
Section 1. Leibniz’s clarification of the concepts of substance and representation

The publication of Leibniz’s "New system of nature etc." invoked several critical reactions, to which Leibniz replied. One of his replies was published in the "Journal des savants" of November 1696.

In this text, Leibniz holds that there are only three ways in which substances can communicate. The first is by way of influence, the second by way of assistance, the third by way of pre-established harmony. To clarify this, Leibniz introduces the metaphor of the synchronical clocks.

Assume, Leibniz says, two clocks which are running perfectly synchronically; how is this to be explained? One can, as did Huygens in a famous experiment, attach two pendulums at opposite sides of a piece of wood; then, even if one purposely makes the pendulums swing in a different rhythm at first, eventually they will batter the piece of wood at the same time, synchronically. The explanation for this is, according to Leibniz, that the trembling of the particles of the wood demands a specific order which is communicated in the battering as a reaction of the wood on the pendulum (G.IV, p. 500). This is the view of the common philosophy, Leibniz states, but it must be rejected since:

"[...] on ne sçauroit concevoir des particules materielles, ny des especes ou qualités immaterielles, qui puissent passer de l’une de ces substances dans l’autre [...]."

(G.IV, p. 501)

([...] one cannot conceive of material particles, nor of species or immaterial qualities, which can pass from one of these substances into the other [...].)

The second way to synchronize the clocks is to have somebody standing by them and adjust their movement every moment. This assistance is exactly what the Occasionalists propose, and it must be rejected since:

"[...] je tiens que c’est faire venir Deum ex machina, dans une chose naturelle et ordinaire, où selon la raison il ne doit intervenir que de la maniere qu’il concourt à toutes les autres choses de la nature."

(G.IV, p. 501)

([...] I hold that this is making use of a Deus ex machina, in a natural and ordinary thing, where according to reason it should not intervene but in a way in which it concurs with all other things of nature.)

It should be observed here, that Leibniz does not reject the intervening of God, but holds that this must be universal and natural instead of occasional and miraculous (34).

The third way to synchronize the clocks is simply to construct them that way — thus they cannot but run synchronical-
ly. This is Leibniz’s pre-established harmony (G.IV, p. 501). It is the very concept which was penetratingly criticized by Pierre Bayle in his "Dictionnaire historique et critique" appearing in 1697. Leibniz published his first reply to Bayle in the "Histoire des ouvrages des savants" of July 1698 (G.IV, pp. 517 ff). In the second edition of his Dictionnaire Bayle maintained his criticism, and again Leibniz made a reply, this time published in Masson’s "Histoire critique de la république des lettres" in 1702. These two replies are of outstanding quality; they clearly show the consistency of Leibniz’s system, especially as concerns the concepts of pre-established harmony and substances. I will review them below.

In his first reply to Bayle (1698), Leibniz examines the criticism of his opponent which could be condensed to one question: what is Leibniz’s concept of causality? Bayle seems to reason as follows. Assuming for argument’s sake that a substantial form or soul 1) contains everything that will happen, but 2) is simple and indivisible; then one may conclude that 1) the ‘real’ or physical world (i.e. the material bodies) is superfluous, since anything can happen to the souls independently of their bodies, and that 2) there is no specific cause of change in a soul, since it is simple; but then, as a consequence, nothing can change a substantial form or soul and this makes it a useless concept, or, if a miracle does change a soul, the concept does not differ from the Occasionalist point of view.

Leibniz’s answer is the following; Bayle is wrong, firstly,

"Car puisque la nature de L’ame a esté faite d’abord d’une manière propre à se représenter successivement les changemens de la matière, le cas qu’on suppose ne sçauroit arriver dans l’ordre naturel."

(G.IV, p. 519)

(For since the nature of the soul has been made from the beginning in a way which is proper for representing successively the changes of matter, the occasion one supposes [i.e. that a body would feel or act independently] could not arise in the natural order.)

Obviously, Bayle has confused mechanical independency with independency as such. In fact, Leibniz says, the souls and bodies are interdependent, since the former must represent the latter (if there were no material world, there would be no substantial forms of it) and the latter must present the point of view to the former. Leibniz refers here to the circular structure of his system (see also chapter 1, section 4).

Secondly, Bayle is wrong in concluding that there is no specific cause of change in a substantial form, and also in concluding that these forms cannot change. Mechanically it would be impossible for anything to change unless something external causes it to change; but to formulate this principle completely correctly one must state, says Leibniz, that a thing will persevere in its state unless it is caused to do otherwise. This principle Leibniz is quite willing to maintain, for:
"N’est il pas vray que de cet axiome nous concluons, non seulement qu’un corps qui est en repos, sera toujours en repos, mais aussi qu’un corps qui est en mouvement, gardera toujours ce mouvement ou ce changement, c’est à dire la même vitesse et la même direction, si rien ne survient qui l’empêche? Ainsi une chose ne demeure pas seulement autant qu’il depend d’elle dans l’estat où elle est, mais aussi quand c’est un estat de changement, elle continue à changer, suivant toujours une même loi."

(Is it not true that from this axiom we conclude, not only that a body which is at rest, will always be at rest, but also that a body which is in motion, will always protect this motion or this change, that is the same velocity and the same direction, if nothing occurs to impede it? Thus a thing remains not only in as far as it depends on itself in the state it is in, but also when it is in a state of change, it continues to change, following always one and the same law.)

And this is exactly what is happening to a substantial form or soul: it follows its own law of continuous change, thus it is changing spontaneously, as Leibniz says (G.IV, p. 518). Not voluntarily, because it is not free to act otherwise (id., p. 519), but spontaneously, that is having its cause in itself: its own nature forces it to change.

The law, according to which it is changing, is the general cause of this change, but there are specific causes too. For Bayle is right in assuming a substantial form to be indivisible, but wrong in assuming it to be simple and not complex; the form is, in fact, complex, since it must contain all its perceptions:

"Il faut considerer aussi que l’ame, toute simple qu’elle est, a toujours un sentiment composé de plusieurs perceptions à la fois; ce qui opere autant pour nostre but, que si elle estoit composée de pièces, comme une machine. Car chaque perception precedente a de l’influence sur les suivantes, conformement à une loi d’ordre qui est dans les perceptions comme dans les mouvements."

(It should be considered, too, that the soul, though it is completely simple, always has a sentiment composed of various perceptions at each time; which serves our purpose as well as if it were composed of parts like a machine. For each preceding perception has some influence upon those that follow, in conformity to a law of order which holds in perceptions as well as in movements.)

This implicates that a substance contains in fact everything that ever has happened or will happen. Leibniz says:

"Il y a en chaque substance des traces de tout ce qui
luy
est arrivé, et de tout ce qui luy arrivera."
(G.IV, p. 521)

(In every substance there are traces of everything which has happened to it, and of everything which will happen to it.)

And:

"Tout cela n'est qu'une conséquence de la nature representative de l'ame, qui doit exprimer ce qui se passe, et même ce qui se passera dans son corps, et en quelque façon dans tous les autres, par la connexion ou correspondance de toutes les parties du monde."
(G.IV, p. 523)

(All this is but a consequence of the representative nature of the soul, which has to express that which happens, and even that which will happen in its body, and in a certain way in all the others, through the connection or correspondence between all the parts of the world.)

But the reality in substances is not, as is the physical or phenomenal world, divided in relations and particles; Leibniz points out that there is no extension, neither spatial nor temporal, in substances:

"Nous concevons l'étendue, en concevant un ordre dans les coexistences; mais nous ne devons pas la concevoir, non plus que l'espace à la façon d'une substance. C'est comme la temps, qui ne présente à l'esprit qu'un ordre dans les changements. Et quant au mouvement, ce qu'il y a de réel, est la force ou la puissance, c'est à dire, ce qu'il y a dans l'état present, qui porte avec soy un changement pour l'avenir. Le reste n'est que phenomenes et rapports."
(G.IV, p. 523)

(We conceive of extension, conceiving of an order in coexistences; but we should not conceive of it, any more than of space, in the way [we conceive] of a substance. It is as with time, which only presents to the spirit an order in the changes. And concerning motion, that which is real in it, is the force or the power, that is to say, that which is in the present state which carries with it a change for the future. The rest is nothing but phenomena and relations.)

This explains why a substance is both simple and indivisible, and complex; it represents the totality of the world, but exactly as a totality: there are no relations in it - since relations presuppose a specific point of view, which is not proper to the totality - there is only relatedness. Similarly, there is no extension in it, since extension implicates an order of succession; for the totality all is happening "at
once" (that is: as one event, but not in time, since the totality encompasses time) and there is no order - order is relative and belongs, therefore, to the physical or phenomenal world of particles and relations. There is indeed change and thus order; not, however, in the substance, but of it: that which it contains does not change, but its state does. This is due to the activity of primitive force: the nature of the substance brings about that the state of the substance is a state of continuous change, as explained above (and will be further explained in section 2). The body a substance is permeating takes a point of view according to the state of its substance (and vice versa); when it moves, from one point of view to the other, this is of course relative, but exactly because of this it expresses the relatedness - it is, therefore, giving physical existence to primitive force viz. in the mode of derivative forces.

This whole explanation is more or less repeated in Leibniz’s second reply (1702), but some details and some metaphysical principles, which he added, make this reply explain the contents and consistency of his system even clearer than the first. The terms are still the same, except that in this text Leibniz occasionally uses "monad" to refer to the unity brought about by the substantial form or soul; the term itself is not new (one can find it e.g. with Giordano Bruno, and also, infrequently, in Leibniz’s earliest works, in several of his letters, and, for the first time in a published text, in De ipsa natura of 1698) and neither is the concept it expresses, viz. substantial form. Leibniz gives its definition in this text in passing:

"[...] et en effect, je considere les ames, ou plustost les Monades, comme des Atomes de substance [...]."

(G.IV, p. 561)

([...] and indeed I regard the souls, or rather the monads, as the atoms of substance [...]) (35).

(For the complete definition, see section 2 below.)

Leibniz explains his system, making use of some metaphysical principles.

The first is introduced as follows:

"Il est vray que le monde n’est pas un composée d’un nombre fini d’atomes, mais plustost comme une machine composée dans chacune de ses parties d’un nombre véritablement infini de ressorts; mais il est vray aussi, que celuy qui l’a faite, et qui la gouverne, est d’une perfection encor plus infinie, puisqu’elle va à une infinité de Mondes possibles, qu’il a dans l’entendement et dont il a choisie celuy qui luy a plû."

(G.IV, p. 556)

(It is true that the world is not one compounded of a finite number of atoms, but rather as a machine com-
pounded in each of its parts of a truly infinite number of springs; but it is also true, that he who has made it, and who governs it, is of a yet more infinite perfection, since it comes from an infinity of possible worlds, which are in his understanding, and from which he has chosen that which has pleased him.)

In passing, Leibniz remarks here that this world, which God has created, is the best (since it pleases God) of other possible worlds. Since there is a true infinity of possible worlds, and since God has complete knowledge of them all and could create them, he is infinitely perfect. Which, in turn, means that the products of his creation must be as perfect as possible: therefore, our world is the best possible. Leibniz makes use of this principle to explain or rather to defend his concept of universal harmony:

"Quelle merveille donc, que tout aille bien et avec justesse? puisque toutes choses conspirent et se conduisent par la main, depuis qu’on suppose que ce tout est parfaitement bien conçu."

(G.IV, p. 560)

(What wonder then, that all goes well and just? since all things conspire and lead each other by the hand, once one supposes that this whole has been perfectly well conceived.)

The other passing remark in the first quotation is that the world resembles a machine, which in every part has an infinite number of "springs" (springs referring to elasticity, that is in substances or monads the primitive force of action and resistance). In the other reply reviewed above, Leibniz makes a similar statement, viz. that one must acknowledge:

"[..] l’infini en tout, et l’exacte expression du plus grand dans le plus petit, jointe à la tendence de chacun à se développer dans un ordre parfait [...]."

(G.IV, p. 524)

([...] the infinite in everything, and the exact expression of the greatest in the smallest, combined with the tendency of each to develop itself in a perfect order [...] .)

According to Leibniz, the universal harmony, that is, the world as a totality, is represented in every part of the world. Therefore, since the world is infinite, the infinite is in each of its parts; since the world is arranged or ordered in universal harmony, this infinite order must be expressed in every part of the world; and since order means change, this expression of the infinite means the development of each thing in a perfect order; development by itself, for it represents exactly the totality, thus expressing also the universal activity in its own way (36).

In his second reply, Leibniz repeats this, remarking that the world, may resemble a machine or "automaton", but is in
fact compound of things with souls (which automata or machines lack) that is with primitive force or universal activity:

"D’ailleurs ce n’est pas dans le merveilleux de la supposition que consiste ce qu’un Philosophe doit objecter aux automates, mais dans le défaut des principes, puisqu’il faut par tout des Entelechies; et c’est avoir une petit idée de l’Auteur de la Nature (qui multiplie, autant qu’il se peut, ses petits Mondes, ou ses miroirs actifs indivisibles), que de n’en donner qu’aux corps humain. Il est même impossible qu’il n’y en ait par tout."

(G.IV, p. 557)

(Besides, it is not on account of the wonderfulness of the supposition that a philosopher should object to automata, but on account of the failure of principles since it is necessary that Entelechies are everywhere; and one holds a small idea of the Author of nature (who multiplies as much as he can his little worlds, or his active indivisible mirrors) if one only gives them to human bodies. It is even impossible that they are not everywhere.)

Leibniz’s use of terms as "little worlds" and "active indivisible mirrors" (37) obviously refers to the exact expression of the harmonious universe in its parts mentioned above, while "entelechies" refers to the proper force or activity of each monad representing the universal activity in its own way.

The expression of the universe in the substantial forms or souls of the bodies it consists of is not only exact, it is also complete (which is, of course, ultimately demanded by its being exact, as Leibniz points out):

"De plus, les corps n’estant pas des atomes, mais estant divisibles et divisés même à l’infini, et tout en estant plein, il s’ensuit que le moindre petit corps reçoit quelque impression à part du moindre changement de tous les autres, quelques eloignés et petits qu’ils soyent, et doit estre ainsi un miroir exact de l’univers: ce qui fait qu’un esprit assés penetrant pour cela pourroit, à mesure de sa penetration, voir et prevoir dans chaque corpuscule ce qui se passe et se passera dans ce corpuscule, ce qui se passe et se passera par tout, et dans ce corpuscule et au dehors."

(G.IV, p. 557)

(On top of this, the bodies not being atoms, but being divisible and divided even to the infinite, and everything being full of them, it follows that the very smallest body receives some impression from the slightest change in all the others, however distant and small they may be, and must thus be an exact mirror of the universe; which brings about that a spirit, sufficiently penetrating for this, could, in proportion to its penetration, see and foresee in each corpuscle what happens and will happen in this corpuscle,
It is in this way, that the circular structure of Leibniz’s system fits together the infinity of the number of physical bodies, the infinity of the contents or representative nature of their monads, the ‘external’ universal harmony as well as the ‘internal’ order of development which represents it, the physical motion, and the substantial activity. At that, it should be observed Leibniz conceives of the universe as including its extension in both space and time, or rather – for neither time nor space are absolute – as spatially and temporally extended. Both its history and its future are included in the universe as a totality; since thus every possible single event is included in and represented by the composite parts of the universe, it seems that Leibniz’s system only allows for a rigid metaphysical determinism: all has been pre-established, and there is no possibility that something different could happen (38). This, however, is not quite the case. When Leibniz speaks of determinism, he refers only to the physical world, where rules indeed a rigid mechanical determinism. Everything has been pre-established, therefore substances spontaneously express what necessarily must be expressed, and thus:

"[...] le mouvement de quelque point qu’on puisse prendre
dans le monde, se fait dans une ligne d’une nature
determinée, que ce point a pris une fois pour toutes,
et que rien ne lui fera jamais quitter."
(G.IV, p. 558)

("[...] the motion of whatever point one could take in
the world, takes place in a line of a determined natu-
re, which this point has taken once and for all, and
which nothing can make it ever abandon.)

This nature is determined by the laws of mechanics, Leibniz proceeds, and bodies cannot but blindly follow them; their monads, however, do not. A body has no sentiment or pre-sentiment, therefore it can only move in the direction it receives from collision with other bodies in a moment; each moment there is only one possible result of this conflict, which means there is no possibility at all; in short: whatever exists cannot exist differently, since it does not exist differently. A monad, on the other hand, does have sentiment, etc.:

"C’est donc proprement dans l’Entelechie (dont ce point
est le point de veue) que la spontanité se trouve: et
au lieu que le point ne peut avoir de soy que la tendance
dans la droite qui touche cette Ligne, parce qu’il n’a point de memoire, pour ainsi dire, ny de pressentiment, l’Entelechie exprime la courbe préetablie même [...]."

(G.IV, p. 559)
(Therefore it is properly in the entelechy (of which this point is the point of view) that the spontaneity resides; and instead that the point cannot have but the tendency to [move along] the rectilinear line that touches this line [i.e. the tangent to its curved path] because it has no memory, so to speak, nor pres-entiment, the entelechy expresses the pre-established curve itself [...] .)

The laws of mechanics to which bodies respond are in fact the totality of existing physical relations, existing in the universe, that is, and therefore covering present, history, and future. But a body is just the expression of this at a specific place and time: it just exists, no wonder that it does not and even cannot exist differently. Its substantial form or monad, however, is the representation of all those existing relations; therefore the rigid mechanical determinism does not apply to it - in fact, it includes this determinism, and precisely because of this it is acting spontaneously.

Leibniz repeats in this second reply that the state, in which a monad perseveres, is a state of change, a "tendency" (G.IV, p. 562). It cannot but change continuously. This ten-dency is, however, composite:

"[...] une tendance composée, c’est à dire une multitu-de de penséespresentes, dont chacune tend à un change-ment particulier, suivant ce qu’elle renferme, et qui se trouvent en elle tout à la fois, en vertu de son rapport essentiel à toutes les autres choses du monde. [...] Car chaque chose ou portion de L’Univers doit marquer toutes les autres, de sorte que l’ame, à l’e-gard de la varieté de ses modifications, doit estre comparée avec l’univers, qu’elle représente, selon son point de veue et même en quelque façon avec Dieu, dont elle represente finiment l’infinité (à cause de sa perception confuse et impar-faite de l’infini) plustost qu’avec un Atome mate-riel."

(G.IV, p. 562)

([...] a composite tendency, that is a multitude of present thoughts, each of which tends towards a parti-cular change, deriving from that which it contains, and which is in it all at once, by virtue of its es-sential relation to all the other things of the world. [...] for every thing or portion of the universe must make all the others come out, in such a way that the soul, with respect to the variety of its modificati-ons, must be compared with the universe, which it represents, according to its point of view and even in some way to God, whose infinity it represents finitely (because of its confused and imperfect perception of the infinite) rather than with a material atom.)

The reason for the changing of the monads is that they must represent and express the universe itself, which is changing, or rather, which consists of continuous change. In this way,
the events, which happen according to the mechanical rules that govern the phenomena, have their ultimate cause both in the universal harmony of the extended universe (extended spatially and temporally, that is) and in the monads of the material beings that perform these events, but then in a condensed form instead of in an extended form; but both causes are in fact the same:

"Et la raison du changement des pensées dans l’âme est la même que celle du changement des choses dans l’univers qu’elle représente. Car les raisons de mécanique, qui sont développées dans les corps, sont réunies, et pour ainsi dire, concentrees dans les âmes ou Entelechies, et y trouvent même leur source."

(G.IV, p. 562)

(And the reason for the changing of the thoughts in the soul is the same as that for the changing of the things in the universe it represents. For the reasons of mechanics, which are developed in the bodies, are united and, so to speak, concentrated in the souls or entelechies, and even have their source there.)

Again, Leibniz obviously refers to the circular structure that makes the complementary relation between the intensional reality of the monads and the extensional reality of the mechanical phenomena intelligible (39). This same structure explains why the representation of the universe in the monads is exact and complete, as well as imperfect and confused: the universe is represented "tout à la fois", all at once, which means that there is no extensional determination (one cannot tell the infinite multitude of things and relations apart, so to speak) (40) – to have such a determination the monad needs its material beings, specifically its point of view, which in turn negates the intensional totality by expressing it in a specific way; this complementarity brings the universal harmony into existence. Furthermore, this complementarity accounts for the phenomenal extension of the universe: the existence of extensional determination; it entails that no point of view is exactly the same as any other, therefore the universe consists of an infinite number of portions or parts – which is, of course, one of Leibniz’s presuppositions.

In passing, Leibniz remarks that this must have certain consequences for a logic which must agree with this ontological system:

"Il est vray que, suivant ma definition de l’espece, je n’appelle pas cette difference specifique; car comme, selon moy, jamais deux individus ne se ressemblent parfaitement, il faudroit dire que jamais deux individus ne sont d’une meme espece; ce qui ne seroit point parler just."

(G.IV, p. 566)

(It is true that, following my definition of species, I do not call this difference [i.e. the necessary
difference between a point of view and accordingly a material being, and any other] specific; for since, according to me, two individuals never resemble each other perfectly, it should be said that two individuals never are of one and the same species; which would not be speaking in a just way.)

The complementarity is, in yet another way, also present in space and time, as Leibniz points out. The universe as a totality, which is one event and is accordingly represented simply and indivisibly in the monads, is potentially extended; potentially, for it requires the complementary material beings to actualize its being extended (41). This potential extension is rendered in the mathematical concepts of space and time: space and time are then continuous and indifferent to any division. In this mathematical way, space and time are ideal:

"Je reconnais que le temps, l’étendue, le mouvement, et le continu en général de la manière qu’on les prend en Mathématique, ne sont que des choses idéales, c’est à dire, qui expriment les possibilités, tout comme font les nombres. [...] Mais pour parler juste, l’Étendue est l’ordre des coexistences possibles, comme le Temps est l’ordre des possibilités inconsistentes, mais qui ont pourtant de la connexion. Ainsi l’un regarde les choses simultanées ou qui existent ensemble, l’autre celles qui sont incompatibles et qu’on conçoit pourtant toutes comme existentes, et c’est qui fait qu’elles sont successives. Mais l’Espace et le Temps pris ensemble font l’ordre des possibilités de tout un Univers, de sorte que ces ordres (c’est à dire l’Espace et le Temps) quadrent non seulement à ce qui est actuellement, mais encore à ce qui pourrait être mis à la place, comme les nombres sont indifférents à tout ce qui peut être res numerata. Et cet enveloppement du possible avec l’Existent fait une continuité uniforme et indifférente à toute division."

(G.IV, p. 568)

(I acknowledge that time, extension, motion, and continuity in general as taken in Mathematics, are nothing but ideal things, that is to say, which express the possibilities, exactly as do numbers. [...] But to speak in an exact way, Extension is the order of possible coexistences, as Time is the order of inconsistent possibilities, but which still are connected. Thus the one regards the simultaneous things or those which exist together, the other [regards] those which are incompatible and which one can nonetheless conceive as existing, and this is what makes the order of possibilities of one whole universe, in such a way that these orders (that is to say Extension and Time) bring into one order not only that which actually exists, but also that which could be put in its place, as numbers are indifferent to anything which can be res numerata [numbered things]. And this inclusion of the possible with the existent makes a continuity,
The phenomenal extension, on the other hand, is not perfectly continuous, neither spatially nor temporally, since it results in each case (that is in each material being at a specific place and time) from a specific expression of the universe, which is completely different from any other specific expression (see above). But since this is also in each case a specific expression of the universe as a totality, from which the mathematical concept of continuity is derived, the phenomenal extension must be open to the application of mathematical laws and concepts such as continuity:

"Et quoique dans la nature il ne se trouve jamais des changements parfaitement uniformes, tels que demande l'idée que les Mathematiques nous donnent du mouvement, non plus que des figures actuelles à la rigueur de la nature de celles que la Geometrie nous enseigne, parce que le monde actuel n'est point demeuré dans l'indifferrence des possibilités, estant venu à des divisions ou multitudes effectives, dont les résultats sont les phenomenes qui se presentent et qui sont variés dans les moindres parties; neantmoins les phenomenes actuels de la nature sont menagé et doivent l'estre de telle sorte, qu'il ne se rencontre jamais rien, où la loy de la continuité [...] et toutes les autres règles les plus exactes des Mathematiques soient violées."

(G.IV, p. 568)

(And although in nature there is never a perfectly uniform change, such as the idea, which Mathematics gives us of motion, demands, nor actual figures of the rigorous nature of those which Geometry teaches us, because the actual world has not remained in the indifference of possibilities, having come at effective multitudes or divisions, of which the phenomena, which present themselves and which are different up to their smallest parts, result; nonetheless the actual phenomena of nature are accommodated, and must be, in such a way, that it never occurs that the law of continuity [...] and all the other most exact rules of Mathematics are violated.)

Thus, the phenomenal or physical world is not continuous, strictly speaking, but in fact discontinuous, since actual change demands discontinuity. But since all the discontinuous changes must compound a totality (as the pre-established harmony demands) which is as such continuous, the universe is continuous on account of its being composed of discontinuous changes, as it is indeed discontinuous on account of its parts compounding a continuous totality. Continuity and discontinuity are thus necessarily complementary.

Section 2. Force and action.
In "De ipsa natura sive de vi insita actionibusque creaturum, pro dynamicis suis confirmandis illustrandisque." (On nature itself or on the inherent force and actions of created things, to confirm and illustrate their dynamics.), published in Acta Eruditorum of September 1698, Leibniz clarifies his concepts of force and action, especially within his system of pre-established harmony. He does this in answering two questions. Firstly, in what does the nature consist we usually ascribe to the things. And subsequently, whether there is in the creatures a certain energy (G.IV, p.504). As concerns the first question, Leibniz’s use of the term "soul" to refer to the inherent force or nature, that is, the substantial form of material beings, could give rise to the erroneous view that his system were pan-theistic, or that his souls or forms were endowed with intelligence or wisdom. Leibniz makes quite clear he holds no such view:

"[...]. de ipsa natura [...] assentior quidem, nullam dari animam Universi; concedo etiam, miranda illa, quae occurrunt quotidie, de quibus dicere merito solemus, opus naturae esse opus intelligentiae, non esse ascribenda creatis quibusdam Intelligentiis, sapientia et virtute proportionali ad rem tantam praediss[...]."

(G.IV,p.504)

([...] as concerns nature itself, I emphatically as-sent that there is no world soul; I even concede that the wonderful things which daily occur, of which we justly usually say that the work of nature is the work of intelligence, are not to be ascribed to certain created Intelligences, endowed with as much wisdom and power as is proportional to the matter [...].)

On the other hand, Leibniz also rejects the view that nature could be completely understood by conceiving it as a mere mechanism; one must distinguish

"[...] in ipso mechanismo principia a derivatis: ut in explicando horologio non satis est, si mechanica rati-one impelli dicas, nisi distinguas, pondere an elastro concitetur."

(G.IV,p.505)

([...] in this mechanism the principles from the derivatives: as it is not enough, in explaining a clock, if one says that it is impelled by a mechanical cause, unless one distinguishes whether it is incited by weight or by springs.) (42)

Leibniz does not take a middle position, but combines the two views, thus sublating them, in holding that there is active force created in bodies, which 'incites' their mechanical motion, representing the harmonious totality of the universe and thus expressing the predetermined order. He clarifies this by examining causality in nature as a whole.

The key question to be asked is how the eternal law, which
rules mechanical motion, once established by God when he created the universe, affects the bodies at any time (G.IV,p.506).

"Quaero enim, utrum volitio illa vel jussio, aut si mavis lex divina olim lata extrinsecam tantum tribuerit rebus denominationem, an vero aliquam contulerit impressionem creatam in ipsis perdurantem, vel [...] legem insitam (etsi plerumque non intellectam creaturis, quibus inest) ex qua actiones passionesque consequuntur."

(G.IV,pp.506-507)

(For I ask, whether this volition or command, or if you like divine law, once established has given only an extrinsical denomination to the things, or whether it has truly brought about in them a created impression which endures within them, or [...] an inherent law (even if usually not understood by the creatures in which it inheres) from which follow the actions and passions.)

The former view, viz. that divine law works extrinsically, is that of the Occasionalists, says Leibniz; he himself adheres to the latter (G.IV,p.507).

An important indication ("indicium insigne") for his view to be the true one is the existence of the principle according to which the same quantity of power is conserved, Leibniz remarks (id.,pp. 506-507). But this is an effect rather than a cause: it follows from the fact, that divine law endures within the material beings. Leibniz’s explanation of this fact is the following.

If the laws of mechanics affected the bodies extrinsically, they would have no other agent than God himself (since there is nothing but bodies and God; which is, of course, a proper mechanicist supposition Leibniz is making). This entails that God would have to effectuate these laws at every moment; which is in fact the very view the Occasionalists hold. But Leibniz rejects this, not only because it implicates that God would be in fact a clumsy craftsman, who did not construct a perfect machine, but also because it implies that the effect of extrinsical affection does not last, which means that God would be perpetually active yet accomplishing nothing which endures (G.IV,p.507). The main point Leibniz makes here, is:

"Certe si nihil creaturis impressum est [...] si res perinde post ipsum fuere affectae, ac si nullum jussum intervenisset, consequens est (cum connexione aliqua inter causam et effectum opus sit, vel immediata, vel per aliquod intermedium) aut nihil fieri nunc consen-
taneum mandato, aut mandatum tantum valuisse in praesens, semper renovandum in futurum [...]."

(G.IV,p.507)

(Surely if nothing has been impressed upon the creatures [...], if a thing has been affected after this [divine command or law], as if no command had interve-
Leibniz argues, it appears, that either everything happens according to a law, in which case this law must endure, or that there is no law at all, but only occasional causation. If the latter is the case, there is no actual totality but only a succession of non-related single events. These events may be related in God’s understanding, but even then the totality is still extrinsical, that is separated from the actual world. The very concept of actual totality demands, therefore, intrinsical causality, which is a representation of the totality itself. Laws must inhere in the material beings themselves; in any other way the totality would be extrinsical. (In this view one must, therefore, also reject the existence of any other matter or substance, which would be the agent that effectuates the laws, besides ‘ordinary matter’. That Leibniz is conscious of this, appears from his rejection of a world soul or intelligences, mentioned above.) (43)

In this way, the assumption of substantial form or primitive force, of a representative nature, follows from the concept of actual totality:

"Sin vero lex a Deo lata reliquit aliquod sui expressum in rebus vestigium [...] jam concedendum est, quandam inditam esse rebus efficaciam, formam vel vim, qualis naturae nomine a nobis accipi solet, ex qua series phaenomenorum ad primi jussus praescriptum consequetur."

(G.IV,p.507)

(But if the law established by God truly leaves something which expresses its trace in the things [...] then it must be conceded that a certain activity has been put into the things, a form or force, such as we usually give the name nature, from which follows the series of phenomena according to the first prescribed command.)

Leibniz realizes that one other way to conceive of actual totality and intrinsical causality is Spinoza’s concept of nature. In Leibniz’s system the substance of things consists of the force of acting and suffering or resisting (G.IV,p.508); this force endures, as do the material beings of which it is the substantial form or representative nature. In Spinoza’s concept, however, it follows that

"[...] nullam substantiam creatam, nullam animam eandem numero manere, nihilque adeo a Deo conservari, ac proinde res omnes esse tantum evanidas quasdam sive fluxas unius divinae substantiae permanentis modifications et phasmata, ut sic dicam; et quod eodem redit,
ipsam naturam vel substantiam rerum omnium Deum esse, qualem pessimae notae doctrinam nuper scriptor quidem subtilis, at profanus, orbi invexit vel renovavit."

([...]) no created substance, no same soul remains in number, and hence nothing is conserved by God, and therefore all things are only certain evanescent or flowing modifications and, so to speak, apparitions of the one divine permanent substance; and that, which comes down to the same thing, the nature itself or the substance of all things is God, which most ill-reputed doctrine recently an author, no doubt subtle, but profane, has introduced to the world or renewed.)

Though Leibniz may have his doubts on account of religious considerations too, it seems to be primarily the vanishing of an actual multitude of active beings, which accordingly have each their proper individual active nature, that makes him reject Spinozism. The concept of individual substance is, according to Leibniz, incompatible with Spinoza’s concept of one universal substance. The same goes for activity: a universe which consists of, and indeed exists as, a multitude of individual and enduring active forms, is, according to Leibniz, incompatible with the Spinozistic universe; in the Spinozistic universe there is only one activity flowing into various vanishing forms, thus excluding any foundation of actual individuality or existence "in number", that is as an actual multitude. It is very obvious that Leibniz is opposed to Spinoza’s monistic concept of substance or matter (44), for his final remark is:

"Sane si res corporales nil nisi materiale continerent, verissime diceruntur in fluxu consistere, neque habere substantiale quicquam, quemadmodum et Platonici olim recte agnovere."

(Indeed if corporeal things would contain nothing but something material, they can most truly be said to consist of a flux, and to have nothing substantial whatsoever, as long ago even the Platonists have rightly acknowledged.)

If corporeal things were only material, Leibniz reasons, that is, if they had no inherent individual activity, they would not last, and therefore would not be able to be the subjects of divine law. Consequently, totality could only be extrinsic. Therefore, corporeal things, that is the things which exist in the physical or phenomenal reality, cannot be this one-dimensional; they must be material as well as substantial.

Leibniz’s position would be a weak one indeed, if his concept of active material beings could be rejected easily. Therefore he needs to clarify this concept, which he does subsequently in the second half of this text, which concerns the second question mentioned above, viz. the question about
energy:

"Altera quaestio est, utrum creaturae proprie et vere agere sint dicendae?"

(G.IV,p.509)

(The other question is, whether it must be said that the created things are active truly and properly.)

This "other question" is twofold: Leibniz has to clarify both that material beings are indeed active, and that this activity is individual. He leaves no doubt about his view in this matter:

"Quantum ego mihi notionem actionis perspexisse videor, consequi ex illa et stabiliri arbitror receptissimum philosophiae dogma, actiones esse suppositorum; idque adeo esse verum deprehendo, ut etiam sit reciprocum, ita ut non tantum omne quod agit sit substantia singularis, sed etiam ut omnis singularis substantia agat sine intermissione, corpore ipso non excepto, in quo nulla umquam quies absoluta reperitur."

(G.IV,p.509)

(As far as I think to have fathomed the concept of action, I deem that there follows from it and is established by it the most widely accepted philosophical dogma, that actions are inherent to that which subsists [viz. to substances]; and hence I hold it to be true, that this is even reciprocal, viz. that not only everything which acts is an individual substance, but also that every individual substance acts without intermission, the body itself not excluded, in which absolute rest is never found.)

It should be observed that "quies" (rest) is not the opposite of "motio" (motion), but of "actio" (action), according to Leibniz. Motion is something phenomenal (see the preceding chapter), but Leibniz is discussing the foundation of the phenomena here. This means that the emphasis here is on metaphysical concepts and relations rather than on physical or phenomenal ones (which does, as a consequence of the reciprocal relation between metaphysics and physics, not mean that what is physical or phenomenal is totally excluded).

Leibniz points out that, once one has accepted and understood the concept of force being the concept of the nature of material beings, the question concerning their activity is reduced to the question concerning their force, for there can be no action without an active force and there can be no active force or potency without it being exercised. However, there is a difference between action and force:

"Quia tamen nihilominus actio et potentia res sunt diversae, illa successiva, haec permanens, videamus et de actione; [...]."

(G,IV,p.509)
(Since, however, action and potency are different things, the former something successive, the latter something permanent, we must also consider action; [...].)

That potency or force is permanent is a statement Leibniz has made before; it is, in his system, evident that this must be so, since force is the nature of material beings, that is their enduring (and, if no miracle occurs, everlasting) form. Action, however, does not have the same kind of permanence; it is successive by nature. This successivity does not refer to the external changes which succeed each other, but to the immanent activity ("actiones [...] immanentes"), as Leibniz emphasizes (G,IV,pp.509-510).

In order to clarify his concept of this immanent successive activity Leibniz first explains its relation to the concepts of matter and substances or monads, and subsequently its relation to motion and space.

In the first part of this explanation Leibniz starts from the inertia of bodies. They resist change, or rather have a tendency to persevere in the series of changes which they have once begun. Since this is in fact a form of activity, and since this activity cannot derive from extension, nor be modes of passivity (which is mass, "moles") Leibniz concludes that there must be found in every corporeal substance a primary entelechy or primitive motive force,

"[...] quae praeter extensionem (seu id quod est mere geometricum) et praeter molum (seu id quod est mere materiale) superaddita, semper quidem agit, sed tamen varie ex corporum concursibus per conatus impetusve modificatur."

(G.IV,p.511)

([... which, superadded to extension (or what is purely geometrical) and to mass (or what is purely material) certainly acts always, modified, however, in various ways by the concourse of bodies through a conatus or impetus.])

Leibniz is here, in fact, repeating what he had said in SpDyn I. It should be observed, that the immanent activity or the exertion of primitive force is not as such of a physical or phenomenal nature, since it has transformed into physical existence only as conatus or impetus. Physical or phenomenal entities may appear for a certain time (however short) and then disappear again completely; not so metaphysical entities: they endure. This becomes particularly apparent in the second part of this clarification.

In this second part Leibniz starts with motion. At a given moment of its motion, a body is not only occupying a quantity of space of its proper size,

"[...] sed etiam conatum habet seu nisum mutandi locum, ita ut status sequens ex praesenti, per se, naturae vi consequatur; alloqui praesenti momento (atque adeo momento quovis) corpus A quod movetur a corpore B
quiescente nihil differet, sequereturque [...] nullum plane discrimen in corporibus fore, quandoquidem in pleno uniformis per se massae discrimen, nisi ab eo quod motum respicit, sumi non potest."

(G.IV,p.513)

(... but also has a conatus or nisus to change [its] location, in such a way that the state, following from the present, by itself, is a consequence of the force of [its] nature; otherwise body A which at the present moment (and therefore at any moment whatever) is moving, would differ nothing from body B, which is resting, and it would follow [...] that there would be no distinction whatever between bodies, since it cannot be assumed that there is a distinction in a plenum of mass, uniform in itself, unless by something which concerns motion.)

It is clear that Leibniz holds that the immanent activity of substances distinguishes them from one another. Motion, according to Leibniz, cannot furnish such a principle of individualization, if it is conceived as being extrinsical (that is as a body being now in this place, and the next moment in another) but only if it is conceived as being intrinsical (and therefore as activity) and thus as enduring change.

Obviously, space as such does not differentiate itself, according to Leibniz, for to be at a location is not enough to be distinguished from being at another location. This is consistent with Leibniz’s rejection of the concept of absolute space (and time); spatial location, therefore, cannot extrinsically determine substances. As a consequence, motion, conceived as a succession of locations and thus as being extrinsical, cannot determine substances. The same goes for all extrinsical denominations of this kind, such as shape (G.IV,p.513). Leibniz holds that determination is essentially intrinsical, that is, that it is the activity of the substances themselves. In the preface to the Theodicy (published 1710), Leibniz repeats the main point, referring to the text reviewed here:

"[...] que s’il n’y avait rien que de passif dans les corps, leurs différents états seraient indiscernables."

(Th.,p.56)

(...) that if there were nothing but passivity in the bodies, their different states would be indiscernable.)

The activity, then, is the intermediate between the substantial form or representative nature of a material being and its actual existence as an individual material being in the multitude of individual material beings. The representative nature contains the divine law according to which the actual totality is ordered; since by virtue of this nature the substance represents the actual totality, it is this divine law, viz. primitive force. However, this nature is as such not yet actually differentiated; as a force it has yet to be exerci-
sed. In order to be exercised it needs its passive complement, viz. matter. Matter, or to be precise, primary matter is not actually differentiated either, it is the recipient of the primitive force or substantial form. The actualization of matter receiving form, and thus of establishing an actually active individual being, is brought about by the successive activity. Thus a monad is established:

"Atque hoc ipsum substantiale principium est, quod in viventibus anima, in aliis forma substantialis appel- latur, et quatenus cum materia substantiam vere unam, seu unum per se constituit, id facit quod ego Monadem appello, [...]."

(G.IV,p.511)

(And it is this substantial principle itself, which is called soul in living things, in other things substantial form, and inasmuch as it constitutes with matter a substance, which is truly one, or a "unum per se" [unity by itself], it establishes what I call a Monad [...].)

All these concepts are metaphysical by nature; a monad is not a phenomenal or physical entity. Physical entities are infinitely divisible, a monad is an indivisible unity (45). A monad is a complete substance, that is it unifies activity and passivity and is thus both general (representing the actual totality) and individual (expressing it by its own activity). Its actual existence as an individual is expressed as its immanent successive activity; immanent, since it derives from its representative nature and thus is able to act as an agent or subject of divine law (that is, able to express the actual totality in its individual way) (46). Therefore, if one were to break up the concept of a complete substance or monad into its constituent logical parts, which are indeed its ontological moments (which, one should note, do not possess existence, not even metaphysically, as such, but only as a compound totality) the following structure would appear.

First: There is an actual totality which is represented as such in the soul or substantial form or nature of the monad. This representation is of a truly universal nature and not yet differentiated (which distinguishes it from the existent actual totality).

Second: This represented totality is, by virtue of its active nature (that is the representation of the self-determination of the actual totality) split up into passivity and activity, or (primary) matter and form.

Third: Passivity and activity are unified by the immanent activity of the monad, thus actualizing the individual being it is, by expressing successively the moments of the permanent representation of the totality. In this way the actual individuality is tied to the actual differentiation of the actual totality. Consequently a multitude of individuals is existent, together compounding the actual totality which is to be represented; this makes this structure, which evidently possesses a circular structure, conclusive.

It is clear that this structure as such cannot be used in physics; Leibniz, as I mentioned before, maintains this as a
general principle. In the present text the transfer to physics is conceptually related to the infinitesimal entities of conatus and nisus, but Leibniz does not elaborate on this. Leibniz does, however, draw some propositions about physical nature from his metaphysics. Since nature must be understood to be compounded of monads (although not entirely so, since there is also the corporeal matter as such), that is, of a multitude of individuals which are distinguished from each other, Leibniz maintains that there is no perfect similarity anywhere in nature. And, as a consequence, that no corpuscles of utmost hardness, no fluid of greatest thinness, nor any subtle matter which is universally diffused, or ultimate elements, are found in nature (G.IV,p.514).

Although it may be not quite clear how, it is clear that monads both determine physical matter (corpuscles, bodies) and are distinguished from it. Monads are the subjects which exercise the laws of nature, permeating physical matter, thus establishing nature as an actual totality of active individuals; somehow physical matter is the phenomenal result of this: corporeal matter and derivative forces, which make up physical reality; and this, in turn, is represented in the monads, which makes the determination both conclusive and complementary.

In "Considerations sur les Principes de Vie, et sur les Natu- res Plastiques, par l'Auteur du Système de l'Harmonie prêteable" (Considerations on the vital principles and on the plastic natures, by the author of the system of the pre-established harmony), published May 1705, in the Histoire des ouvrages des savants, Leibniz once more attempts to clarify the distinction as well as the relation between monads (or souls) and corporeal matter, in criticising Cartesian and Occasionalist views.

"Ainsi selon mon Systeme, les Ames ou les principes ne changent rien dans le cours ordinaire des corps, et ne donnent pas même à Dieu occasion de le faire. Les Ames suivent leur loix, qui consistent dans un certain developpement des perceptions selon les biens et les maux; et les corps suivent aussi les leurs, qui consistent dans les regles du mouvement: et cependant ces deux Estres d’un genre tout à fait different, se rencontrent ensemble et se repondent comme deux pendules parfaitement bien reglées sur le même pied, quoique peutestre d’une construction toute differente."

(G.VI,pp.540-541)

(Thus, according to my system, the Souls or vital principles do not change anything in the ordinary course of bodies, and do not even give God the occasion to do so. The Souls follow their laws, which consist in a certain development of perceptions according to goods and evils; and the bodies follow also theirs, which consist in the rules of motion: and yet these two Beings of a totally different kind accord together and respond to each other as two pendulums, perfectly regulated to the same pace, although maybe of a totally different construction.)
Therefore, souls and bodies being apart to the extent that they follow their own laws, a body never receives a change in motion except through another moving body, which pushes it (G.VI, p.541). Indeed, soul and body are apart, but:

"[...] les ames ne sont jamais séparées de tout corps organique; quoiqu’il soit vray cependant qu’il n’y a point de portion de la matière, dont on puisse dire, qu’elle est toujours affectée à la même ame."

(G.VI,p.545)

([...] the souls are never separated from every organical body; though it may be true nonetheless, that there is no portion of matter of which one can say that it always belongs to the same soul.)

Leibniz is discussing animal bodies and souls here, but on principle this statement should hold for any matter and form or monad whatsoever, since all true unities are indivisible and indestructible, therefore in the same degree "detached" from physical matter (organical or otherwise). (In fact Leibniz states that a human soul is not substantially different from an animal soul or the soul of any other body; if it were, there would be a "vacuum formarum", as he points out; G.VI,p.543). Souls do not immediately affect bodies; or, in general, monads do not immediately affect corporeal matter; this much is evident from this text (as it is from several of Leibniz’s other texts) (47). But both, souls and bodies, or monads and matter, fit in the same overall pattern, and together they compound the actual totality.

Section 3. Conclusions.

In this chapter I have reviewed Leibniz’s texts on the clarification of substance and activity, published between 1696 and 1710. It is clear that he maintained his system of pre-established harmony consistently during this period (as far as one can judge from the texts above) but elaborated several details.

The main concepts of pre-established harmony are totality, individuality, representation, and expression. The actual totality of nature, which consists of an infinite multitude of acting bodies (in fact, it is their monads which act; the bodies themselves only move), can only be an actual totality if these bodies are related. In his metaphor of the clocks (see section 1), Leibniz provides us with three competitive models of this relatedness: influence, assistance, and pre-established harmony. He rejects the first and the second, and maintains the third model. In this model relatedness is intrinsic: it is established by virtue of the representation of the totality in each of its parts. The logical relation between these parts and the totality is of a circular nature: the totality consists of related parts, because its parts represent this totality and consequently are related. This logical relation is elaborated by Leibniz in his concepts of law (see section 2).
In order to enable the substance to be the acting subject of the law (or laws) which interrelate totality in itself, the representation of totality must be both exact and complete. Exact, because without a perfect similarity with the actual totality this representation would not establish actual relatedness: the parts would not fit together. Complete, because the law, which is to be effectuated, must endure within the parts (see section 2). Therefore, this subject must include the totality completely and exactly. Consequently, since the world is infinite, the infinite is in each of its parts; the order of the world is expressed by each of its parts; and the self-incitation and self-determination of the world is also represented in each of its parts. Thus each part of the world incites itself into the activity which brings about the order of changes which compound the world. As a figure of speech: each part "repeats" the total history and present and future of the world, but does so at the same moment this history and present and future come into existence (see section 1).

In this way, totality and its parts are exactly and completely identical, but for one crucial distinction: the parts do not include the totality in its extended form, since their successive changes have yet to form this extension, thereby expressing it (see section 1). At this point one must, according to Leibniz, distinguish between several moments or aspects of the actual totality.

The first distinction is that between extension as such and that which is extending.

Extension as such is time and space, that is the order of inconsistent possibilities (which are connected, thus successive) and the order of possible coexistences, respectively. Taken together, time and space form a continuum which is indifferent to any division whatever; that is, it can be "filled up" with anything which extends (48). Time and space, therefore, have no reality of their own; they are ideal and can be operated with mathematically and geometrically (see section 1). Motion, therefore, conceived as the temporal succession of spatial locations, does not have discriminating or individualizing potency any more than time and space do (see section 2).

That which is extending is corporeal matter, which is "filling up" the continuum mentioned above and is, accordingly, infinitely divisible and in fact divided, and therefore consists of an infinite multitude of bodies.

Now bodies are in fact individuals; not, however, on account of their corporeal matter (which is merely filling up the continuum of space and time and which has, as such, no more discriminating potency than space and time have) but by virtue of their monads. Differentiated in space and time, bodies are the existent physical reality, compounding the extended, actual totality. In a merely spatial perspective the multitude of bodies present what is coexistent, in a merely temporal perspective they present what is successive; if one puts these perspectives together, they present the extended totality, but only as a multitude of singular events, that is only as the expression of the total relatedness. As Leibniz says, bodies follow blindly the laws of nature, they possess no sentiment or pre-sentiment of their own. What is actually relating them, is the immanent activity and primitive force of
their monads. The concept of corporeal matter refers to a specific body being at a specific place and a specific time; the concept of monads refers to the totality which encompasses all this specificity, making it one whole instead of a multitude of singular events. Bodies, by moving according to physical laws, express the totality, but they do not represent it themselves, which their monads do.

Thus, when one comes to speak of monads, one enters the realm of metaphysics, which sublates the singularity of the physical bodies and the particularity of the relations between them, and refers to the universality of it all.

Monads represent the totality exactly and completely. The totality is the related multitude of bodies in motion. The motion of bodies is as such specific; but the representation of the totality of motion, which is not yet differentiated, is, therefore, absolute. This "absolute motion" is, as a consequence, both the potency to move or change, and actual motion or change, because it represents motion or change as such. This is primitive force. Force needs to be exercised, that is, its components (potency and actual activity) must have existence. Therefore Leibniz makes the distinction between active and passive primitive force, that is the potency (including its general actualization) to act and to receive action (which is to suffer; hence passive force, which is primary matter). In order to be actually combined, and thus to make force be exercised, they must represent the actual differentiation of the totality — for they are nothing but the representation of actual motion, which is in fact differentiated. Yet they must preserve their representation of totality as such. This is established in the concept of activity (see section 2). This activity expresses the successive changes which are included in a yet undifferentiated way in the primitive force; thus the exertion of this force by the activity establishes the individuality of a monad: it actualizes the specificity which distinguishes it from all other monads.

One may conclude, then, that in Leibniz’s system of the pre-established harmony every determinating activity is mediated by the monads by virtue of their representative nature. The ultimate foundation of the phenomena is the actual totality itself; not, however, in a linear reductive way, but in a way which has a circular nature on account of the reciprocal relation between the monad (as representing the actual totality) and the actual totality itself. The distinction between metaphysical and physical or phenomenal entities is based on the fact that metaphysical entities (as the monads and their immanent force and activities) refer to and indeed include representatively the actual totality, whereas physical or phenomenal entities as such are of a singular nature. Metaphorically Leibniz refers to this distinction with the terms "sentiment" or "pre-sentiment", and "blind" respectively, as well as the terms "permanent" and "enduring", "conservation", etc. for metaphysical entities, whereas physical or phenomenal entities are only "momentary" and "vanishing". This accounts for Leibniz’s statement that, although monads are always related to distinct portions of corporeal matter, these portions do not always belong to the same monad.
Part 2. Systematic exposition

As has been demonstrated in the preceding part, monad and body are one whole which includes its internal distinction; the dynamical essence of this is the distinction between primitive force (which is the representation of the universe by the complete substances) and derivative forces (which are the expression of the universe by the complete substances). Logically, Leibniz’s system must contain a structure in which this distinction between expression and representation (and the unity of this distinction) is conceptualized. Therefore, in this second part, I intend to establish the implicit structure of Leibniz’s system insofar as it is concerned with force. The exposition of this structure (in chapter 3) should make it possible to establish the logical and ontological essence of this part of Leibniz’s philosophy (which is the subject of chapter 4).

The structure which is expounded in chapter 3 arises from both reconstruction and interpretation. Leibniz himself never explicated the structure as such of his system; in his letters and essays he treated specific problems, sometimes a wide range of problems covering virtually all of his system, but never covering it entirely and certainly not to the extent that he explicitly presented the structure which underlies it all. Nevertheless I assume that such a basic structure can be found; in order to demonstrate this I will test, starting from the basic concept of complete substances, whether this assumed basic structure really connects the other fundamental concepts and in doing so establishes the meaning they actually have according to Leibniz. For it is clear from the various essays (which I treated in the preceding part) which concepts are fundamental and what is their meaning; this can be established with satisfactory historical reliability. If the assumed basic structure is compatible with the systematic meaning of these concepts, I think one may conclude justly that one has arrived at the structure of the system. To this, however, only systematic, not historical, reliability is applicable. Hence the division in two parts, the preceding historical part and the subsequent systematic part.

I do not pretend to present, then, in the following chapters an exclusively Leibnizian structure. For I will try to establish a structure which is not only compatible with the meaning of the fundamental concepts of Leibniz’s system, but which also furnishes a foundation of the system as a whole. In this, my basic assumption is that an ontological system (as Leibniz’s system is) can only be conclusive on the condition that it includes a basic ontological relation which applies to both being and thought.

This basic ontological relation constitutes the essence of the foundation of the system as a whole. In Leibniz’s system, I think it is obvious that one should seek this basic ontological relation in the striking similarity between notio completa and complete substance. There is, however, no text that I know of in which Leibniz identifies the two on account of a relation common to both of them. Yet, as I will demonstrate in this part, this basic ontological relation makes his system conclusive. But since it cannot be proved that Leibniz himself
arrived at this relation, nor that he endeavoured to constitute a foundation for his system as a whole, much less that he took the structural similarity between notio completa and complete substance as a starting point for it, I will confine myself to pointing out that the structure implied in the concept of complete substances is a basic structure which makes the system conclusive. On account of this restriction, it is clear that the following part is much more than the preceding part an interpretation and reconstruction. This part will be mainly of a synthetical nature – in contrast to the preceding historical exposition, which is mainly analytical – since it is to a great extent an interpretative and systematic reconstruction of Leibniz’s system. Reconstruction requires interpretation and the basis for this interpretation is furnished by the preceding part. In some instances I will here make use of a wider range of Leibniz’s works, viz. unpublished essays and letters from the same period, than is covered in part 1. However, it is clear that this kind of amplification should not exceed the basis of part 1 which it seeks to supplement; otherwise there would be an undesirable gap between the first and the second part. Therefore I will use this supplementary material only as circumstantial evidence and leave the historical basis of part 1 to be the core of the argument.

Summarizing: I intend to present the structure which I think makes Leibniz’s system conclusive and which I think is, therefore, implied by and included in it; I cannot prove and I do not intend to prove that Leibniz thought likewise, but I do intend to demonstrate that this structure is both compatible with the basic concepts of the Leibnizian system and makes it conclusive, thus demonstrating that this structure is the foundation of the system.

In the exposition in the chapters 3 and 4 the following method is applied. Starting from the assumed basic structure as such, I analyze it part by part in order to make clear its constituent elements. But these elements do not stand by themselves, they are only analytical moments; ultimately, it is their synthesis as the basic structure as a whole which presents their meaning. In the analysis, therefore, each partial analysis is concluded by a synthesis of the analysed elements, and the analysis as a whole is concluded by the final synthesis.

In chapter 3, these subsequent moments of synthesis are presented in diagrams; the analytical moments are the entities featuring in each diagram. Furthermore, all diagrams before the last one must be considered as analytical moments of this final diagram; for itself each diagram is a synthetic whole, but as part of the overall analysis and synthesis each diagram is an analytical moment.

It should be observed, then, that none of the analytical moments are considered to be independent ontological entities; only the ultimate complete circular structure has as such ontological significance, viz. as a process with a circular nature.

In chapter 4, the distinguished logical elements are analytical moments also; the ultimate structure of hyperception is the synthesis of these elements.

This choice of method of exposition is not arbitrary. I
want to make clear a basic structure which is circular. In a circular structure end and starting point are the same; yet, if presented in this way, nobody would know that which lies between end and starting point, hence nobody would be able to see that which makes the structures circular. In order to make the circularity clear, then, one must break it; this is the analysis. But also one has to point out the circularity in which the analytical moments appear; this is the synthesis.