Problems in Interpreting Leibniz's *Pacidius to Philalethes* as a Part of *De Summa Rerum*

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Introduction

Pacidius to Philalethes (PP) of 1676, written when Leibniz was at a ship in the River Thames, has been considered as one of the important texts of Leibniz in his early years. Readers find rich discussions of mathematics, physics, and metaphysics in this work. Leibniz introduced his new view on the composition of a continuum, movements of bodies, and God's creation. But not many articles discuss PP as a part of *De Summa Rerum* (DSR),[i] which is a collection of Leibniz's articles in 1675-6. These articles are edited as one collection in the Akademie Edition. DSR is well-known through G.H.R. Parkinson's English translation published in 1992. But PP is not translated in this volume since it is technical and contains detailed discussions of mathematics and physics. PP is a dialogue, and Pacidius (later on PA) is considered as a spokesman of Leibniz's own view among interloqutors, given that he often used this name as a pseudonym (Arthur 2001, p. 127). Other interlocutors, Charinus (later on CH), Theophilus (TH), and Gallutius (GA), may also present Leibniz's view, since Pacidius explicitly agrees with their views in some passages.

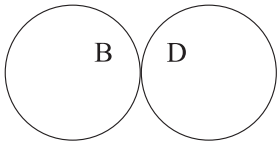
We find discussions of DSR and PP in different articles. Parkinson,[ii] Mark Kulstad,[iii] Christia Mercer,[iv] Morgens Laerke,[v] and Andreas Blank[vi] discuss DSR, examining whether Leibniz committed a version of Spinozistic monism. Also, Samuel Levey intensively studies PP to clarify Leibniz's view on continuity and motion.[vii] But we do not find intensive discussions of whether PP and other texts of DSR form a unified system in their works. Our concern is to interpret claims in DSR and PP in a consistent way. In the first section of my paper, I present some important claims in PP. In the second, I introduce some claims in other texts of DSR. Lastly I discuss problems which we need to deal with when we take PP as a part of DSR, namely, when we assume that PP and other texts of DSR present a philosophical system.

1. Important Claims in PP

I: Let us begin by introducing some important claims in PP. In this text, Leibniz introduced the doctrine of "transcreation." According to this doctrine, God annihilates physical objects and recreates them in every moment. These physical objects do not subsist as they were:

> PA.: I do not think that we can explain this better than by saying that the body *E* is somehow extinguished and annihilated at *B*, and is actually created anew and resuscitated at *D*, which you may call by the new but very beautiful name transcreation.[viii] (A VI iii, 567 = RA 213)

Leibniz introduced two places *B* and *D*. In relation to the passage, Leibniz introduced a figure with two contiguous circles, and the point *B* in one circle is contiguous to the point *D* in the other circle. *B* and *D* are not distant. After a moment, the body *E* disappears at the place *B*. The very object that existed at *B* no longer exists. But a new object shows up at the new place of *D*.



II: Thus, bodies occupy some points contiguous to the places which they occupied at the previous moment. Since these points are not distant, bodies are not considered as leaping to different places.

> PA.:… Moreover, although this is indeed a sort of leap from one sphere *B* into the other *D*, it is not the kind of leap we refuted above, since these two spheres are not distant. (A VI iii, 567 = RA 213)

Leibniz denied some kind of leap here. For him, it is not reasonable to assume that a body moves to a distant place at a successive moment. According to Leibniz, a world with such a leap is not ordered. Since God must create an ordered world, a leap to a distant place is not found in this actual world.

> CH.:… Let us suppose that there are in our bodies animalcules that are as small compared to us as a human head is to the terrestrial sphere. If one of these animalcules were to pass through from one ear to the other, then its friends would say, if we imagine them using reason, that it had passed from one pole to the other....
> PA.: You do well to resist this opinion, Charinus, which is offensive to the beauty of things and the wisdom of God. (A VI iii, 560 = RA 197-9)

Leibniz showed that some kind of leap is against the wisdom of God. If one tiny corpuscle moves from one place to another, and the distance is 10 times larger than its size, then its movement is supernatural since it can be considered as a teleportation. Even if we cannot observe the movement of this tiny corpuscle, a very tiny observer could see this unnatural leap.

How did Leibniz reject this kind of leap? A basic point is that God does not create a miracle without reasons, and a leap is among miracles:

> PA.:… Finally, because He creates every thing, the supremely wise author of things does nothing without a reason; yet there is no reason why these miraculous leaps should be ascribed to this rather than that grade of corpuscles – unless, of course, we admit atoms, i.e. bodies so firm that they do not suffer any subdivision or bending. (A VI iii, 561 = RA 199)

Perhaps he was suggesting that there is no reason to determine the distance and direction of leap, and the movements of bodies will be miraculous if they successively leap to distant places. In contrast, if a body successively occupies contiguous places, we do not have to explain why a body leaps for a certain distance.

III: Bodies, strictly speaking, do not act upon other bodies. In this sense they are inert.[ix] That is because bodies do not "move" at any moment, and therefore they cannot push other bodies to different places.

> PA.: But I would like to notice something else, that this demonstrates that bodies do not act while they are in motion.
>
> TH.: Why is that?
>
> PA.: Because there is no moment of change common to each of two states, and thus no state of change either, but only an aggregates of two states, old and new; and so there is no state of action in a body, that is to say, no moment can be assigned at which it acts. For by moving the body would act, and by acting it would change or be acted upon; but there is no moment of being acted upon, that is, of change or motion, in the body. (A VI iii, 566 = RA 211)

Bodies stay at their places. They do so at a next moment, too. They do not move, and there is no continuity between two moments. Thus movements are not continuous. To be sure, we may ascribe continuous movements to bodies. We may also think that bodies continuously occupy different places in the space enduring for some time. But they actually do not.

> CH.: Assuming a uniform continuous motion, and taking the notion of change you spoke of as established, I cannot deny that the continuum is composed of points. For so long as the motion lasts, just as we assumed that next to one point or one moment there would be another, so there is no reason why we should not assume there….
>
> PA.: But we have, I believe, demonstrated that they cannot consist of these.
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> CH.: Therefore, however we may keep changing our minds, it must be conceded that a continuous motion, in which a moving body uniformly traverses some place in some stretch of time successively and without any intervening rest, is impossible. (A VI iii, 556 = RA 187)

If a motion is continuous, its orbit needs to be continuous. This orbit is supposed to be composed of points where the body occupies at different moments. But points cannot be actual parts of a continuum. Leibniz here denied a body has some (infinitesimal) motion at a moment. If it has, then the motion can be further divided to parts, and the duration of the moment can also be divided. But by definition, a moment is indivisible, and therefore it should not be composed of any shorter moments.

IV: There are no actual infinitesimals. A continuous line is not composed of an infinite number of

indivisibles. This claim is remarkably different from what he said in 1671. In *Theoria Motus Abstracti* of 1671, Leibniz claimed that a continuum has actual parts. Also, he suggested that conatuses are infinitesimal motions, and motions and bodies are composed of an infinite number of conatuses (G IV 228-9). However, Leibniz claimed that the composition of the continuum is impossible. Leibniz claimed that a continuous space cannot be an aggregate of points:

> CH.: Supposing we concede you that space is an aggregate of nothing but points and time an aggregate of nothing but moments, what do you fear so much from this?
> PA.: If you admit this, you will be swamped by the whole stream of difficulties that stem from the composition of the continuum, and that are dignified by the name of the labyrinth." (A VI iii, 548 = RA 173)

Leibniz suggested that there is a difficulty in assuming that space is an aggregate of points, and therefore we should not assume so. It seems that space (more general, continuum) cannot be composed of points. Concerning this, some may say that though an aggregate of points cannot be a continuum, an aggregate of infinitesimals may be. But Leibniz in PP denied that a continuum has actual parts, which implies that it cannot be composed of actual infinitesimals.

> CH. …[T]here are no points before they are designated. If a sphere touches a plane, the locus of contact is a point; if a body is intersected by another body, or a surface by another surface, then the locus of intersection is a surface or a line, respectively. But there are no points, lines or surfaces anywhere else, and in general [in universum] there are no extremes except those that are made by a dividing [fiunt dividendo]: nor are there any parts in the continuum before they are produced by a division [divisione]. But not all the divisions that can be made are ever made….
> PA.: Charinus, you have made an amazing progress in this kind of reasoning, for I was not considering saying anything different myself. (A VI iii, 553 = RA 181; Levey 1999, p. 90)

This passage denies that a continuum is composed of conatuses. If it is composed of conatuses, since all the conatuses are actualized as parts, the continuum must have actual parts. Since any part of the continuum is actual in this case, it should not have any potential part. But the passage implies that a part of the continuum is potential. The passage also shows that points can be provided only when we find designations, namely, divisions of lines. Before that, we cannot have any actual points at all.

2. Important Claims in Other Works of *De Summa Rerum*

Now I introduce important claims from the other texts of DSR.

I: There are invisible elements in bodies. These elements are also bodies. An element has a mind that

guarantees its unity:

> Whatever acts cannot be destroyed; for at least it endures whilst it acts, therefore it will endure for ever. Whatever suffers and does not act, such as place and space, can be destroyed. Every body which is an aggregate can be destroyed. There seem to be elements, i.e.,indestructible bodies, because there is a mind in them. Just as there is already a shape in the immeasurable before it is marked out, so there is already an idea, i.e., a differentia of thoughts, in the primary intelligence. (A VI iii, 521 = DSR 81)

Minds act, while bodies do not. Leibniz assumed that there are indestructible bodies, and each one of them is indestructible since it has a mind that does not have to suffer from destruction. As well known, we can find a similar claim in the works of the middle years. In a letter to Arnauld of 1686, Leibniz argued that there must be a substantial form if a body is a substance (G II 58 cf. G II 77, 119). Leibniz here suggested that a corporeal substance has a substantial form in it, and this form provides a substantial unity to it.

II: Thought and extension are simple forms or attributes, and they cannot be further analyzed into simpler components. Leibniz later claimed that extension can be analyzed (G II 241), trying to refute Cartesians. But in DSR, Leibniz suggested as the following:

> For the demonstration to be accurate, the following must hold: if something does not involve in itself that which is most simple, neither does it involve that which contains this most simple thing. (He who does not have the part does not have the whole). Extension is something which is most simple. In every act of understanding which is pure, i.e., free from symbols, there is perceived every simple form which a thing involves. Therefore if thought which is free from symbols does not perceive some simple form in something, that simple form is not in that something. (A VI iii, 585 = DSR 111)

This is certainly evidence to show that extension is simple. Extension is also understood as pure without symbols. It seems that extension is so simple that a mind can understand it without any mediation of symbols. Moreover, a mind does not have to analyze it into simpler components for grasping extension. It should be noted that space and absolute extension are distinguished in DSR. As Laerke shows, "absolute extension" is contrasted with the space (A VI iii, 519). Unlike the space, absolute extension does not have a quantitative extension. Also, the space is composed of parts and changes, while the absolute extension is not composed and changed (Laerke 2008, pp. 470-1).

III: In some passage, Leibniz seems to suggest that a soul "agitates" a vortex that exists in the body. I introduce the interesting passage as the following:

> Further, every kind of gyration seems to be performed in the cavities of the brain, as the soul observes its own vortex. Species themselves are merely undulations of a liquid that is subject to pressure. Every

> undulation is preserved for eternity even if, when put together with others, it becomes imperceptible. But that the soul itself agitates a vortex-that is wonderful. But it does so, for we do not act as a simple machine, but out of reflection, i.e., of action on ourselves. (A VI iii, 480 = DSR 35-7)

There is a vortex inside of the body of a soul. More precisely, there is a vortex in the cavities of the brain. It seems that the perceptions of the soul correspond to the vortex, given that "the soul observes its own vortex." In addition, the soul agitates a vortex, but the action is quite different from physical interactions. It seems that a vortex starts to be agitated when a soul reflects.

3. Problems in Interpreting PP together with Other Texts of *De Summa Rerum*

In this section, I present several problems in understanding the claims of PP as consistent with those in the previous section.

I: According to DSR, a mind unites its body. But it is not clear how it does. A body in PP does not have a spacious unity, and it is not "united" in this sense. In PP, a body is an aggregate of points. Any body is not a continuous whole. It is an aggregate, and any part of it is actually separated from the other parts. Perhaps Leibniz meant that the body is united through some operation of the mind though the body apart from the mind is a mere aggregate. Leibniz once suggested that two things are united through an action of one upon the other in *On the Incarnation of God or On the Hypostatical Union* (1669-70):

> Therefore there shall be a hypostatical union in those things of which one acts constantly on the other by a particular rule of action, or rather of which one is the other's immediate instrument for acting. (A VI i, 534 cf. Mercer 2005, p. 59)

If Leibniz still committed this view in 1676, then mind and body can be united when mind acts upon body. As we have seen, one passage in DSR suggests that mind actually does so. One problem is that Leibniz suggested that a mind acts upon its body through a reflection. It seems that this action is quite different from physical influences. A mind may not have any actual influences upon the body at all. Indeed, there is a hint in Leibniz's later view. In the *New Essays* (1703-5), Leibniz suggests that "preestablished harmony" is postulated to explain the union of soul and body (G V 209 = NE 2.23.27). According to the doctrine of preestablished harmony, a mind or soul "unites" its body without acting upon it. Perceptions of the mind correspond to physical events in the body, and the mind has some special relationship with the body. Since no other body corresponds to perceptions of the mind, the body is considered to be assigned to the mind, and they are considered to be united.

So even in the framework of DSR, it is possible that a group of points are considered as belonging to a mind. In other words, the physical events in this group of points are reflected upon perceptions of this mind. However, this doctrine shows up in Leibniz's later works. It is not appropriate to understand him as committing the later view

in 1676. Moreover, as we have seen in the second section, Leibniz suggests that a soul agitates a vortex in the brain. If this claim implies that a soul has a real influence upon the brain, Leibniz view in DSR seems to be quite different from the theory of the preestablished harmony. But we do not necessarily have to take Leibniz as committing a real influence of the soul upon the body. He suggested that an agitation of a soul is distinct from a physical interaction of parts of a simple machine. Though he suggested that a soul acts upon itself by reflecting, he did not explicitly say that the soul has a real influence upon the body.

II: Is the doctrine of transcreation applied to minds as well? It is obvious that bodies are recreated moments to moments. But how about minds? Bodies cannot produce successive states by themselves. In the framework of PP, bodies do not actually push other bodies. Rather, they are recreated by God at every moment. Since they are transferred to different places, we assume that they have special movements. They are inert in the sense that they cannot actually move other bodies, or change the places of other bodies. The real cause of the change of their places is God, even when they seem to be pushed by other bodies.

But in PP Leibniz did not state that minds are recreated by God in every moment. When Leibniz was discussing the objects that are recreated by God, these objects are understood as changing places in a space. Since minds are not located in a space, the discussion of recreated objects in PP should not be applied to minds.

So it is possible to assume that minds continuously exist even when we accept the claims of PP. In addition, considering the claims of DSR, it is reasonable to assume that minds do continuously exist, and they are not recreated every moment. A mind unites a body and it guarantees an identity of the body. If minds are recreated, then they cannot hold identities in the course of time. In a next moment, new entities show up in place of them. Thus insofar as we accept the claims of DSR, it seems that minds need to exist continuously.

Abbreviation

A. = *Sämtliche Schriften und Briefe. Herausgegeben von der Deutschen Akademie der Wissenschaften zu Berlin.* Darmstadt, 1923 ff., Leipzig, 1938 ff., Berlin, 1950 ff. Cited by series, volume, and page.

AT. = *Oeuvres de Descartes.* Ed. Adam and P. Tannery. L. Cerf, 1897-1913. Cited by volume and page.

G. = *Die philosophischen Schriften von G. W. Leibniz.* Ed. C. I. Gerhardt. Weidmann, 1875-90 Reprint, Georg Olms, 1978. Cited by volume and page.

DSR. = *De Summa Rerum.* Trans. and ed. G.H.R. Parkinson. Yale University Press.

NE. = *Nouveaux Essais sur l'Entendement.* Cited by book, chapter, and section.

RA. = *G.W. Leibniz: The Labyrinth of the Continuum.* Trans. and ed. Richard T. W. Arther. Yale University Press.

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(Endnotes)

i It is not easy to understand what the term "Summa Rerum" means. Leibniz did not use "De Summa Rerum" as a title of his collection of papers. But he used "Summa Rerum" in some titles of his papers, i.e., "On the Secrets of the Sublime, or on the Supreme Being (De Arcanis Sublimium Vel de Summa Rerum)" (A VI iii, 472-7 11 Feb 1676) and "A Chain of Wonderful Demonstrations about the Universel (Catena Mirabilium Demonstrationum De Summa Rerum)" (A VI iii, 584-5 12 Dec 1676). Maria Antognazza states that the term "Summa Rerum" is ambiguous, and it refers either to the sum of all the things, or to the supreme being, namely, God (Antognazza 2009, pp. 171-4).

ii Parkinson argues that Leibniz did not commit a pantheism though some passages in DSR may give an impression that he did (Parkinson 1978, p. 88; Kulstad 1994).

iii Kulstad introduces several claims in DSR, and suggests Leibniz committed a version of monism (Kulstad 1994). By so doing, Kulstad tries to reject Parkinson's view that Leibniz was not inclined toward the Spinozistic monism in DSR. Kulstad also notes that monistic claims in DSR are not adopted by Leibniz in the late period (Kulstad 1997).

iv Mercer notes a passage of DSR "portraying God as the center and the circumference of the cosmos" (Mercer 2001, p. 413). But she reads it as not presenting a pantheistic view. According to her, Athanasius Kircher also had "an image of God as the center of the cosmic circle" (Mercer 2001, p. 415), and his view is often interpreted as showing the harmony and interconnectedness of things, rather than committing a pantheism. Mercer and Sleigh also discuss a definition of God found in DSR. God is defined as "the subject of all absolute simple forms" (A VI iii, 519 = DSR 79; Mercer and Sleigh 2005, p. 96). But "form" is taken as "a kind of Platonic form or essence," and they suggest that Leibniz has a stronger influence from the Neoplatonism than from Spinoza.

v Laerke agrees with Robert Adams and Kulstad who notice a substantial influence from Spinoza in DSR (cf. Adams 1994, pp. 127-8; Kulstad 1999, p. 262; Blank 2003, p. 263). Thus he criticizes Parkinson and Mercer who deny this influence (Laerke 2008, p. 553 cf. Parkinson 1978, p. 83; Mercer 2001, p. 459).

vi Blank suggests that Leibniz's claims in DSR are similar to what Descartes states in the Principles of Philosophy (A.T. VIIIa 24; Blank 2005, pp. 116-7). Descartes suggests that there is only one substance, namely God, if we assume that the existence of a substance needs to be independent of others.

[vii] Levey argues that Leibniz introduced "a first philosophy of motion" in PP, and showed that motion is not uniform but fractal (Levey 2003, p. 371).

[viii] Leibniz actually introduced the term "transcreation" before this passage:

> PA.: Anyone advocating these leaps would only mean to say that after the moving point E has been in place A for a while, it is extinguished and annihilated, and at the moment afterwards emerges again and is recreated at B; a kind of motion that we may call transcreation. (A VI iii, 560 = RA 197)

But around this passage, Pacidius does not explicitly state that transcreation is actually observed in the world. Rather, he claims that if there are leaps which he and other interloqutors discuss, then the motion of a body may be called transcreation. After further discussions, however, they realize the doctrine of transcreation is true.

[ix] Daniel Garber suggests that Leibniz proposed a kind of occasionalism in PP:

> And therefore the action by which a moving point is transferred from one sphere into another one contiguous to it – that is, the action by which a moving body e which was in one sphere at one moment is caused to be in another contiguous sphere at the next moment afterward- does not belong to the very body e which is to be transferred. For at the moment when it is at point B it is not in motion, as shown above and therefore it does not act by motion; similarly it does not act when it is already at point D. Therefore what moves and transfers the body is not the body itself, but a superior cause which by acting does not change, which we call God. Whence it is clear that a body cannot even continue its motion of its own accord, but stands in continual need of the impulse of God, who, however, acts constantly and by certain laws in keeping with his supreme wisdom. (A VI iii, 566-7 = RA 211-3; Garber 2009, p. 192)

At least it is clear that bodies cannot move other bodies. Furthermore, it seems that even a mind cannot move another body, since the motion of a body needs "the impulse of God." Leibniz's view in this passage is remarkably close to Malebranche's occasionalism, according to which neither mind nor body can be real agents.