the second point, if God reflects or acts on himself, what is he reflecting on? What is he perceiving in perceiving himself? I suggest that God reflects on his simple forms and that he reflects on his reflections. In fact, he may further reflect on these resulting reflections to infinity. As Leibniz interestingly notes:

> The mind never forgets anything since the mind is indestructible. Motion, once given, is necessarily continued. Thought, or the sensation of oneself, i.e., action on oneself, is necessarily continued (A VI 3 588; SR 113).

Leibniz draws an interesting analogy between the reflection of reflections and the relations of relations, both of which, as Leibniz's example shows, go to infinity (A VI 3 399; SR 115). His explicit fascination with the notion of reflection of reflections comes out clearly in passages such as this:

> The following operation of the mind seems to me to be most wonderful: namely, when I think that I am thinking, and in the middle of my thinking I note that I am thinking about my thinking, and a little later wonder at this tripling of reflection. Next I also notice that I am wondering and in some way I wonder at this wonder . . .(A VI 3 516; SR 73).

This remarkable passage testifies to Leibniz's iterative view of reflection. Leibniz continues with the following example:

> When it happens that he cannot sleep, let him begin to think of himself and of his thinking and of the perception of perceptions . . .and so the perception of a perception to infinity is perpetually in the mind, and in that there consists its existence *per se*, and the necessity of the continuation (A VI 3 517; SR 73–75).

Here we see that the reflection of reflections to infinity is clearly on Leibniz's mind. Let us connect his view of reiterative reflection with his view of possibility. Given that God thinks all possibilities as complex, self-consistent thoughts, God's reflections may be seen as all the combinations among his simple forms and the relations among them.

There is one more component in Leibniz's presuppositions regarding the composition of concepts or possibilities in God's mind that is worth noting here: God's reflections have what Leibniz calls a natural ordering – from the simple to the complex. He recalls having given the following definition: "naturally prior involves the more simple" (VE 132).[10] "Prior by nature is a term which consists of terms less derived. A term less derived is equivalent to one [which includes] a smallest number of primitive simple terms"(VE 100).[11]

However, as Rauzy remarks, this natural order constitutes a general matrix to which one can refer in considering the order of things rather than the order of human discoveries (Rauzy 1995: 40). One reason for this is that the simple forms are unknowable to humans.[12] As Leibniz makes clear, "[a]n analysis of concepts by which we would arrive at primitive notions, i.e., at those which are conceived through themselves, does not seem to be in human power"(A VI 4 530).[13]

In concluding this section, let me summarize Leibniz's presuppositions presented above. First I noted that possibilities are situated in a conceptual realm and are seen as thoughts in God's mind. More precisely, possibilities are seen as consistent thoughts in God's mind. Consistent thoughts are explicated in terms of complex thoughts or complex concepts, whereas complex concepts presuppose simple elements so that consistency relations hold between the terms of complex concepts.

We have seen that Leibniz presupposes logically simple elements that are indefinable and unanalyzable. Furthermore, Leibniz identifies these logically simple elements with God's attributes or God's simple forms. At the same time, God is seen not merely as "the subject of all simple forms" but also as an active, thinking mind. More precisely, God is seen as the most perfect mind whose primary activity is thinking and self-reflection. In addition, Leibniz sees God as reflecting on his simple attributes or forms. God's reflections on his simple attributes may be seen as mental combinations of his simple forms that produce complex forms. Likewise, God's reflective operations are iterative, implying that he reflects upon his reflections. In this way, God thinks the combinations among his simple forms, so that more and more complex concepts arise in his mind. This implies that God combines the simple forms in a natural order – from the simple to the complex – and, in this sense, Leibniz's system of possibility is recursive.

These suppositions agree with Leibniz's (and his generation's) assumption that any complex concept is composed of simple ones and can, at least in principle, be analyzed into its constituents. The very simple constituents, though, cannot be analyzed and constitute the basic elements, which are at the foundation of this combinatorial approach to possibility. Since the basic elements are seen as the attributes of God, both God's simple attributes and his mental operations constitute the actualist aspect of Leibniz's approach to possibility.

Leibniz's approach to possibility is, thus, *conceptualist* in the sense that possibilities are thoughts of God, not entities or potential states of existing things; it is *logical* in the sense that it is divorced from the temporal notion of potentiality and inherent capacities of existing things; and it is *actualist* (in Adams' 1979 sense) in that it presupposes an actual basis, viz., God's mind and his simple attributes.

4 Divine Rationality and Human Rationality

While divine rationality can be seen as producing all intelligible concepts by composing all simple forms in all ways, that is, as a purely formal combinatorial scheme, the human attempt to discover and partly represent these concepts constitutes a different context of rationality. One sharp difference between human rationality and divine rationality is that humans must employ symbols and a language in order to represent and use concepts. Humans must use symbols and signs (to represent pure concepts) and they must also use examples to substantiate the purely formal (and empty) universal structure. It is worth recalling here that, according to Leibniz, the discovery and formulation of concepts is, as we noted earlier, a necessary condition for ascertaining the truth and falsity of propositions.

There are two additional constraints on human rationality: (1) humans cannot grasp the very simple forms, and (2) they cannot grasp very complex notions. As we have seen, both simple and complex notions are postulated in Leibniz's combinatorial scheme, which is presupposed to be operative in God's understanding. The first constraint, the difficulty of grasping the simple ideas, is intrinsically related to Leibniz's view of symbolic representation. Since we cannot perceive the true simple elements directly, we have to assign simple symbols or characters to stand for them. Like letters of the alphabet or the natural numbers, such simples constitute the basis of any representational system.[14] At the same time, the possibility of representation depends, according to Leibniz, on a structural resemblance (isomorphism) between the concept and the symbol (see, e.g., *Quid sit idea*). The method and the order of constructing a symbol must correspond to the method and the order of the production of the complex idea in God's mind. However, since this view of representation requires structural resemblance, the simples cannot be represented. By definition, the simple elements lack any structure.

The limit on complexity derives from the finitude of our minds, which also makes the indispensability of using symbols evident. Given these constraints on human rationality, Leibniz's early schemes, the Universal Language and the Real Characteristics are best seen as human projects that presuppose divine rationality of absolute intelligible concepts, on the one hand, and reflect the human attempt to represent and approach these concepts, on the other. In this sense, these projects reflect different but intrinsically related kinds of rationality. The consistency assumption of the intelligibility of concepts is of course common to both contexts of rationality. However, whereas in the divine context it is self evident, in the human context it presents itself as a task that must be approached by means of symbols and characters.

It seems to me that the connection between these two contexts of rationality can be seen clearly through Leibniz's supposition of the combinatorial nature of concepts, which is common to both contexts. The combinatorial nature of concepts serves as the formal and universal structure of all concepts by stipulating a calculus of all the consistent combinations among all simple forms in God's mind. The combinatorial nature of concepts applies to human thought as well. However, humans must substitute the variables – and the simple elements and the combinatorial rules – with notations, including the "alphabet" and the syntax of actual sciences, practices, and applications, such as written languages, geometry, music, chemistry etc (see, e.g., Leibniz's letter to Tchirnhaus of 1678).

In this sense, the universal language serves as a necessary instrument for humans to represent the purely intelligible realm of concepts in God's mind. And, in this way, Leibniz's project of a universal language is intrinsically related to his notion of possibility. In fact, it is arguable that Leibniz's project of a universal language derives its inspiration and *raison d'être* from his conception of possibility. The universal language complements Leibniz's view of possibility by devising the means for representing concepts and possibilities to human beings. In this sense, Leibniz is both a hedgehog and a fox, to borrow the terminology made famous by Isaiah Berlin. On the one hand, he supposes a unifying formal basis for all concepts and possible objects of knowledge; on the other hand, this thin structure can only be realized if it is applied to a variety of domains and disciplines. It thus admits both unity and multiplicity in the sense that all particular notations and domains have a common and universal foundation. Therefore, the project of a *universal* language calls for the design of *particular* notations for its very realization. This picture explains Leibniz's usage of a variety of specimens and models from different domains and disciplines. As he writes,

> [t]he pure sciences such as mathematics are seen as the source of a river, a rather dry and meager source, but from it water descends continuously into the most fertile rivers of mixed sciences like acoustics, optics, and mechanics, which in turn flow out into a sea of various uses and applications (Beeley 2003: 83; *De rationibus motus*, 7; A VI 2 160).

5 Conclusion

I have argued that the presence of Leibniz's two modes of rationality (hard and soft) partly derives from his understanding of rationality in terms of intelligibility and from his supposing of two different contexts of intelligibility – divine and human – which complement rather than exclude one another. The source of hard rationality is the formal structure of concepts in God's mind. The source of soft rationality is the need of humans to represent and employ such concepts in practical and scientific contexts. If this is right, the question whether Leibniz was a hard or a soft rationalist is misguided. His particular kind of rationalism clearly presupposes and requires both modes of rationality. I have tried to show that each mode of rationality to some

extent requires the other and that their mutual usage typifies the complexity and subtlety of Leibniz's rationality.

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Notes

1. Schepers (2004: 126) writes that "for Leibniz human and divine reason function in accordance with the same principles. They concern the same reality, so that everything follows just one reason. Everything obeys the principle of contradiction". While, strictly speaking, this is correct, I will argue that the context of human rationality requires a different mode of rationality to represent divine rationality for itself – one which essentially depends on the use of symbols and some pragmatic considerations and constraints.
2. *Possibile est, quod non implicat contradictionem. Possibile est quicquid clare distincteque cogitabile est* (A VI 2 475).
3. *Combinatoria agit de calculo in universum, seu de notis sive characteribus universalibus (quales sunt a, b, c, ubi promiscue alter pro altero sumi potuisset) deque variis legibus dispositionis ac processus seu de formulis in universum. Calculus algebraicus est species quaedam certa calculi generalis, lex verbi gratia multiplicationis est, ut quaevis pars multiplicantis, cuivis parti multiplicandi combinetur* (A VI 4 511; C 556). See Couturat (1901: 299–300).
4. "That which can be understood clearly, however, is not always true, though it is always possible; and it is also true, in addition, whenever the only question is that of possibility" (*Elements of Natural Law*; L 207).
5. "The number of all numbers is a contradiction, i.e., there is no idea of it; for otherwise it would follow that the whole is equal to the part, or that there are as many numbers as there are square numbers" (A VI 3 463; SR 7).
6. My presentation of Leibniz's view of possibility in this section draws on the first chapter of Nachtomy (2007).
7. "Car les pensées simples sont les éléments de la caractéristique et les formes simples sont les sources des choses" (GP 4 296).
8. *Nihil a nobis cogitari simplicissimum* (GP 1 272).
9. "There is a uniquely active thing, namely, God" (A VI 2 489; Mercer 2001: 347).
10. Definiveram alicubi *natura prius* esse involutum simplicius (cited from Rauzy 1995: 37 n. 18).
11. "Sed si sic definias: Natura prior est terminus qui constat ex terminis minus derivatis. Terminus autem minus derivatus est, qui paucioribus simplicibus primitivis aequivalet" (VE 100). See also, A VI 3 475; SR 27; and A VI 3 465, 480, 495, 509, 515–517, 518.
12. Leibniz often remarks in his Paris notes that the simple elements are unanalyzable and indefinable (A VI 3 572); that "there are necessarily simple forms" (A VI 3 514); and that "nothing can be said of forms on account of their simplicity" (A VI 3 514; SR 69).
13. *Non videtur satis in potestate humana esse Analysis Conceptuum, ut scilicet possimus pervenire ad notiones primitivas, seu ad ea quae per se concipiuntur* (A VI 4 530; C 514).
14. As Fichant noted, "l'alphabet des pensées humaines ne coïncide pas avec l'alphabet divin des notions absolument premières: il n'est que le recensement des notions premières *secundum nos*, dont toutes les autres sont composées, quoique peut-être elles ne soient pas absolument les premières" (C 220; cited from Fichant 1998a: 112).

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