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Leibniz and the ‘*petites réflexions*’

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Abstract: In this article, I defend the thesis that Leibniz’s rational substances always have higher-order perceptions, even when they are, say, in a dreamless sleep. I argue that without this assumption, Leibniz’s conception of reflection would introduce discontinuities into his philosophy of mind which (given his Principle of Continuity) he cannot allow. This interpretation does not imply, however, that rational beings must be aware of these higher-order states at all times. In fact, these states are often unconscious or ‘small’ (analogous to Leibniz’s famous *petites perceptions*) and only count as reflections when they become distinct or heightened enough. Reflections thus arise out of ‘*petites réflexions*’ just as conscious perceptions arise out of *petites perceptions*. I argue, furthermore, that an analysis of some aspects of Leibniz’s theory of memory shows that he is not only *committed* to the thesis that rational beings always have higher-order states but that he also *accepts* it. I conclude by considering whether my interpretation is at odds with Leibniz’s doctrine of transcreation and also whether it has any consequences for which theory of consciousness we should ascribe to Leibniz.

1 Introduction

In the last two decades, a lively discourse has developed surrounding Leibniz’s theory of consciousness. This is unsurprising considering that Leibniz was the first philosopher to explicitly introduce unconscious mental states – the famous *petites perceptions* – into seventeenth century philosophy of mind. In doing so he raised a new and important question: if not all mental states are conscious, why then are *some* of them conscious while others are not? It turns out that it is by no means easy to provide a satisfactory account of this difference within the constraints of Leibniz’s system.¹

¹ For a wide variety of approaches to this topic, see Kulstad 1991, Gennaro 1999, Simmons 2001, Simmons 2011, and Jorgensen 2009. As far as they are relevant to the present discussion I will discuss elements of some of the accounts these authors give of Leibniz’s theory of consciousness in Sections 2 and 6.

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Perhaps the most important of these constraints is the Principle of Continuity, which requires that every change in nature happens gradually. This principle, when applied to the mental, demands that conscious states not just suddenly appear out of the blue.² Instead they must evolve by degree. It has thus become a central interpretive challenge to provide an account of Leibniz's theory of consciousness that does not involve commitment to any problematic discontinuities between unconscious and conscious perceptions.

In the context of Leibniz's theory of reflection, though, this important constraint has often been overlooked.³ Any account of Leibniz's view of reflection will confront a challenge very similar to the one just described in the case of consciousness. Leaps and bounds, i. e., discontinuities, must also be avoided here. Reflections cannot just pop up and disappear all of a sudden – they must evolve gradually as well.⁴

In this article, I argue that Leibniz's account of reflection, when combined with the Principle of Continuity, commits him to the thesis that minds – i. e., rational creatures (a subclass of which are human beings) – are never without higher-order perceptions, although they are very often without reflections. Even when rational beings are asleep or comatose they are still having 'small' higher-order perceptions – '*petites réflexions*' as it were – directed at their more basic first-order perceptions (a higher-order perception is a perception *of* another perception; hence higher-order perceptions represent something in the mind, not things external to the mind).⁵ Only with this thesis in place can Leibniz's theory of reflection be reconstructed in a way that avoids discontinuities: reflections must be understood as *distinct* or *heightened* higher-order perceptions that gradually arise from less distinct ones. On this picture, although all reflections are higher-order perceptions, not all higher-order perceptions are reflections. I

² The Principle of Continuity is pervasive in Leibniz's philosophy. Leibniz explicitly disallows discontinuities in mathematics, physics, metaphysics, and philosophy of mind (the latter is the most important for our context). See especially *NE* Preface/A VI.6.56–57. I will discuss Leibniz's Principle of Continuity in more detail in Section 2.

³ A good example of this tendency is McRae 1976. Kulstad 1991 and Simmons 2001 also do not seem to acknowledge the continuity constraint applied to reflections. For an important exception, see Jorgensen 2011b.

⁴ When I talk about reflections in this paper, I am referring to the *reflective acts* rational Leibnizian substances produce at certain points in time (Leibniz himself speaks of "reflective acts" in *Monadology* §30/AG 217 and *PNG* §5/AG 209). Reflections in this sense are mental states or perceptions (as Leibniz understands them) and are hence within the scope of the Principle of Continuity (as is clear from *NE* Preface, 56 f./A VI.6.56 f.). For a more detailed discussion of how perceptions and reflections are related, see Section 3.

⁵ For more on this matter see the beginning of Section 3.

also argue that Leibniz is not only *committed* to this view but that he indeed *accepts* it.

In defending this twofold conclusion, I will proceed in the following order. First, I will address some preliminary questions: What kind of role does Leibniz ascribe to acts of reflection? How is reflection connected to consciousness? And what role does the Principle of Continuity play in Leibniz's philosophy of mind? Second, I will present systematic considerations in support of my claim that Leibniz is committed to the thesis that rational substances have higher-order states at all times. I will then, third, provide textual evidence for my claim that Leibniz indeed accepts this thesis by discussing some aspects of his theory of memory. Fourth, I will discuss Leibniz's doctrine of 'transcreation' – the thesis that God miraculously turns animal souls into rational ones at conception – since it poses a potential threat to my reading. Finally, I will return to the aforementioned debate over Leibniz's theory of consciousness and point out that my understanding of his theory of reflection has implications for that debate as well.

2 Background

In this section I will briefly discuss the role of reflective acts in Leibniz's philosophy of mind and the Principle of Continuity. Let us start with reflection. What kinds of creatures reflect on Leibniz's view? To begin with, it is clear that for Leibniz there is a close connection between reflection and rationality.⁶ For example, in *Discourse on Metaphysics* §34 he writes:

But the principal difference is that they [the animals] do not know what they are nor what they do, and consequently, since they do not reflect on themselves, they cannot discover necessary and universal truths.⁷

Leibniz assumes here that without reflection rational beings could not gain knowledge of necessary truths. Furthermore, in *Monadology* §29 he points out that the possession of these truths "is what distinguishes us from simple animals and furnishes us with *reason*".⁸ Thus, whatever the precise story is,⁹ it is clear

⁶ I discuss the connection between reflection and rationality in Leibniz in more detail in Bender 2016.

⁷ A VI.4.1583/AG 65.

⁸ GP VI.611/AG 217.

⁹ Leibniz just seems to take it for granted that reflection and rationality are closely tied together. It is surprisingly hard to explain, however, exactly *how* reflective acts lead to rational thoughts.

that being rational requires having reflective acts according to Leibniz. Hence, for him being reflective is a necessary condition for being rational.¹⁰

It is often claimed that Leibniz invokes reflection not only to explain rationality, but also to explain how sentient creatures become conscious or aware of something. On this widespread view, Leibniz subscribes to a *higher-order theory of consciousness* according to which a perception is conscious just in case a higher-order perception is directed at it.¹¹ According to this theory, a mental state m_1 is (phenomenally) conscious in virtue of the fact that another mental state m_2 has m_1 as its content. In combination with the common assumption that, for Leibniz, all higher-order perceptions are to be identified with reflections,¹² the higher-order interpretation entails that in order to be conscious of something a being must bring about reflective acts. In short, being conscious requires being reflective.

I cannot discuss the higher-order interpretation in detail here, but a few remarks are in order. What creates problems for reading Leibniz in this way is the fact that Leibniz explicitly denies that all conscious beings are also able to reflect. To be sure, he certainly holds (unlike the Cartesians) that animals are conscious beings.¹³ If the higher-order interpretation, as it has been presented so far, is correct and consciousness indeed requires reflection, one would thus expect that Leibniz allows for reflection not only in humans but also in non-human animals. There are many passages, however, where Leibniz explicitly denies that animals have the capacity to reflect, for example when he writes that “beasts have no understanding [...] although they have the faculty for awareness of the more conspicuous and outstanding impressions (*la faculté de s'appercevoir des impressions plus remarquables et plus distinguées*),” and then goes on to explain that “the exercise of this faculty [the understanding] is called ‘intellection’, which is a distinct perception combined with a faculty of reflection, which the beasts do

As far as I know, this is a problem which has been mostly ignored in Leibniz scholarship. The distinctions drawn between types of thoughts in *NE* II.xix are helpful in this context. See also Bender 2016 for an attempt to answer this question.

10 Kulstad objects to this standard interpretation of Leibniz’s theory of reflection. On his reading, Leibniz distinguishes between two types of reflection of which only the more sophisticated one (called ‘focused reflection’) is required for rationality. I will discuss Kulstad’s interpretation in more detail in a moment. See also Bender 2016.

11 Until recently this was the prevalent view in Leibniz scholarship. See McRae 1976, 33; Genaro 1999, 356 f.; and Simmons 2001, 54.

12 As will become clear later, on my reading higher-order perceptions should *not* be equated with reflections since there are also higher-order states that are not reflective states.

13 Leibniz uses terms like ‘*attention*’ or ‘*sentiment*’ in this context (see for example *NE* II.ii §§13 f./A VI.6.115).

not have."¹⁴ This and similar passages seem to be in conflict with the higher-order interpretation.

In response to this interpretative problem, Mark Kulstad has suggested that Leibniz cannot, and in fact does not, accept that all reflective acts lead to rationality for Leibniz. Kulstad instead differentiates between two kinds of reflection and argues that only one of them – he calls it *focused reflection* – is characteristic of rational beings. The other kind, dubbed *simple reflection* by Kulstad, is also possessed by animals (i. e., non-rational, sentient beings).¹⁵ This way, Kulstad can do justice to the passages where Leibniz denies reflection to animals and yet hold on to the higher-order-interpretation. On Kulstad's view, if a being performs acts of simple reflection, this is enough to render this being conscious – that is, focused reflection is not required for a being to be sentient. While Kulstad's strategy successfully avoids ascribing an inconsistent position to Leibniz, his solution is itself not without its problems. There is no direct textual evidence suggesting that Leibniz indeed assumes two types of reflection so different in kind. On the contrary, he again and again emphasizes the close relationship between reflection and rationality and never qualifies this relationship in a way an interpretation like Kulstad's would require.¹⁶

Given the challenges the higher-order interpretation is confronted with, it is not surprising that it has recently faced some resistance and that alternatives were sought. Larry Jorgensen, for example, has suggested simply giving up the higher-order interpretation of Leibnizian consciousness in favor of a first-order interpretation.¹⁷ According to such a first-order theory, a mental act does not become conscious in virtue of having a higher-order state directed at it. Instead, a Leibnizian perception is conscious just in case it is *distinct* enough (or *heightened* as Leibniz sometimes prefers to say¹⁸). Such a first-order interpretation of Leibniz's theory of consciousness matches the passage from the *New Essays* quoted above (*NE* II.xxi §5) very well. On Jorgensen's reading, the fact that Leibniz ascribes consciousness, but not reflection, to non-human animals is unproblematic because the phenomenon of consciousness is accounted for entirely in terms of first-order perceptions.

Hence, if we accept Jorgensen's picture, we can consistently maintain that only *rational* creatures have the ability to reflect, which is suggested by passages

¹⁴ *NE* II.xxi §5. Another passage where Leibniz explicitly denies reflection to animals is *DM* §34 (cited above).

¹⁵ See Kulstad 1991, 24 f.

¹⁶ I discuss this point in more detail in Bender 2013.

¹⁷ See Jorgensen 2009.

¹⁸ See e. g. *PNG* §13/*GP* VI.604. I myself defend a version of this reading in Bender 2013.

like *Discourse* §34 and *Monadology* §29. While this is the most natural reading of these texts, it is true that this account of reflection cannot be combined with the traditional higher-order account of Leibnizian consciousness because together they imply that animals are unconscious, non-sentient beings, which is (as we have just seen) clearly not Leibniz's view. This, though, is not a problem, for as we will see shortly, Jorgensen provides additional compelling reasons against attributing a higher-order theory of consciousness to Leibniz. To see what these reasons are, we have to take a brief look at the Principle of Continuity.

The most famous formulation of the Principle of Continuity is that “nature never makes leaps”.¹⁹ Alternatively, Leibniz says that “in nature everything happens by degree”.²⁰ That is, the Principle of Continuity demands that there are no discontinuous changes or processes in nature. For our purposes two features of the Principle of Continuity are important. The first is clarified in a short paper with the long title *Principium quoddam generale non in mathematicis tantum sed et physicis utile* in which Leibniz writes: “If (in the given quantities) two cases are approaching each other constantly, so that the one is passing into the other eventually, the same must happen in the derived or dependent (sought) quantities.”²¹ This passage makes clear that for a precise application of the Principle of Continuity we always have to look at *two* parameters that somehow depend on each other. For example, when applying the Principle of Continuity to a geometrical case, Leibniz observes that if one of the two foci of an ellipse is infinitely far removed from the other the resulting figure is a parabola, from which he concludes that all theorems proved of an ellipse may also be applied to a parabola.²² Here the first parameter is the distance between the foci, while the second is the shape of the geometrical figure.

The second feature that is important in the present context is that the Principle of Continuity is clearly also supposed to apply to the cognitive processes taking place within substances or monads. Leibniz is quite explicit about this in the *New Essays*. There he introduces the Principle of Continuity by first giving an example from physics. He then parallels this case with the development of perceptions in substances and points out that the perceptions one is aware of have to arise by degree from smaller ones.²³ The two parameters coordinated in this case

¹⁹ *NE* Preface 56/A VI.6.56.

²⁰ *NE* IV.xvi §12/A VI.6.473.

²¹ A VI.4.2032.

²² This example can be found in *GP* III.52/L 352. For a clear explanation of this case see Jorgensen 2009, 228.

²³ See *NE* Preface 56 f./A VI.6.56 f., where Leibniz writes: “Nothing takes place suddenly, and it is one of my great and best confirmed maxims that *nature never makes leaps*. I called this the

are the intensity of perceptions on the one hand, and awareness or consciousness on the other hand.

Given this, it becomes clear why it is so problematic to ascribe a higher-order model of consciousness to Leibniz, as Jorgensen very concisely points out:

If consciousness is thought to be explained by a higher-order perception, one needs to say more about how these higher-order perceptions arise by degrees. It seems that consciousness, and higher-order perception, is an all-or-nothing matter; either a lower order perception has an accompanying higher-order perception or it does not. There does not appear to be any mediation of degrees or parts.²⁴

Thus, given the Principle of Continuity, all perceptions, first-order as well as higher-order, have to emerge through gradual processes. If this is so, however, a higher-order model of consciousness violates the Principle of Continuity, since higher-order states would have to switch on and off to do the job and could not arise gradually from other perceptions. Jorgensen thus gives us compelling reasons to think that it is inconsistent to attribute a higher-order model of consciousness to Leibniz. Such an interpretation would introduce unacceptable discontinuities into his philosophy of mind.²⁵

Law of Continuity [...]. There is much work for this law to do in natural science. It implies that any chance from small to large, or vice versa, passes through something which is, in respect of degrees as well as of parts, in between; and that no motion ever springs immediately from a state of rest, or passes into one except through a lesser motion; just as one could never traverse a certain line or distance without first traversing a shorter one. Despite which, until now those who have propounded the laws of motion have not complied with this law, since they have believed that a body can instantaneously receive a motion contrary to its preceding one. All of which supports the judgment that noticeable perceptions arise by degrees from ones which are too minute to be noticed. To think otherwise is to be ignorant of the immeasurable fineness of things, which always and everywhere involves an actual infinity." Does this passage show that the Principle of Continuity also applies to reflections? In the next section I will argue that Leibniz usually understands reflections to be certain mental states. Given that 'perception' is his general term for all mental states whatsoever, higher-order states, like reflections, are perceptions too; so the Principle of Continuity applies to them also. There is no need for Leibniz to mention reflections explicitly in the passages from the Preface to the *New Essays* because he makes a general claim about *all* types of mental states there.

²⁴ Jorgensen 2009, 239.

²⁵ It is worth noting that there is a close connection between the Principle of Continuity and the Principle of Sufficient Reason. The details of the relation between these two principles are complicated but the core idea, applied to our case, is clear: the commitment to suddenly flashing higher-order perceptions is problematic because their origin and development is simply *inexplicable* (i. e., they lack a sufficient reason).

3 Reflections and the Principle of Continuity

The primary topic of this paper, though, is not Leibniz's theory of consciousness. What I am interested in now is an important follow-up problem. While Leibniz apparently does not hold a higher-order theory of *consciousness*, he does hold a higher-order theory of *rationality*. In other words, even though higher-order perceptions are not needed to explain consciousness, this of course does not imply that there are no higher-order perceptions at all in Leibniz's philosophy of mind. Reflective acts play a central role in explaining how a substance can be rational, i. e., how it can acquire knowledge of necessary truths, draw inferences, be a moral subject, etc.²⁶ And a reflective act is a prime example of a higher-order state.

Before I go on to discuss how Leibniz's views on reflection and rationality are consistent with his Principle of Continuity, two remarks on his notion of reflection are in order. First, the term 'reflection' is used in two slightly different senses by Leibniz: (i) for the general *capacity* or *ability* that rational substances have to bring about certain states (e. g., when he says that a being is reflective in general);²⁷ (ii) for the *actualization* of this capacity, i. e., for the reflective acts themselves.²⁸ Rational substances are furnished with innate ideas and they in principle have the ability to access these innate ideas, so they can be said to have *reflection* in the first sense. Since they do not always manifest their reflective potential, however, they do not always have *reflections* in the second sense. A reflection in the latter sense is a mental state and hence a perception for Leibniz (given that he uses the term 'perception' in a very broad sense). Unless indicated otherwise, I am only concerned with reflections in the second sense, i. e., with reflections understood as reflective acts.²⁹

Second, one might try to argue that reflections are nothing but some kind of sophisticated, intellectual *first-order* perception. I think, though, that this option can be ruled out. Consider for example PNG §4, where Leibniz characterizes

²⁶ For a detailed analysis of how reflection and rationality are related, see Bender 2016.

²⁷ See for example *GP* III.245/*AG* 286 and *NE* Preface 53/*A* VI.vi.53.

²⁸ Leibniz himself uses the expression "reflective acts" in *Monadology* §30/*AG* 217 and *PNG* §5/*AG* 209. This seems to be the way Leibniz officially understands the term 'reflection,' given that in the Preface to the *New Essays*, he defines reflection as follows: "reflection is nothing other than attention to what is within us" (*NE* Preface 51/*A* VI.vi.51).

²⁹ I am thankful to an anonymous referee here who pressed me to clarify how I understand the relation between reflections and perceptions and who pointed out to me the ambiguity just mentioned.

apperceptions as “the reflective knowledge (*connaissance*) of [an] internal state”.³⁰ This strongly suggests that Leibniz conceives of reflective states (i.e., of reflections) as mental states directed at other mental states (“internal states”), i.e., as perceptions directed at other perceptions. Now, since a higher-order perception is nothing but a perception whose content is another (lower-order) perception, this implies that reflections are higher-order perceptions.³¹

Given that reflections occupy such an important place in Leibniz’s philosophy of mind, the threat of discontinuity remains strong. It has just been shifted to another level: while there is no longer a problem for Leibniz’s theory of consciousness there is still a problem for his theory of reflection. Consider the following example. Sophie is sitting at her desk and is proving the Pythagorean Theorem. She certainly is having rational thoughts while doing so, and in order to have such thoughts she needs to reflect according to Leibniz.³² Now imagine,

³⁰ *GP* VI.600/*AG* 208 (my emphasis).

³¹ For another passage where Leibniz takes reflections to be thoughts about thoughts (i. e., perceptions of perceptions), see *NE* II.i §19/*A* VI.6.118. At this point, one might have the following worry. On my interpretation, first-order perceptions are those mental states representing the external world whereas higher-order perceptions represent (lower-order) perceptions. But doesn’t this give us too many higher-order perceptions? After all, each substance, rational or not, expresses not only the entire universe but also all of its past and future states, as Leibniz points out in *DM* §8/*AG* 41: “[W]e can say that from all time in Alexander’s soul there are vestiges of everything that has happened to him and marks of everything that will happen to him and even traces of everything that happens in the universe, even though God alone could recognize them all.” Now, I think one option is to bite the bullet here and to accept an abundance of higher-order perceptions in nature (for this strategy see Jorgensen 2011b; see also footnote 44). I believe, however, that this result can be avoided by paying attention to the distinction Leibniz draws between expression and (mental) representation. It is certainly true that all substances *express* all of their past and future states and the complete universe at all times. This does not imply though, I maintain, that they also mentally represent all of that at all times. Leibniz acknowledges all sorts of different kinds of *non-mental* expressive relations: an equation expresses a circle, a model expresses a machine, an effect expresses its cause, etc. (for these examples, see *A* VI.4.1370 f.; for more on Leibniz’s notion of expression, see Swoyer 1995). Now, I think that when Leibniz says that there are “vestiges of everything that has happened to [Alexander] and marks of everything that will happen to him and even traces of everything that happens in the universe,” he only means that the present perceptual state expresses the past and the future in a way that is similar to an effect expressing its cause. That is, a super-mind (God) could read off everything that has happened and that will happen to the substance. God can read out the ‘vestiges’ as it were. This does not imply, however, that the substance *mentally* represents all of its past and future states. Hence, Leibniz’s doctrine of all-encompassing expression does not commit him to ascribing higher-order perceptions to all substances at all times.

³² There is a potential complication here. Perhaps Leibniz’s position is not that minds must reflect every time they engage in rational thought. A few instances of reflection might be enough

furthermore, that after the hard math work Sophie has dinner, a glass of wine, then slowly becomes tired, and finally decides to go to bed where she gradually dozes off. What happens to Sophie's reflective acts in this case? As it happens, Sophie is typically not engaged in any rational activity as long as she is asleep (at least not as long as she is not dreaming about proving the Pythagorean Theorem; Leibniz, however, allows for completely dreamless sleep absent any conscious experiences). We thus have a case where a rational being reflects at one time and is without reflections at a later time.³³ The reflections simply seem to disappear somewhere along the way. It is very natural to explain the fact that Sophie is, as it were, a temporarily non-rational being when asleep, by assuming that she does not have reflective acts at those times.³⁴

However, if this means that Sophie has no higher-order perceptions at those times, this explanation cannot hold. The reason for rejecting this explanation is analogous to Jorgensen's reason for rejecting the higher-order interpretation of consciousness. We can simply co-opt Jorgensen's argument and apply it to the present case, with the slight variation that we now replace the word 'conscious' with 'rational.' To be more precise, reflective acts cannot suddenly disappear and abruptly cease to exist some time between Sophie's doing math at time t_1 and Sophie's being asleep at time t_2 , because this would be a violation of the Principle of Continuity.³⁵ The same holds of the reverse case: when Sophie wakes up, has her morning coffee, and then starts proving some mathematical theorems, the reflections she needs for this activity cannot emerge from nothing. The upshot is that the picture of reflection as a kind of mental light switch which gets turned

to activate the relevant mental capacities. On such a reading, I need not necessarily reflect whenever I prove a mathematical theorem. In *PNG* §4, however, Leibniz seems to imply that minds reflect quite frequently. He there feels the need to clarify that they do not have apperceptions "all the time" (apperceptions are characterized as "the reflective knowledge (*connaissance*) of [an] internal state," *GP* VI.600/AG 208). This suggests that he thinks reflection still occurs quite often in minds (presumably whenever they have rational thoughts), for why else would there be a temptation to think (incorrectly) that they reflect all the time? Admittedly, this passage is not entirely decisive. However, even if minds do not reflect every time they reason, this does not threaten my point. All that matters is that, regardless of how often it happens, rational beings sometimes reflect and sometimes do not and that this difference must be accounted for without violating the Principle of Continuity.

33 Of course, Sophie retains the *ability* to reflect. When sleeping she is without reflective acts, however, and she does not actualize her reflective potential.

34 I am indebted to an anonymous referee here, who helped me modify the example in an important respect.

35 Note that, on Leibniz's view, generally all the changes Sophie is undergoing between t_1 and t_2 (like falling asleep) are *gradual* changes, so it would be very odd indeed if reflection was an exception.

on and off without transition is clearly false. Leibnizian reflections, like all other Leibnizian perceptions, must develop by degree and cannot begin and cease to exist by leaps and bounds.

How is this to be achieved in Leibniz's framework? One suggestion might be that reflections develop gradually from first-order perceptions. Unfortunately, this proposal will not work because it too conflicts with the Principle of Continuity. Suppose that a substance only has first-order perceptions at a given time. Together these perceptions represent the entire universe (we can here just assume that they represent spatio-temporal objects).³⁶ Reflections, though, are very different in this respect. Considered *materialiter* (to borrow Descartes's terminology) they do not differ from first-order perceptions. What they represent, however, is not the world outside but perceptions inside the substance itself. The representational content of first-order perceptions is thus different in kind from that of reflections.³⁷

But how then could a gradual transformation from one to the other be possible? At some moment a perception representing the external world would have to give rise to a perception representing the internal mental life of the substance. A state *between* these two perceptions, though, is simply not intelligible (contrast this case with the case of the ellipse and the parabola; there, for every constellation, there is a further one in which the generated figures are closer to each other). Thus, this first attempt to explain how reflections can arise by degree is incompatible with the Principle of Continuity. How then do we avoid a vicious gap in the explanation of the development of reflections?

As far as I can see, only one position is left. We must conclude that higher-order states can arise only from other higher-order states. This alone will guarantee that the Principle of Continuity is not violated. If we construe reflections as higher-order perceptions which are *distinct* or *heightened* we can see how they can gradually emerge from less intense higher-order perceptions: from '*petites réflexions*,' as it were.³⁸ To be sure, such *petites réflexions* are not *reflections* (at least not in Leibniz's sense). They are small higher-order perceptions that are not distinct

³⁶ This follows from Leibniz's thesis that every substance represents the entire universe from its point of view (cf. *GP* II.57/L 337).

³⁷ In *NE* II.xix Leibniz offers a very helpful classification of different mental states.

³⁸ Strictly speaking, Leibniz would of course not say that rational monads reflect when they are, for example, in a coma. But I think this is a purely terminological choice: he simply decided to call only conscious higher-order perceptions 'reflections.' So, as long as we adhere to Leibniz's own terminology, there are no '*petites réflexions*' ('small reflections') analogous to the famous *petites perceptions* (small perceptions). My choice of words in this phrase thus slightly departs from Leibniz's actual usage.

enough to be noticed and hence a special class of Leibniz's *petites perceptions*.³⁹ This view implies that if a substance has reflections at a given time, it must *always* have some higher-order perceptions – even when it is not engaged in any rational activity (for example when it is asleep).

Unlike the alternative considered above, this approach gives us a coherent view of what is happening within rational substances. When Sophie proves the Pythagorean Theorem, then falls asleep, and then wakes up again afterwards and continues doing mathematics, reflections do not suddenly disappear into nothing and reappear from nothing. Rather, a *continuous* development of higher-order perceptions is responsible for her rational activities. When Sophie engages in mathematics, she has *distinct* higher-order perceptions, i. e., reflections. Then, when she is getting tired, her higher-order states are gradually attenuating (rather than disappearing) until she is asleep. When Sophie wakes up the reverse process occurs and her higher-order states become more and more distinct and less and less confused and thereby become reflections again.

Hence, without the assumption of small (i. e., confused, non-distinct) higher-order perceptions Leibniz would not be able to explain how rational creatures retain the ability to reflect when they are asleep or comatose. In the *New Essays* he stresses:

In man's case, however, perceptions are accompanied by the *power to reflect* which turns into actual reflection when there are means for it. But when a man is reduced to a state where it is as though he were in a coma, and where he has almost no feeling, he does lose reflection and awareness, and gives no thoughts to general truths.⁴⁰

One key point in this passage is that rational beings never lose the power or ability to reflect, even when they are in a “state where it is as though [they] were in a coma.” For Leibniz, though, this power cannot be brute, but must instead have some metaphysical basis in the substance,⁴¹ and I have argued that in order to not violate the Principle of Continuity, this metaphysical basis must consist in small higher-order perceptions (*petites réflexions*).

One implication of the interpretation advanced so far is that any substance that reflects even just once during its lifespan must have had higher-order states from the moment of its creation on and will always have them in the future.

³⁹ Leibniz introduces the notion of *petites perceptions* in the Preface to the *New Essays* (A VI.6.53–58).

⁴⁰ NE II.ix §§13 f./A VI.6.139 (my emphasis). I am grateful to an anonymous referee who pointed out this important passage to me.

⁴¹ The existence of brute powers would violate Leibniz's Principle of Sufficient Reason. Leibniz explicitly rejects “bare ‘powers’ and ‘faculties’” in NE II.x §2/A VI.6.140.

The traces of a reflective act never disappear, although they often become very minute. One might think that this feature of my interpretation poses a potential problem. In particular, it might seem to exacerbate the so-called continuity of creatures problem. The worry is this: on the one hand, Leibniz often stresses that there is a continuous ordering of *all substances* in the universe.⁴² On the other hand, he seems to maintain that there is a categorical difference between rational beings and animals: “If we distinguish man from beast by the faculty of reason, there is no intermediate case: the animal in question must either have it or not have it.”⁴³ One could think that the interpretation I have offered widens rather than closes the gap between rational beings and animals. For one might argue that on my picture, rational beings do not just differ from animals at the times they engage in reflection but at *all* times, given that, as we have just seen, a rational being that reflects even just once in its life must always have higher-order perceptions.

There are at least two different ways of dealing with this problem. Larry Jorgensen has recently suggested to simply allow that animals (and bare monads as well) have higher-order perceptions as well.⁴⁴ Nothing in what I have said rules out this option. Of course, animals do not *reflect* on Leibniz’s view. But this only means that they don’t have any *distinct* higher-order perceptions. They might still have confused higher-order perceptions (*‘petites réflexions’*) that just never develop into reflections. This strategy would at least mitigate, if not resolve, the continuity of creatures problem.⁴⁵ All creatures have higher-order perceptions – they only differ as to how *distinct* these higher-order perceptions are.

42 See *NE* IV.xvi §12/A VI.6.473.

43 *NE* IV.iv §16/A VI.6.394. Rutherford 1995, 165, also states this tension without offering a solution. For a lucid and detailed presentation of the problem, see Jorgensen 2011b. See Carlin 2000 for an interesting attempt to solve the problem.

44 See for this strategy Jorgensen 2011b. See also Jorgensen 2011a, 888, where he explicitly ascribes higher-order perceptions to *all* monads: “Leibniz’s ontology is replete with higher-order perceptions – even the lowest of the bare monads has higher-order perceptions.” Would such small higher-order perceptions not be similar to Kulstad’s simple reflections? There is indeed a parallel to Kulstad’s view (I am grateful to an anonymous referee who pointed this out to me). However, even if I were to allow higher-order perceptions to non-human animals, my view would differ from Kulstad’s in at least two respects. First, I would not ascribe *reflection* (not even simple reflection) to animals, for this would be in conflict with many of Leibniz’s texts (this is primarily a terminological point, though). Second, I do not think that one should ascribe higher-order perceptions to animals *in order to explain that they are conscious*, as Kulstad does. For Leibniz, consciousness (Leibniz often uses the term ‘attention’) can be accounted for without any appeal to higher-order states (here I fully agree with Jorgensen).

45 For a more detailed and elaborate execution of this idea, see Jorgensen 2011b.

An alternative is to argue that when Leibniz talks about continuity among creatures he does not strictly speaking mean continuity in the sense that is required by the Principle of Continuity, but something weaker.⁴⁶ On such a reading, what Leibniz points to when he stresses the ‘continuity’ among substances is just a consequence of his doctrine that the greatest amount of essence must exist. Since God seeks to create the greatest amount of essence (i. e., the greatest amount of ‘being’ or ‘reality’) he will bring into being the ‘densest’ series of creatures possible (as a means of creating the greatest amount of essence). However, even in the densest series possible, there is a gap between rational beings and animals, simply because they are different in *type*. On this interpretation, then, Leibniz’s talk of a continuous series of beings rather alludes to a version of the principle of plenitude than to the Principle of Continuity in its strict sense.

I think these two options are both viable and worth pursuing further. Jorgensen’s option has the advantage that it takes Leibniz’s talk of continuity seriously, whereas the second option is ontologically more parsimonious and does not postulate ‘small’ higher-order perceptions everywhere in nature. At this point, I can remain neutral between the two alternative suggestions of how to solve the continuity of creatures problem. In fact, it can be considered an advantage of my interpretation that it is compatible with both.

Before I go on, notice how *petites réflexions* are related to Leibniz’s innate ideas and innate truths on my view.⁴⁷ In the Preface to the *New Essays*, Leibniz characterizes innate ideas as “inclinations, disposition, tendencies, or natural potentialities,”⁴⁸ an account which helps him counter Locke’s objection that there cannot be anything innate in the mind because this would require that we constantly think of our innate ideas. Leibniz’s response is that our innate ideas are not in our minds “as actualities”⁴⁹ but only as dispositions or potentialities.⁵⁰ However, he immediately goes on by clarifying that “these potentialities are always accompanied by certain actualities, often insensible ones, which correspond to them”.⁵¹ That is, the potentialities and inclinations instantiating our innate ideas cannot be brute and free-floating but require a metaphysical basis. Now, given the interpretation developed here, it is very natural to identify this metaphysical basis with small, confused, unconscious higher-order states – i. e.,

⁴⁶ For a similar idea, see Crockett 1999.

⁴⁷ I thank an anonymous referee who pressed me on this point.

⁴⁸ *NE* Preface 52/A VI.6.52.

⁴⁹ *NE* Preface 52/A VI.6.52.

⁵⁰ For this, see Rickless’s distinction between “occurrent nativism” on the one hand and “dispositional nativism” on the other hand (Rickless 2007, 37).

⁵¹ *NE* Preface 52/A VI.6.52.

with *petites réflexions*. Rational monads represent the content of their innate, intellectual ideas and truths all the time, not just when they are actively thinking about them. That is, they differ from animal souls even while asleep in that they retain the ability to reflect and thereby to actualize their innate ideas. As I have shown above, the ability to reflect must be grounded in what I call *petites réflexions*, because distinct reflective states must arise from less distinct higher-order states given Leibniz's commitment to the Principle of Continuity. Hence, it makes sense that the "actualities [...] which correspond to" potentialities instantiating innate ideas are nothing but *petites réflexions* as well. In short, the reading put forward in this section squares very well with Leibniz's doctrine of innate ideas.

4 Higher-order Perceptions and Memory

So far I have only presented reasons for thinking that Leibniz *should* have thought that rational substances have higher-order perceptions at all times. But does he really hold this view? I think the following passage from the *New Essays* provides some evidence that this is the case:

[PP] If nothing were left of past thoughts (*des pensées passées*) the moment we ceased to think of them, it would be impossible to explain how we could keep the memory (*le souvenir*) of them; to resort to a bare faculty (*faculté nue*) to do the work is to talk unintelligibly.⁵²

To bring to light how this passage may support my thesis, I must clarify first Leibniz's use of the expressions 'thought' (*'pensée'*) and 'memory' (*'souvenir'* in this case).⁵³ Let me start with the former. Even within the *New Essays* one must distinguish between a broad and a narrow use of the term '*pensée*'.⁵⁴ In the broad sense, thoughts are identical to what Leibniz calls 'perceptions' when he speaks more technically. So understood, thoughts are nothing but modifications of an immaterial substance. The broad sense is relevant, for example, in his discussion with Locke about whether the soul is always thinking. In this context Leibniz points out: "[A]ction is no more inseparable from the soul than from the body. For it appears to me that a thoughtless state (*un estat sans pensée*) of the soul and absolute rest in a body are equally contrary to nature, and never occur in

⁵² *NE* II.x §1/A VI.6.140.

⁵³ See also my discussion in Bender 2013.

⁵⁴ This ambiguity is made explicit in *NE* II.i §19/A VI.6.118.

the world.”⁵⁵ It is clear that even the most confused perceptions of bare monads count as thoughts in this sense.

In a narrower sense, however, thoughts are something only rational creatures have. The following passage from the *New Essays*, in which thoughts are closely tied to reflections, makes this clear:

So ‘understanding’ in my sense is called what in Latin is called *intellectus*, and the exercise of this faculty is called ‘intellection’, which is a distinct perception combined with a faculty of reflection, which the beasts do not have. *Any perception which is combined with this faculty is a thought (pensée), and I do not allow thought to beasts any more than I do understanding.* So one can say that intellection occurs when the thought is distinct.⁵⁶

This passage shows that on a narrower understanding thoughts cannot be equated with perceptions in general. Only a subclass of perceptions, namely those perceptions that are “combined with a faculty of reflection,” are called ‘thoughts.’⁵⁷ Since animals are unable to reflect, they lack this kind of thought, although they of course have thoughts in the broad sense (i. e., perceptions).

Equipped with this terminological background, let us consider which sense of ‘thought’ we should apply in the case of [PP]. If we assume that thoughts can be equated with perceptions there, we get the following reformulation: “If nothing were left of past *perceptions (des pensées passées)* the moment we ceased to *perceive* them, it would be impossible to explain how we could keep the memory (*le souvenir*) of them [...]”⁵⁸ Nothing speaks against this reading. But the reading on which thoughts are more sophisticated mental states requiring reflection (or the ability to reflect) is available as well. Thus, since the sentence in isolation does not help us to decide between the two readings, we should consider the context of the passage.

Locke’s spokesman Philaletes has just claimed that ideas cease to exist in the moment we stop perceiving them.⁵⁹ Against this, Theophilus (Leibniz’s spokesman) points out that ideas cannot be the *forms* of thoughts but should rather be seen as the *objects* of thought (this is the beginning of the paragraph of which [PP] is the end).⁶⁰ Now, Leibniz applies the term ‘idea’ only to rational beings,

⁵⁵ NE II.i §10/A VI.6.111.

⁵⁶ NE II.xxi §5/A VI.6.173 (my emphasis).

⁵⁷ Here I will not discuss Leibniz’s interesting claim that a thought is a perception that is connected with a *faculty*.

⁵⁸ I also replaced the verb ‘to think’ by ‘to perceive.’

⁵⁹ I will not discuss here whether Leibniz presents Locke’s view correctly and whether his criticism of Locke’s position is fair.

⁶⁰ The full text of the passage I am referring to reads as follows: “PHILALETES. But it is believed by our party that these images or ideas cease to be any thing, when there is no perception of

but not to animals or bare monads.⁶¹ From this we can infer that Leibniz is using 'thought' in the narrow sense here. He is not just talking about modifications of any substance but about mental operations that are peculiar to rational beings. If we furthermore assume that Leibniz is using the term 'thought' consistently in this paragraph, we can conjecture that he is employing the narrow sense of 'thought' in [PP] as well.

This fits together well with my interpretation. We can now read [PP] as suggesting that, in some sense, rational creatures *always* have thoughts in the narrow sense. As we have just seen, these kinds of thought require reflection or at least the ability or power to reflect. As I pointed out in Section 3, Leibniz holds that the ability to reflect must have a metaphysical basis, so we can infer that at least some sort of 'quasi-reflection' must always be present in rational substances. (This is not to say, though, that we are actively thinking about our thoughts all the time. On the contrary, most of the time most of our thoughts and ideas are not noticed by us.⁶²) Since Leibniz is explicit that these states cannot be full-blown reflection, they must be 'small' higher-order perceptions, or '*petites réflexions*.'

Of course, this consideration alone is not conclusive. After all, it could be that the traces of thoughts are mere first-order perceptions and that only the actualization of these traces (the remembering) requires reflection. I believe though that once we take into account certain features of Leibniz's theory of memory, it becomes clear that [PP] indeed provides evidence for thinking that Leibniz holds the view that rational beings have higher-order perceptions at all times.

them, [and that] this laying up of [...] ideas in the repository of the memory, signifies no more but this, that the [soul] has a power, in many cases, to revive perceptions, which it has once had, accompanied by a feeling which convinces it that it has had these sorts of perceptions before.

THEOPHILUS. If ideas were only the forms or manners of thoughts, they would cease with them; but you yourself have acknowledged, sir, that they are the inner objects of thoughts, and as such they can persist. I am surprised that you can constantly rest content with bare 'powers' and 'faculties', which you would apparently not accept from the scholastic philosophers. What is needed is a somewhat clearer explanation of what this faculty consists in and how it is exercised: that would show that there are dispositions which are the remains of past impressions, in the soul as well as in the body, but which we are unaware of except when the memory has a use for them. If nothing were left of past thoughts the moment we ceased to think of them, it would be impossible to explain how we could keep the memory of them; to resort to a bare faculty to do the work is to talk unintelligibly" (*NE II.x §2/A VI.6.140*).

⁶¹ See *NE II.xi §10/A VI.vi.142*.

⁶² It should be stressed that quasi-reflections are not real Leibnizian reflections and do not require the subject to be awake or conscious. There must be something, however, that grounds the ideas and thoughts that are in our mind as dispositions and this is what Leibniz highlights in [PP]. I thank an anonymous referee for pressing me on this point.

In [PP] Leibniz uses the word ‘souvenir’ when he is talking about memory. This, however, is not the only form of memory that he employs. In another passage of the *New Essays* he differentiates between two forms of memory – *remembrance* and *souvenir*:

Je diray donc, que c'est *Sensation* lorsqu'on s'aperçoit d'un objet externe, que la *Reminiscence* en est la repetition sans que l'objet revienne; mais quand on sçait de l'avoir eue, c'est *souvenir*.

I shall say then that it is *sensation* when one is aware of an outer object, and that *remembrance* (*reminiscence*) is the recurrence of it without the return of the object; but when one knows that one has had it before, this is *memory* (*souvenir*).⁶³

Both humans and animals have *reminiscence* quite frequently. Leibniz's standard example is that of a dog which is shown a stick and remembers the pain it caused.⁶⁴ The presence of the stick triggers the dog to somehow *repeat* the sensation of a certain pain without really being in pain. This merely associative kind of memory does not involve reflection. *Souvenir*, however, does require reflection. Leibniz defines it as *reminiscence* conjoined with a reflective act on the fact that one has already had a similar perception. Thus, what underlies *souvenir* is not a purely associative mechanism but a mechanism that involves recognition of having been in such a state before.

Having distinguished these two types of memory, let us return to [PP]. In this passage Leibniz uses the word *souvenir* which implies, as we now know, that he is talking about a reflective activity. Furthermore, he says that the memory (*le souvenir*) is *retained* (*gardé*). This suggests that *souvenir* is an activity that is performed not only when we actually remember something *but all the time*. This is a plausible claim since our memories are retained not only while we are actually thinking about them, but also when we are, say, asleep.⁶⁵

⁶³ *NE* II.xix §1/A VI.vi.161. For a thorough discussion of different types of memories in Leibniz, see Jorgensen 2011a.

⁶⁴ See *GP* VI.611.

⁶⁵ Of course, one can argue that when Leibniz says that the *souvenir* is retained, what he actually means is that our *ability* to recall our past thoughts is retained. This is, no doubt, a possible reading of [PP]. I believe though that my reading has the advantage that it makes more sense of Leibniz's peculiar formulation that the *souvenir itself* is retained ('garder le souvenir'). If Leibniz meant the ability to recall a past thought, why doesn't he just say so? The philosophical upshot, I think, is the following: Leibniz of course *also* believes that our ability to recall our past thoughts is retained. Right before [PP] he writes that "there are dispositions which are the remains of past impressions [...] but which we are unaware of except when the memory has a use for them" (*NE* II.x §2/A VI.6.140). In order to have this ability, however, we also must retain the past thoughts

It becomes clear now how [PP] can be read as supporting my claim that Leibniz indeed thought that rational substances have (at least unconscious) higher-order perceptions all the time. If, on the one hand, both *pensées* and *souvenir* involve reflection and, on the other hand, *souvenir* is something rational substances are always engaged in to some extent, then it should follow that these substances always *reflect*. This is, granted, not how Leibniz himself would put the point, since he reserves the term 'reflection' for *distinct* or *conscious* higher-order perceptions. Still, the most plausible way to understand [PP] is to read it as saying that when the *souvenir* is not actualized (for example when rational beings are asleep), there are still quasi- or proto-reflections – *petites réflexions* – present in the substance. These *petites réflexions* are nothing but higher-order perceptions too minute to be noticed. [PP] thus provides indirect textual support suggesting that rational substances always have higher-order perceptions. To sum up, if *souvenir* is indeed as intimately linked to the ability to reflect for Leibniz as I have argued, and if, furthermore, it is really the *souvenir* itself that is retained (as Leibniz explicitly says in [PP]), then [PP] is evidence for the interpretation developed in Section 3, according to which a rational being must have 'small' higher-order perceptions, which constitute the metaphysical basis of their ability to reflect, at all times.⁶⁶

My reading of [PP] also fits together well with Leibniz's broader picture of the mind: memory in general cannot be a 'bare faculty' but has to be grounded in perceptual activity. For *reminiscence*, which is also present in animals, this foundation lies exclusively in first-order perceptions. Through associative mechanisms certain formerly confused and unconscious first-order perceptions become more distinct and thus conscious. For example, the stick reminds the dog of the pain it experienced by triggering the perceptions that constitute the traces of the original experience to become more heightened. For *souvenir* of past *thoughts*, however,

themselves, and this is why Leibniz in [PP] says that we have to also 'garder le souvenir.' In other words, without somehow keeping the thoughts themselves in our minds, we would not even have the ability to recall our past thoughts. Of course, this does not entail that we have to actively think about them constantly.

⁶⁶ As discussed at the end of Section 3, 'small' higher-order perceptions are also needed to account for the presence of innate ideas in our minds. Also, given that Leibniz takes the term 'perception' in a very broad sense, it is perhaps not too surprising that in his discussions of *petites perceptions* (e. g., in the Preface to the *New Essays*) he does not explicitly point out that there are, among the 'small perceptions,' small higher-order perceptions as well. He talks about *all* types of perceptions there, which includes higher-order perceptions – hence what I call *petites réflexions* (which are nothing but small higher-order perceptions) are also included. See also the discussion at the beginning of Section 3, where I clarify how perceptions and reflections are related for Leibniz.

which is only found in rational minds, the foundation lies in higher-order perceptions. That the *souvenir* of these thoughts is always retained is nothing but an application of the thesis that there cannot be bare faculties to the special case of the most complex form of Leibnizian memory.

I want to conclude this section by answering two potential objections against my reading of [PP]. First, one might argue that Leibniz's aim in this passage is different from what I take it to be. In particular, one might argue that Leibniz simply wants to criticize Locke for his positing of 'bare faculties' in general and is talking loosely without adhering to the details of his own terminology. It is certainly correct that it is Leibniz's aim to rebut 'bare faculties' in this passage. This does not make it illegitimate, however, to draw conclusions from [PP] concerning the details of Leibniz's own theory and terminology. In order to learn something about an author's theory, it can sometimes even be helpful to look at passages where he or she is not explicitly concerned with presenting this theory. Hidden assumptions may become more obvious and unclear terminology clearer this way. To be more concrete, with respect to [PP] it is quite natural to think that Leibniz is concerned there only with the *human* mind and consequently applies the apt terminology (like '*pensée*' in the narrow sense and '*souvenir*'). In the relevant passage Philalethes and Theophilus exclusively discuss the *human* understanding. This suggests that in his answer (which includes [PP]) Leibniz is using the terms '*souvenir*' and '*pensée*' in their technical sense. These expressions do not appear there by accident, but rather because Leibniz is pointing to specifically *human* operations which involve reflective activity.

Second, one might worry that my argument from [PP] does not provide direct textual evidence for my exegetical claim. I agree: Leibniz is not entirely explicit. The evidence I presented is only indirect. Nonetheless it supplements the more general and systematic considerations from Section 3. There I argued that Leibniz *has to* assume that rational substances always have higher-order perceptions in order to have a theory of reflection consistent with the Principle of Continuity. In this section, I have argued that it is not only this general picture that requires this assumption, but also the specifics of Leibniz's theory of memory and the details of his terminology (i. e., evidence on a much more fine-grained level). Both pieces of evidence taken together strongly support the conclusion that Leibniz indeed thought that all rational substances have higher-order states at all times, although they are not constantly reflecting.

5 Transcreation

Thus far I have offered a *naturalistic* interpretation of Leibniz's account of reflection (and of his philosophy of mind in general).⁶⁷ Once God has created all substances, every change that occurs within them can be explained entirely by the laws of nature – laws like the Principle of Continuity. There is no need for God to intervene and perform any miracles. This is as true for rational monads as it is for bare and animal monads. The reflections of rational monads do not just pop up miraculously from nothing. Instead they gradually arise from less intense higher-order perceptions which have gone unnoticed beforehand.

Unfortunately, there is a potential problem with this picture. On several occasions, Leibniz seems to hold that rational creatures come into being only by an extraordinary intervention of God, called 'transcreation.'⁶⁸ Most famously, he writes in *Theodicy* §91:

But it also for diverse reasons appears likely to me that they [human souls] existed then as sentient or animal souls only, endowed with perception and feeling, and devoid of reason. Further I believe that they remained in this state up to the time of the generation of the man to whom they were to belong, but that then they received reason, whether there be a natural means of raising a sentient soul to the degree of a reasoning soul (a thing I find it difficult to imagine) or whether God may have given reason to this soul through some special operation, or (if you will) by a kind of *transcreation*. This latter is easier to admit, inasmuch as revelation teaches much about other forms of immediate operation by God upon our souls. This explanation appears to remove the obstacles that beset this matter in philosophy or theology.⁶⁹

In this passage Leibniz is clearly skeptical about the promise of a purely naturalistic explanation of the formation of human souls. Instead he is inclined to think of this formation in terms of what he calls transcreation. Whatever transcreation consists in exactly, Leibniz is explicit that it is a 'special operation' performed by God. God intervenes in the natural evolution of a substance and *changes its nature*. On this account, it seems that God has to perform a miracle each time a purely sentient being (an animal) is 'elevated' to the status of a rational being.

When Leibniz refers back to this passage later in *Theodicy* §397, however, he tries to mitigate the consequences of the transcreation doctrine and attempts to reconcile it with his more naturalistic leanings. He thereby puts forward (perhaps without noticing) a view that differs considerably from the one defended in §91:

⁶⁷ Jorgensen pursues such an interpretative strategy as well (see for example Jorgensen 2011b).

⁶⁸ Jorgensen 2011b also discusses Leibniz's model of transcreation. Jorgensen's reading of this doctrine is somewhat similar to the account defended in this section.

⁶⁹ *Theodicy* §91/GP VI.152 f.

I have shown already (part I, § 86 *seqq.*) that souls cannot spring up naturally, or be derived from one another, and that it is necessary that ours either be created or be pre-existent. I have even pointed out a certain middle way between a creation and an entire pre-existence. I find it appropriate to say that the soul preexisting in the seeds from the beginning of things was only sentient, but that it was elevated to the superior degree, which is that of reason, when the man to whom this soul should belong was conceived, and when the organic body, always accompanying this soul from the beginning, but under many changes, was determined for forming the human body. I considered also that one might attribute this elevation of the sentient soul (which makes it reach a more sublime degree of being, namely reason) to the extraordinary operation of God. Nevertheless it will be well to add that I would dispense with miracles in the generating of man, as in that of the other animals. It will be possible to explain that, if one imagines that in this great number of souls and of animals, or at least of living organic bodies which are in the seeds, those souls alone which are destined to attain one day to human nature contain the reason that shall appear therein one day, and the organic bodies of these souls alone are preformed and predisposed to assume one day the human shape, while the other small animals or seminal living beings, in which no such thing is pre-established, are essentially different from them and possessed only of an inferior nature. This production is a kind of *traduction*, but more manageable than that kind which is commonly taught: it does not derive the soul from a soul, but only the animate from an animate, and it avoids the repeated miracles of a new creation, which would cause a new and pure soul to enter a body that must corrupt it.⁷⁰

Note first that Leibniz does not use the word ‘transcreation’ anymore here but instead talks of ‘traduction,’ thus suggesting a different approach already on the level of terminology. He is now critical of “the repeated miracles of a new creation” and wants to “dispense with miracles in the generating of man, as in that of the other animals.” He instead suggests a model quite different from that of transcreation. According to this new model, the potential for rationality has always been part of the nature of a human soul, even before conception. Such a substance has been ‘preformed’ or ‘predisposed’ from their creation on to acquire the status of a rational being (crucially, this preformation also includes the innate ideas, which are so important for Leibniz’s conception of rationality). Note that this model of traduction fits together well with the interpretation I suggested in Sections 3 and 4. That a rational substance is preformed or predisposed to become rational at some point implies that it is predisposed to bring about reflective acts, since this is a necessary condition for being rational. I have argued that this preformation consists in nothing but ‘small’ higher-order perceptions, or ‘*petites réflexions*.’ Among other things, these small higher-order perceptions ground the innate ideas, which are constitutive of rational beings.⁷¹

⁷⁰ *Theodicy* §397/GP VI.397 f.

⁷¹ See also my discussion at the end of Section 3.

So, does Leibniz abandon the idea of transcreation towards the end of the *Theodicy*? Not quite. It rather seems that in the *Theodicy* two competing models coexist without Leibniz deciding on a final verdict. It is not even clear if Leibniz himself noticed the tension between the traduction account and the transcreation doctrine. The matter becomes clearer, however, in Leibniz's discussion with Des Bosses which took place around the same period.⁷²

In the Des Bosses correspondence, Leibniz again initially puts forward transcreation, albeit (in a manner somewhat similar to *Theodicy* §97) only as a hypothesis. How wavering his views on this matter were around this time is revealed by the fact that in the letter (written on 30 April 1709) where he first brings up this topic he describes transcreation as a more reasonable alternative than traduction⁷³ – contrary to what he says in *Theodicy* §397. This shows us at least that Leibniz thought of transcreation and traduction as exclusive alternatives.

In his response, Des Bosses points out that transcreation introduces miracles into nature and that he therefore prefers the model of traduction: "This seems to be more in conformity with nature than does transcreation, inasmuch as the latter is miraculous, for nature does not require miracles."⁷⁴ And in his letter from 8 September 1709 Leibniz indeed concedes this point and seems to give up the idea of transcreation:

For if rational souls are concealed in spermata, such a traduction is in fact preexistence. But if you prefer this to God's making rational souls out of irrational ones, I certainly do not object, as I am more inclined to it. Indeed, I have sometimes thought that there are, in fact, innumerable sensitive souls in human spermata, just as in the spermata of all animals, but that those alone have rationality (although it does not yet reveal itself) whose organic bodies are destined at some time to be human, a fact that could already be perceived in them by a sufficiently perspicuous mind. *Thus, there will be no need for transcreation.*⁷⁵

So, after discussing the matter in some detail with Des Bosses and after changing his mind several times, Leibniz ultimately seems to prefer the model of traduction which agrees better with his naturalistic leanings. The last passage, in fact, accords well with the interpretation defended in this paper. It is revealing that Leibniz says that a sperm which is determined to become a human being always has rationality in a certain sense. In line with this, one may say that they also always 'reflect' in a certain sense. These 'reflections,' however, are

⁷² For a very helpful discussion of transcreation and traduction in the Des Bosses correspondence, on which I am drawing here, see Look's and Rutherford's substantive introduction in *LDB*.

⁷³ See *LDB* 127/*GP* II.371.

⁷⁴ *LDB* 147/*GP* II.388.

⁷⁵ *LDB* 15/*GP* II.389 f. (my emphasis).

too minute to be noticed. God ('a sufficiently perspicuous mind'), though, could detect these traces.

The doctrine of transcreation thus does not pose as big a problem for my reading as one might assume just on the basis of *Theodicy* §97. In his exchange with Des Bosses Leibniz becomes more and more skeptical of this doctrine and finally replaces it with the naturalistic alternative of traduction. Of course, as the passages considered show, the exegetical situation is far from clear. Ultimately, one's assessment of Leibniz's stance on transcreation also depends on the general picture one has of him as a philosopher. Does he abide by his rationalist commitments and fully embrace their naturalistic consequences? Or does he give more room to traditional doctrines and respect them perhaps more than his naturalistic inclinations allow for? Both threads can be found in Leibniz's writings, but at least in his late writings the naturalistic one seems to become more and more prevalent.

6 Higher-Order Perceptions and Leibniz's Theory of Consciousness

Earlier I said that I agree with Jorgensen's view that Leibniz has a first-order theory of consciousness. One might wonder why I did so and if this was necessary. Am I indeed committed to ascribing a first-order theory of consciousness to Leibniz? Or can I be neutral on this point? Such neutrality might be seen as an advantage for my interpretation. My reading, however, is in fact inconsistent with a higher-order theory and so I am committed to a first-order theory of consciousness.

To see why, consider again the higher-order theory of consciousness. Adherents of this view accept the following biconditional:

(HO) A perception is (phenomenally) conscious iff a higher-order state is directed at it.

It is clear that they are committed to (HO). For imagine there were a conscious perception at which no higher-order perception is directed. Then the fact that this state is conscious would have to be explained by another mechanism which would render the higher-order theory false. If, on the other hand, there were higher-order states directed at first-order perceptions without rendering them conscious, the theory would face a debilitating problem since it could not explain why some higher-order states are responsible for consciousness while others are not.

Now, imagine a person in deep sleep or in a coma. A person in such a state has no conscious perceptions whatsoever. Yet, on my interpretation Leibniz holds

that she has small higher-order perceptions. If the higher-order interpretation of consciousness were correct, such a scenario would be ruled out. This can be easily seen by applying the biconditional (HO) right to left. If there are higher-order states (which are of course directed at lower-order states), then, according to (HO), they render the states they are directed at conscious. Thus, if my reading of Leibniz's account of reflection and higher-order perceptions is correct, (HO) is ruled out.

Of course, strictly speaking it does not follow from these considerations that I am committed to a first-order theory of consciousness. This is only true if the choice between a higher-order and a first-order theory of consciousness is exhaustive. I will not defend this additional claim here, although there seem to be good *prima facie* reasons for thinking that these are the only two options available. Whatever the case may be, though, the point here is that my interpretation of Leibniz's views on reflection is not neutral with regard to the interpretation of his theory of consciousness. This may be seen as further evidence in favor of Jorgensen's reading of Leibniz as subscribing to a first-order theory of consciousness.

7 Conclusion

In this paper I have defended a naturalistic picture of Leibniz's philosophy of mind in general and of his theory of reflection in particular.⁷⁶ On this reading, whether a creature is rational is not only predetermined since the moment of creation. It is also inscribed in the creature's *nature* from the very beginning, in the form of small higher-order perceptions. At a certain point, these '*petites réflexions*' begin to unfold and become full-blown reflections in virtue of which the substance is able to exercise rational operations.

As we saw in Section 5, it is not entirely clear that Leibniz always adheres to such a naturalistic picture. The doctrine of transcreation that he sometimes advances represents a rather different approach. I argued, though, that in the correspondence with Des Bosses Leibniz finally tends towards explaining the origination of rational creatures in more naturalistic terms (namely, in terms of traduction). I believe his deeper reason for this considered view is that the model of transcreation involves a violation of the Principle of Sufficient Reason. There would be nothing in the *nature* of a substance that could *explain* why this sub-

⁷⁶ Jorgensen 2011b also explicitly ascribes a naturalistic picture of the mind to Leibniz. I am very sympathetic to Jorgensen's general interpretative strategy.

stance reflects and thereby becomes rational at some point. God would simply introduce brute, unexplainable facts into the world.

As I see it, Leibniz's intricate engagement with the transcreation doctrine reflects his attempt to find a middle way between a position which overemphasizes the differences between human beings and animals, like Descartes's, and a position which assimilates them too much, like Spinoza's.⁷⁷ As we have seen, Leibniz's struggle to steer a path between these two extremes is reflected in his texts. This struggle, however, is always guided by the following naturalistic principle: "[T]he nature of things is uniform, and our nature cannot differ infinitely from the other simple substances of which the whole universe consists."⁷⁸

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⁷⁷ For this, see also my Bender 2013.

⁷⁸ GP II.270/L 537. I am grateful to two anonymous referees for this journal, from whose comments the paper benefited a lot. I owe special thanks to Christian Barth, Michael Della Rocca, Dominik Perler, and Martin Pickavé, who all provided detailed comments on earlier drafts of the paper.

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