A DISCUSSION ON HOW TO FORMULATE THE QUESTION OF CONTINGENCY IN LEIBNIZ'S SYSTEM: A LOGICAL APPROACH

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ABSTRACT

A DISCUSSION ON HOW TO FORMULATE THE QUESTION OF CONTINGENCY IN LEIBNIZ'S SYSTEM: A LOGICAL APPROACH

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The main objective of this study is to shed light on some difficulties involved in the formulation of the problem of contingency in Leibniz's philosophical system. Leibniz's mature philosophy is characterized by the solutions he proposes for this problem, and the ontological ideas underlying or assisting them. 'The problem of contingency' refers to the tension between his conceptual containment theory of truth and his claim that true existential propositions – that is, propositions which concern actual individuals – are all contingent. Though Leibniz does not seem to have one definite theory of contingency, two general lines of thought can nevertheless be discerned from his fragments on propositions and propositional truth. The first one is the infinite analysis theory, which is regarded in general as Leibniz's real theory of contingency, and the other is a theory of necessity, providing a division between absolute and hypothetical modalities. This thesis is not a study on the question whether Leibniz did really manage to solve the problem, but rather an attempt to trace the problem to its logical and ontological origins, and redefine it under a relatively simple form. It is first shown that Leibniz's theory of propositions relies heavily on his ontological conception of modalities, which covers the idea of a division between pure possibility and actuality; and then this idea is shown to be reflected on the logical level as a division between essential and existential truths.

Finally it is argued that the two lines of thought and some peculiar characteristics of Leibniz's conception of modalities bring us to the conclusion that his real problem is the (deliberate) inability of his propositional calculus to express the difference between truths of reason (essential truths) and truths of fact (existential truths) as a logical structural one.

Keywords: Possibility, Actuality, Necessity, Contingency, Being, Existence, Conceptual Containment, Determination.

ÖZ

LEIBNIZ'İN SİSTEMİNDEKİ OLUMSALLIK SORUNUNUN NASIL FORMÜLE EDİLECEĞİ ÜZERİNE BİR TARTIŞMA: MANTIKSAL BİR YAKLAŞIM

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Bu çalışmanın ana amacı, Leibniz'in felsefi sistemindeki olumsallık probleminin formülasyonunda yer alan bazı zorluklara ışık tutmaktır. Leibniz'in olgun dönem felsefesi bu probleme ilişkin olarak öne sürdüğü çözümler ile bu çözümlerin altında yatan veya onları destekleyen varlıkbilimsel düşüncelerle karakterize olur. 'Olumsallık problemi', onun kavramsal içerme doğruluk kuramıyla tüm doğru varoluşsal önermelerin – başka deyişle, edimsel bireyler hakkındaki önermelerin – olumsal olduğu iddiası arasındaki gerilime göndermede bulunur. Leibniz tek bir olumsallık kuramına sahipmiş gibi görünmese de, önermeler ve önermesel doğruluk hakkındaki yazılarından iki genel düşünce çizgisi ayırt edilebilmektedir. Birincisi, genel olarak Leibniz'in gerçek olumsallık kuramı olarak görülen sonsuz analiz kuramı, diğeriyse mutlak ve varsayımsal modaliteleri ayırt etmemizi sağlayan bir zorunluluk kuramıdır. Bu tez, Leibniz'in söz konusu problemi çözmeyi gerçekten başarıp başarmadığı üzerine bir çalışma değil, problemi mantıksal ve varlıkbilimsel kökenlerine kadar izleme, ve görece basit bir biçimde yeniden tanımlama girişimidir. İlk olarak Leibniz'in önermeler kuramının, büyük oranda, modaliteler hakkındaki salt olanaklılık ile edimsellik arasında bir tür ayrımı öngören varlıkbilimsel yorumuna dayandığı, sonra da bu ayrımın, mantıksal düzeyde, özsel ve varoluşsal

önermeler ayrımı olarak yansıtıldığı gösterilmektedir. Bahsedilen iki düşünce çizgisi ile Leibniz'in modaliteler yorumunun bazı kendine has özelliklerinin bizi şu sonuca getirdiği iddia edilmektedir: esas sorun, kullandığı önermeler kalkülünün akıl doğrulukları (özsel doğruluklar) ile olgu doğrulukları (varoluşsal doğruluklar) arasındaki farkı mantıksal yapısal bir fark olarak ifade etme güçsüzlüğüdür.

Anahtar Kelimeler: Olanaklılık, Edimsellik, Zorunluluk, Olumsallık, Varlık, Varoluş, Kavramsal İçerme, Belirlenim.

To the Author

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CHAPTER 1

INTRODUCTION: PRELIMINARY REFLECTIONS

It is only natural that an epistemologically-oriented reading of the history of post-Cartesian philosophy would present Leibniz as the philosopher who made a division between *truths of reason* and *truths of fact*, but failed to make sense of the *synthetic* character of propositions of experience, let alone those of mathematics. This is, in fact, only one of the two guises which have represented Leibniz until 20th century, namely, the Leibniz of the academia under the influence of Wolff and Kant, the other originating with Voltaire's *Candide* – the optimistic, naïve courtier, who dared to claim that we occupied 'the best of all possible worlds'. The former guise gives us a man who held that all truths are analytic, and hence, who could not help his system going into strict necessitarianism. This misconception is not without reason, for indeed Leibniz himself saw the necessitarian character of his deterministic metaphysics and especially of his theory of truth, and proposed a set of interesting 'solutions' for the various facets of the problem. The problem I am speaking of is that of *contingency*. In brief, Leibniz, as a rationalist theist, tried to reconcile the common dogmas of Christian theology with the contemporary semi-secular scientific vision of the world. One of the elements of this reconciliation concerned the concept of freedom: if God not only sees but also determines anything before it happens, how can man still be free in his future actions? And if not, how can God punish the guilty, where there is no free agent to sin? The question of freedom has been one big question in the course of the history of philosophy, whether theistic or secular; but what really characterizes Leibniz is his way to account for the logical substructure of the problem, namely, for *logical* contingency. This thesis is focused on the question of how to formulate this facet of the problem in Leibniz's system.

I have mentioned Kant, as if he himself were responsible for the common misconception of Leibniz's division of truths, which is, of course, not the case. However, the very ambiguities of Kant's division between analytic and synthetic truths can be thought to have concealed, at least until Couturat's and Russell's works, the real nature of Leibniz's theory of propositions, as exemplified in Heinemann's words in the late forties:

> It is usually assumed today that Kant was right, as against Leibniz, in stressing the synthetic character of empirical propositions, but that he made a mistake complementary to that of Leibniz in claiming the existence of synthetic a priori propositions. In fact, the distinction between analytic and synthetic is epistemological and not logical. Certainly there is a synthetic activity of our mind in discovering mathematical truths, but from thence it does not follow that mathematical propositions are synthetic a priori.[1]

But then the question arises: if the distinction between analytic and synthetic truths is only epistemological – and certainly it is – how can we still claim that Kant was 'right as against Leibniz'? Leibniz's point in regarding all truths as analytic is that containment of the predicate in the subject is a strictly logical property common to all truths, concerning the relations between real and objective concepts, so that a predicate can be contained in a subject without ever being possible that a *created* subject of knowledge grasp that truth in this very form, that is, in the form of conceptual containment. In other words, it is clear that Leibniz's conception of truth has nothing to do with epistemology, at least, with *creature* epistemology. And this brings us to the most important facet of his theory of propositions: the ontological character of the division between truths of reason of and truths of fact. First of all, this division expresses Leibniz's intention to account for truth and propositions in a logical manner, for the division is, before anything, a modal one: truths of reason are those which are necessary – which it is impossible to deny – and truths of fact are those which are contingent – denial of which does not lead to contradiction. The paradigmatic example of truths of reason are those which attribute certain properties to mathematical entities, for example, the proposition which states that the sum of the internal angles of a triangle is equal to the sum of two right angles. What Leibniz has

[1] Heinemann, F. H., "Truths of Reason, Truths of Fact", *The Philosophical Review*, Vol. 57, No. 5 (Sep., 1948), pp. 458-480, p. 477.

in mind is that truths of reason concern the relations between ideas or concepts, without any reference to what is *actual* or *the fact*, and this makes them necessarily true, for the sole criterion for a truth of reason is whether the stated relation holds between the terms of the proposition, and not whether this relation is exemplified by actual things. Indeed, the terms or ideas which are related to each other need not, and in most cases do not, denote things that are able to actualize – in other words, the paradigmatic examples for truths of reason are those which concern *abstract* entities which are never to be actualized. Truths of fact, on the other hand, concern what is fact or actual in the world: a truth of fact is true if and only if the predication it makes is (ontologically) exemplified or realized in the actual world. To give, again, a definitive example: the proposition 'Caesar crossed the Rubicon' is a truth of fact, and is true only because the event which it refers to occurs in the actual world, or which comes to the same thing, the individual to which that predicate ('crossing the Rubicon') is attributed is actual. Therefore, the division between truths of reason and truths of fact has two aspects:

1- The logical: truths of reason are necessary, while truths of fact are contingent.
2- The ontological: truths of reason concern the relations between ideas (which are, as we will see, *pure possibilities* or *possible concepts*), while truths of fact concern what is fact or not. The reason why I call the second aspect 'ontological' will be clearer in the next chapter. For the present, it must be said that (i) in the case of those propositions in which the subject denotes an actual individual (like Caesar or Leibniz) the division turns into one of perspective or interpretation (ii) Leibniz's calculus is meant to express all propositions as truths of reason, which is also clear from Loemker's claim that this calculus is restricted to the realm of possibility[2], which will be, again, made clear in the following sections. Also we will be able to see that Leibniz's 'elimination of truths of fact into truths of reason', as Heidegger calls it, is in line with this restricted character of his logic.

[2] Loemker says that Leibniz's "logical calculus, and with it the theory of subject-predicate inclusion, seems to be restricted entirely to this essential dimension", where by 'this essential dimension' he is referring to what I have called 'the realm of possibility'. Loemker, L. E., "Leibniz's Judgments of Fact", *Journal of the History of Ideas*, Vol. 7, No. 4, Leibniz Tercentenary Issue. (Oct., 1946), pp. 397-410, p. 406.

The problem of contingency in Leibniz's system appears as a tension between the idea of contingency and a theory of truth based on the notion of conceptual containment, which *seems* to imply that all true propositions are necessary. In a nutshell, Leibniz's problem is to reconcile the logical notion of contingency with his theory of truth which is based on these two radical theses: first, all propositions are either of the categorical form, or convertible to that form, and it is this form which represents the structure of noumenal reality, as consisting of individuals and their internal properties and nothing else (which finds it formulation in the dictum *that there are no purely extrinsic denominations*, as will be seen later); secondly, a proposition is true if and only if its predicate concept is contained, in some way, in the subject concept, or rather, if and only if it is a covert (*virtual*) *identity*.

Leibniz might have several reasons for opening a space for contingency in general, but it seems that his real worry is to make sense of the idea of freedom and defeat a strict necessitarianism or fatalism, which he sees in Spinoza's system, as expressed by these words from the Ethics: "*In nature there is nothing contingent*, *but all things have been determined from the necessity of the divine nature to exist and produce an effect in a certain way*."[3] In his early period, the concepts of freedom and contingency do not appear to go together, but in his mature years, Leibniz sees contingency as one of the requisites of the notion of freedom, and hence closely related with the problem of reconciling determinism (the divine pre-determination of history) with free agency (will and free act of creatures, as leading to salvation or damnation). As Adams explains:

> Leibniz was a compatibilist, maintaining to the end of his life…that every event is determined but some acts are nonetheless free. According to the formula of his maturity, freedom consists in intelligence (understanding the object of deliberation), spontaneity (insofar as the source of the action is within the agent), and contingency (which

[3] "Ethics", Part I, P29, in Curley, E., Ed. and Tr., *The Collected Works of Spinoza*, Vol. 1, Princeton University Press, Princeton, New Jersey, 1985, p. 433.

> excludes absolute, logical, or metaphysical necessity, but not hypothetical or moral necessity)…[4]

We can regard, for the sake of clarity, the idea of contingent truth in Leibniz's problematic as the logical substructure of the notion of freedom. To relate the idea of the logical question of contingency to the 'Leibnizian compatibilism' which Adams refers to, we can think of, in turn, determinism as the metaphysical correlate of the conceptual containment criterion of truth, and get this simplified scheme:

	I. Freedom	Determinism
Reconciliation of	with	
	II. Contingency	Analyticity

where the first line refers to the metaphysical and the second to the logical notions. It then appears that in Leibniz's system, determination of an individual to realize a certain act is reflected on the logical level as the containment of the concept of the temporal predicate which denotes that act in that of the subject denoting the individual. And according to this simple form, that this act is done freely is reflected, in the same way, in the contingency of the true proposition which refers to that event. Of course, there is something bothering in this presentation: I have spoken of the concept of the subject denoting an individual as containing the concept of a *temporal* predicate. This hints at, in fact, the core of Leibniz's theory of contingency, namely, the complete concept doctrine, which will be explained in the next chapter. The main idea is that corresponding to any (actual or purely possible) individual, there is a complete concept which contains the concepts of all predicates, temporal or non-temporal (i.e. universal, or eternal), which are attributable to it. For example, corresponding to *Leibniz the philosopher*, there is the complete concept 'Leibniz', which contains an infinite number of predicate concepts, among which are '(being a) man', '(being a) German', 'writing the Monadology', 'going to Paris' and so on. The point is that the ones like the two latter are temporal, that is, bound with time, even though I have not given them in that form. Thus, 'writing the Monadology' is in fact

[4] Adams, R. M., *Leibniz: Determinist, Theist, Idealist*, Oxford University Press, New York, 1994, p. 11.

a predicate which also contains a reference to the interval of time in which Leibniz did really write the Monadology. Now, although a complete individual concept contains infinitely many temporal predicates (since time, for Leibniz, is infinitely divisible), it is itself non-temporal, or in Leibniz's terms, eternal, so that the concept 'Caesar' does not contain a reference to the *factum* (to what is fact or actual), but only to an idea, consisting of infinitely many *sub-ideas*, so to speak, each corresponding to a predicate attributable to Caesar, and can be treated as any other element in the genus-species schema which displays the *universal* predicates of this individual. And this is why Leibniz sees an individual as a *lowest species* (*infima species*). It is significant that Ross sees this as the real source of the problem of contingency:

> Most philosophers were in a position to distinguish between necessary and contingent truths. Leibniz, however, had spoilt the contrast between abstractions and concrete individuals, through his doctrine that an individual was a lowest species. At higher levels, he could still contrast the abstract concept with the individuals it covered. But the concept of a lowest species was a complete specification of all the properties of an individual – it was a 'complete concept' or 'individual notion'. Consequently Leibniz could not differentiate between what was necessarily true of an individual in virtue of its concept, and what was contingently true of it as a concrete individual. All truth had to be analytic, since to say that a predicate belonged to an individual subject was to say that it was part of the complete concept of that subject.[5]

Now, truths of fact or contingent truths are those which concern actual individuals and their predicates. Before reconciling the idea of contingent truth with the containment theory, then, Leibniz has to provide an explanation for how this containment is ever possible in the case of true propositions attributing *temporal* predicates to individuals. Then we get the (potentially misleading) idea that there is a third aspect of the division between truths of reason and truths of fact: in the former, the subject denotes an abstract entity, while in the latter the subject denotes a concrete individual, to which corresponds an infinitely complex, complete concept. Following this idea, it becomes harder to see how Leibniz is to account for the contingency of truths of fact, since the containment theory is now applicable to them

[5] Ross, G. M., *Leibniz*, Oxford University Press, Oxford, 1984.

through a conception of individuals as lowest species, and the notion of complete concept.

This paper aims to display the misleading nature of this latter idea. Now, Leibniz's theory of contingency covers two lines of thought: the idea of infinite analysis, and the division of necessities as *absolute* and *hypothetical*. The first line of thought, which is regarded as Leibniz's real theory of contingency – a claim which seems to be affirmed also by Leibniz himself – is open to two possible interpretations, one focusing on the infinite complexity of the complete concept, and the other the infinity of the possible worlds among which God chooses to create only one (i.e. the best). The first possible interpretation implies that truths of fact are logically characterized by the nature of the concepts of their subjects, which are complete individual concepts, and makes use of the infinite analysis theory in terms of the infinite complexity which these concepts cover. However, the second interpretation, which fits better to Leibniz's explanation, and which has more textual justification, implies that the problem is rather the infinity of the possible worlds; moreover, the second line of thought, which has an important place in Leibniz's system, is in tension with the first reading, and hence with the idea that the difference between necessary and contingent truths depends on the difference between incomplete (finite, universal, abstract) and complete (infinite, individual, concrete) concepts. It will be seen that these latter two – second reading of the first line of thought, and the second line of thought as a whole – bring us to the conclusion that the problem of contingency derives from other deeper problems in Leibniz's philosophy of logic, namely, the relativistic character of the division between truths of reason and truths of fact, and the inability of Leibniz's calculus, which is in close relation to the conceptual containment theory, to express the difference between *pure possibility* and *actuality* – a theme on which the whole system heavily relies. At some places, Leibniz uses the terms *essential* and *existential* to refer to necessary and contingent truths, respectively. It will be seen why this terminology would express the question of contingency in a more exact way, and what its implications are with regard to the formulation of this question.

The division of reality as pure possibility (*essence*) and actuality (*existence*) – or as non-actual possible worlds and the actual world, which is the same thing – is the root of the division between truths of reason and truths of fact, and of the question of contingency. This issue will be explained in the first section of the next chapter, under the title of 'modal ontology'; however, it marks all departments of Leibniz's system, and some important implications of this idea must also be detected in his metaphysical conception of the individual substance, which is given in "the Monadology" and other related essays. To hint at one of these implications, the idea of a *windowless monad* can be taken to express the logical idea of complete individual concept as containing all that is predicable of an individual. More importantly, the *relative independence* of created individual substances, and the idea of *internal determination* are closely related with Leibniz's modal ontology. Especially, Leibniz's definition of determination, which will be given in the last sections of the next chapter, will clarify what Leibniz has in mind when relating the idea of contingency to that of *hypothetical necessity*.

That *the present is great with the future and laden with the past* may be regarded as the most comprehensive idea from Leibniz's mature metaphysics.[6] First of all, it hints at the religious and metaphysical notions of destiny and determinism. But the idea that an 'individual substance' is already loaded with its future states – that is, determined in its future properties and relations with all their details from the very beginning – comprises much more than a bare fatalism. From the perspective of mature Leibniz's attempts to give a systematic unity to his accumulated views on diverse subjects, this idea is related with two essential issues: the logico-metaphysical structure or nature of the individual substance as representative and constitutive of the universe, and God's concourse in things and events. And between them is a rational world, as created and established by God. Roughly, the former issue is in relation with certain metaphysical and logical problems, and the latter with

[6] I will not here deal with the more popular aspects of this metaphysics, including the hypothesis of concomitance (the theory of pre-established harmony), the correspondence between material and spiritual realities, the derivative character of time and space, and other related issues, which need to be discussed in the context of Leibniz's conception of causality and his whole philosophy of nature. What I will focus on is the idea that for a monad, determinism appears as a form of independence, namely, relative independence.

theology, particularly with the theory of creation. However, the most fundamental theme which constitutes the basis of both logical and metaphysical concerns of mature Leibniz is his unique conception (or conceptions) of *substance*. In brief, the concept of substance, in relation to its Aristotelian and Cartesian formulations, has had two main senses. First, it has been taken in a predicational sense: substance is that which cannot be predicated of something else, but to which various predicates can be attributed. In other words, substance is an *ultimate subject* in a categorical proposition, or more properly, a subject which cannot be the predicate in any proposition. A second sense given to substance, originally by Aristotle, underlines the notion of *endurance*: substance is that which endures through change, i.e. which remains the same through the course of alteration (change of predicates or properties).[7] It is well known that Aristotle, as many other ancients philosophers, dealt with the common problem of the one and the many, one of the expressions of which was the paradox of change; and this latter conception of substance – substance as the non-changing *substratum*, or that which *stands under* the changing surface, so to speak – was presented as a solution to that problem. The paradox in a nutshell is as follows. Say A changed into B. Now, B has either something or nothing common with A. If it has something common with A, then something in A has not changed, which still remains in B. Then it is false that A as a whole has changed into B. Thus, B must have nothing common with A. But this time it is impossible to relate B to A, for B is now totally disconnected with A, which makes no sense of *A's changing into B*. Therefore, concluded Aristotle, change must be partial, and tried to solve the problem in terms of his conception of substance as consisting of a form, the changing element, and (a certain portion of) matter (providing the *haecceity* or this-ness of the substance) which survives the change.[8]

However, substance as the enduring basis or foundation can be seen as an instance of a more comprehensive and distinctive conception, both in Aristotle and the Aristotelian tradition on the one hand, and in modern (Cartesian) Rationalism on the

[7] Cottingham, J., *The Rationalists*, Oxford University Press, Oxford, New York, 1988, p. 76.

[8] Woolhouse, R. S., *Descartes, Spinoza, Leibniz: The Concept of Substance in Seventeenth-Century Metaphysics*, Routledge, London, 1993, p. 8-9.

other, which I will call in general 'the metaphysical conception of substance', as contrary to the logical one: substance is that which exists independently of anything else. First of all, the idea of independent existence leads us to the question of what is meant by 'independence'. Now, independence here may be either absolute or relative. In other words, substance is either that which exists independently of *anything* existing whatsoever, including God himself, or that which exists independently only with regard to other created substances and their accidents – substances which have their reason and cause of existence in the ultimate substance, God. If taken absolutely, only God, for the Rationalists can properly be called substance. And this is exactly what Spinoza does: Spinoza takes substance as that which exists in itself – which is *causa sui* – and which is conceived through itself, and demonstrates that God, and only God, is a substance (in fact, *the* Substance): "*Except God, no substance can be or be conceived*".[9] This same division can also be found in Descartes who admits that only God can be thought as substance if substance is taken as that which exists independently of any existent whatsoever. But Descartes does not fail to attach a more relativistic sense to the term, and speaks of extended and thinking substances as constitutive of the essences of things.[10] The 'relatively-independent-existence' interpretation of the concept of substance, in fact, gets closer to the predicative definition: a substance is a subject which cannot be predicated of anything else, and to that extent, any substance is predicatively independent of others, without failing to depend physically and metaphysically on an ultimate substance, God. In this case, there may be infinitely many substances each of which "exists in its own right"[11] with respect to others, but depends on an ultimate substance which is the creator of all. Thus, there may be predicative and metaphysical independence among a number of created or inferior substances, and yet all of these may be dependent on a superior creator without losing their *substantiality*.

[9] "Ethics", First Part, P14, *The Collected Works of Spinoza*.

[10] *Descartes, Spinoza, Leibniz*, p. 19.

[11] *The Rationalists*, p. 77.

This is Leibniz's case. The relation between the metaphysical and the logical which I referred to above is best reflected on the level of individual substances: from the logical perspective, substance is a single subject to which a finite or infinite number of predicates can be attributed, but which itself cannot be attributed to any other subject. However, for Leibniz, this would only be a *nominal definition* of substance – which fails to show the possibility of its object; instead, he insists that a *real definition* must be given if we are to rely on a certain notion of substance in giving account of reality.[12] Otherwise stated, it must be shown, first of all, how such a thing – a non-predicable subject – is possible. Now, Leibniz has a belief that, corresponding to any true predication – to any case where a predicate is truly attributed to a subject – there is 'a basis in the nature of things' which are referred to by the terms of the predication, i.e. the subject and the predicate. In brief, if B is to be truly predicated of A, as in a true proposition 'A is B', there must be a true relation between the being which is denoted by 'A' (the subject), and the property which is denoted by 'B' (the predicate) on which the truth of the predication is founded. Following this assumption of a *correspondence* between logical and ontological predications, we are led to the question of how to make sense of the idea of a subject which is predicated of nothing else. Intuitively, the ontological counterpart of such a logical subject is, in fact, a relatively independent substance whose not only actions but also passions derive from its own nature, and thus whose nature suffices it to bear all the properties it bears, bore or will bear, and enter into all relations (with other beings) it enters, entered and will enter. The key notion which brings together these two levels of predication – the logical and the ontological –on the one hand, and the two conceptions of substance on the other, is the notion of *complete concept*: "It is the nature of an individual substance or complete being to have a concept so complete that it is sufficient to make us understand and deduce from it all the predicates of the subject to which the concept is attributed."[13] Complete concept of a substance is a concept which contains anything attributable to the subject which is the logical correlate of that substance – any predicate, temporal (particular) or universal (non-temporal), unary or relational. A complete concept, in the case of an

[12] "Discourse on Metaphysics", § 8, *Philosophical Papers and Letters*, p. 307.

[13] *Ibid*., p. 307.

individual substance or of a temporally extended being, is infinitely complex. This infinite complexity has two dimensions from the point of view of a particular individual substance: first, temporal states of an individual substance, whose perceptions extend over a temporal continuum, are infinitely many; and secondly, there are an infinite number of other substances in the universe, which are in a certain (perceptional) relation to it. And one may add to this the infinity of the number of the perceptional states of any other substance. Roughly, it is not only that a complete concept comprises an infinite complexity in itself, but also it is a member of a system – clearly, a *possible world* – which is also infinitely complex. This is one of the most fundamental ideas of Leibniz's mature metaphysics – that everything in the universe is connected to everything else both in a logical and a perceptional way, which culminates in the famous hypothesis of concomitance or the theory of pre-established harmony, and which provides a common basis to Leibnizian physics, theory of causality and philosophy of nature. For the present, I will try to focus only on some special aspects of the actual or contingent part – that is, the actual world – of Leibniz's system of realities, and consequently on the notion of individual substance from the perspective of the system of monads. Leibniz's views on reality in general as comprising both the actualized and non-actualized possibilities, and his metaphysical reading of modalities including a division between the realms of essence and existence will constitute the subject matter of the following chapter. The logical aspects of the issue will be discussed there, but here some references will be made to them when needed – especially to the idea of complete concept.

Leibniz's substances are *monad*s. A monad is a substance which is simple in the sense of lacking substantial details – that is, a monad is no *substantial multitude*. Leibniz takes compounds in opposition to monads: a compound is an *aggregate* of simple substances; in other words, a compound is a substantial multitude. Now, for Leibniz, since monads are totally simple, it follows that they are non-extensional – for extension implies *partiality* – and for the same reason, they cannot be divided, and cannot have figures either. Leibniz derives from this simplicity the impossibility of a *natural emergence* of monads. 'Natural emergence' here signifies emergence *within* the nature, or emergence through the means which inhere in nature itself. Such

means are natural in the sense that they share the essential qualities of the given nature; and since nature reveals itself as compound realities (compound substances as opposed to proper substances, monads), natural emergence comes to mean emergence through composition: coming together of certain parts, which are either simple themselves, or again divisible, in a certain manner and proportion, is the way in which a composite naturally emerges. But monads, being absolutely free from parts, cannot come to existence through parts – *monads cannot naturally begin to be*. Another way to express this situation might be to say that for monads, beginning or ending to be is *transcendent* to nature itself, whereas for composites it is *immanent*. For monads, Leibniz speaks of 'beginning and ending at once', in opposition to 'beginning and ending in parts'[14]. The first binary corresponds to 'creation' and 'annihilation'[15]. A monad, with all the reality it includes in itself, can come to have or lose its existence only by a miracle – through a trans-natural occasion. Otherwise stated, monads cannot *come to* have properties once they are created by God in a way that is unnatural, if they are not to be totally destructed. Thus, monads can change neither naturally – in natural terms – nor transcendentally, that is, *into* the natural. But does not this come to say that they do not have any reality whatsoever; and if this is true, is not Leibniz's 'simple substance', the real foundation of the actual realm, a vain concept?

This would be the case, if there were nothing distinctive *within* the monad. In fact, anything Leibniz forbids monads to have externally or *substantially* – multitude, change, detail – are present *within* them, through *perception*. Though monads have no parts, and by that reason, do not go under external or substantial change – change through parts – they do change *internally*. Indeed, their internal changes constitute their whole reality. A monad cannot affect any other monad: there are no absolutely external relations between individual substances. Thus, no internal motion "can be excited, directed, increased or diminished from without"[16] for a simple substance.

[14] "The Monadology", §6, *Philosophical Papers and Letters*, p. 643.

[15] *Ibid.*, p. 643.

[16] *Ibid.*, p. 643.

Now, since an accident or attribute, for Leibniz as well as for Aristotle, cannot have any reality or existence without the substance or substances of which it is predicated (logically or ontologically)[17], and since an inter-monadic causal influence is impossible, "neither substance nor attribute can enter a monad from without."[18] It follows that any attribute whatsoever a monad has must derive internally from its nature – it must have been there from the beginning. And this feature characterizes the special sense given to individual substance by Leibniz: monads, free from external influences, are *internally determined*. A significant consequence of this is that relations between monads are nothing but certain modifications of unary properties which pertain to individual monads– in other words, relations are 'realities' which *emerge* from non-relational predicates, and hence which have no substantiality.[19] To that extent, "monads have no windows"[20]: there is no mediate realm – a realm of relations – through which individual substances would come to be related to each other and communicate externally.

Another way of making sense of the non-substantiality of relations between individual substances is to remember Leibniz's dictum that "*there are no purely extrinsic denominations*"[21]. An extrinsic denomination is a property which is predicated of a thing without any basis of predication – a basis which would make the predication true – in the nature of the thing itself.[22] Indeed, Leibniz drives such denominations out of his system by stating that any predication has some basis in the nature of things, which, anachronistically speaking, led him to regard all truths as analytic. The point is that an intrinsic denomination, as opposed to an extrinsic one,

[17] This point will be discussed in the following chapter in the context of the doctrine of *complete concept*.

[18] *Ibid*., p. 643.

[19] To make it clearer, it can be thought that any relation between two monads is in fact a pair (or a set of pairs) of unary predicates or properties, each predicate pertaining to one of the two.

[20] "The Monadology", §8, *Philosophical Papers and Letters*, p. 643.

[21] "Logical-Metaphysical Principles", Strickland, L., Tr. and Ed., *The Shorter Leibniz Texts: A Collection of New Translations*, Continuum, London, New York, 2006, p. 50.

[22] Brown, S., Fox, N. J., *Historical Dictionary of Leibniz's Philosophy*, Scarecrow Press, Lanham, Md., 2006, the article "Extrinsic Denomination", p. 94.

is nothing more than an essential property – a property which pertains to the essence of the thing of which it is predicated; thus, for Leibniz, all predications are *essential*[23]. Now, by denying accidental predications, extrinsic denominations and purely synthetic truths (in its Kantian sense), Leibniz regards any difference between any two monads as a difference between their *complete concepts* – that is, a *necessary difference*. Monads differ only in their internal qualities; not in external ones, since there are none. And this opens the way to Leibniz's famous principle that any two things in nature cannot be exactly the same, i.e. the principle of the identity of indiscernibles. This principle says simply that if one thing has exactly the same essential properties with another thing, then there is only one thing instead of two. In fact, the principle of the identity of indiscernibles seems to follow from Leibniz's conception of individual substance. Now, an individual substance's nature is to have a complete concept which defines it *completely* so that one could distinguish it from others in a perfect manner if one had the knowledge of that concept. Since any property a substance can have will be part of its essence or nature, the complete concept of that substance is the set of all such properties. Thus, what makes an individual substance *that* substance – i.e. what gives it its *haecceity* – is its complete concept. By definition alone, then, two substances cannot have exactly the same set of properties. The point is that every *numerical* difference implies an *essential* difference: things – substances – differ not according to external determinations, for there are none, but only according to *essence* or *nature*. This idea is one of the most important expressions of Leibniz's idealism which, as we will see, is closely related to other aspects of his system, especially to the theory of contingency.

Another essential idea concerning the internal life of individual substances (the monads) is that anything in the universe, except God, is in a continuous change. Particularly in the case of monads this comes to be a continuous *internal* change. But then is it that the essence or complete concept of a monad has no persistent identity? On the contrary, this change is what provides self-identity to an individual substance.

[23] Here, it is meant that the Aristotelian division between essential and accidental properties cannot be applied, at least straightforwardly, in Leibniz's case. On the other hand, in the following chapter, we will see that there is another division, between essential and existential predications, in which case the term 'essential' is used in a different manner.

Now, a process of change, from the perspective of Aristotle's conceptual solution to the idealized paradox given above, has two elements: that which changes, and that which endures. A monad can change, then, only if it comprises a detail which represents the change – a multitude of different realities – on the one hand, and an enduring reality on the other, within itself. Leibniz finds the detail in the variety of the *perceptions* and *appetites* of the monad, which are absolutely internal to it, and *the enduring* in the law of the individual concept or the principle of change. The idea is that the whole panorama of perceptions (relating the monad to the universe) and appetites (enabling the monad to pass from one perception to another), of which consists the internal life of a monad, constitute an ordered series which can be represented by a definite law. This law itself expresses the essence or nature of that particular monad, and distinguishes it from others. The detail – i.e. the series of perceptions and appetites – is then the set of all values, as it were, which instantiate the law. The point here is that neither the law nor the detail is superior to the other: the law of change expresses exactly 'the specific nature'[24] constituted by the series of perceptions and appetites. Thus, the law and the series are immanent to each other, for the law is not a general but a *particular abstraction* of the internal details of the monad. Otherwise said, the law is itself *individual*.

Now, the same reconciliation between unity and multitude – between the law of the series and the detail of perceptions – is applied by Leibniz also to the multitude itself, that is, to perceptions. Leibniz defines perception as the passing state which represents a "multitude in the unity"[25]. A perception unites a multitude of phenomena through a particular perspective and a particular interval of time. Every monad, either consciously or unconsciously, is in a state of representing a multitude of phenomena within the unity of its perspective through time. Since a monad cannot be externally influenced by other monads, and since accidents without substances have no reality, the passing of the multitude of perceptions, that is, actualization of the law of the

[24] The connection between Leibniz's conception of individual substance and the term 'specific nature' will be clear in the second section of the next chapter. "The Monadology", *Philosophical Papers and Letters*, p. 644.

[25] *Ibid.*, p. 644.

series (of perceptions), must originate within the monad. In other words, the foundation of the passage from one perception to another must be internal to it. This foundation, or the passage itself, Leibniz calls 'appetition'[26]. An appetition is an inclination towards a definite perception – a perception with such and such qualities. This inclination never ends, for appetites are never fully satisfied with consequent perceptions. Perceptions of a monad are always restricted, in a certain sense, and in proportion to the magnitude of its perspective; and this magnitude is expressed in turn by the quantity and quality of its representations of phenomena. But since monads, save God, are always perspective-bound, that is, represent phenomena always from a particular (or individual) point of view and not from an all-encompassing one, their perceptions are *a fortiori* incomplete. And it is this incompleteness which leaves appetites unsatisfied every time. Then, it can be said, the continuous flow of perceptions within a monad derives from its own nature which includes some sort of perspectivity and a certain imperfection it engenders. This makes sense of Leibniz's statement that anything in the universe, except God, is in a state of continuous change, where God is *absolutely perfect*[27].

A simple substance, a monad, in general is also perfect or complete, to the extent that it is the source of its own actions: a monad's states – perceptive and appetitive realities – can derive only from other states which are covered in the same monad. In this way, a monad is itself sufficient to account for its whole history. This is in fact what Leibniz refers to by his notion of complete concept of an individual substance: a concept which contains anything attributable to an individual – or, any predicate attributable to the monad *as subject*. Indeed, the logical (or predicational)

[26] *Ibid*., p. 644.

[27] He is perspective-free, and *correspondingly*, lacks body. Leibniz emphasizes the correspondence between perceptions and material or mechanical realities by stating that perceptions cannot be explained only "in terms of figures and motions, that is, mechanically". The cause of a perception cannot be the particular mechanical state of the brain, which is a composite substance – not a substance proper. It is true that the changes in the perceptive realm are correlates (or correspondents) of certain mechanical changes within the brain, or in general, within the whole body which itself corresponds to the monad – or in phenomenal terms, the whole body which *pertains* to the monad – but these two sets of changes are realized in totally discrete series – the former in the realm of the souls, and the latter in the realm of bodies. Moreover, since simple substances are free from parts and divisibility, their actions can consist only of perceptions and appetites which by no means imply a material reality. *Ibid*., p. 644.

completeness of such a concept can be seen as the logical correlate of the metaphysical (or causal) completeness of the individual substance to which this concept pertains. And through this line of thought, Leibniz is able to make sense of the *relative* independence of an individual substance – independence of others with the exception of God. What is the reason for this qualification 'with the exception of God'? Now, Leibniz sees this relative independence as a kind of 'action through oneself' – to draw an analogy with God's 'existence through itself', which gives him a necessary existence. So that just as God exists only through itself – not by an external cause or reason for his existence – and is therefore absolutely independent, a monad acts only through itself and is independent only with respect to other monads. Thus, the crucial difference lies between *existence* (actuality) and *action*: while God's perfection (completeness) and independence implies an independence of existence, a monad's perfection and independence concerns only that which comes *after existence*, namely, its actual states. In other words, though the complete concept of a monad contains all that will ever happen to it, and in this sense a monad *acts through itself*, it does not *exist through itself*. In the case of a created monad, an ordinary act, which contains certain perceptions and appetites and constitutes a part of its whole history, and the act of existing (or coming to existence) are totally different things; whereas for God, the creator monad, both derive from the same source – the nature or essence: "In God, existence does not differ from essence…"[28] As for the created monad, since essence (the complete concept of its history) and existence (the actualization of the complete concept) are different things, or more clearly, since coming to existence (that is, its creation) is not part of its actual history, it is responsible, so to speak, only for the *actual states* of this history (or its determinate properties), but not for its *actuality*. In this sense, all created monads are imperfect and depend on God for their creation (actualization); but with respect to their actual determinations – their internal lives – they can be regarded as perfect and independent. This idea is also reflected in the Aristotelian term Leibniz uses for monads: all monads, without distinction, are *entelechies*. The term entelechy is originated from the Greek '*enteles*', which means 'perfect' or 'complete'.[29] It can be

[28] "On Contingency", *The Shorter Leibniz Texts*, p. 110.

[29] *The Rationalists*, p. 107.

seen, then, how Leibniz is able express the correspondence between an individual substance and an individual concept through the connotations of this word: the *perfection* of the individual monad corresponds to the *completeness* of its individual concept. Thus, the causal independence of the monad is expressed on the logical level by the *logical independence* (so to wit) of the complete concept: a complete concept suffices to account for any predication whatsoever that can be made concerning the individual to which it is attributed.[30] All monads, created or creator, then, are equally perfect in the sense that their complete concepts contain their whole actual histories; whereas, God is superior to created monads in that his essence or complete concept contains also its actuality (existence). God is *causa sui* not only *sub ratione actualitatis* but also *sub ratione possibilitatis*: he is the cause not only of his own actual states or actions, *but also of his own actuality*. Created monads, however, are perfect only *within* their actuality.

Though created monads are equally perfect or complete in the sense that they are the sources of their own actions, there is a hierarchy between them concerning the levels of knowledge. All monads are entelechies; and an entelechy is nothing but a simple (part-less, *sans parties*) substance with perceptions and appetites. But not all monads are *souls*: souls are those substances in which perception is more distinct, and which have memory. Here, what makes souls superior to bare monads is the sequencing of perceptions, though mostly in terms of simple repetition. Memory, then, is the re-sequencing of certain perceptions with the aid of earlier experiences. A soul can bring together certain perceptions although they are not presently given together, if they *were* given together in the past. Leibniz emphasizes this faculty, for it imitates,

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[30] Logical independence here refers to Leibniz's denial of essence-accidence distinction of individual concepts. An individual complete concept, as we have seen, contains anything attributable to the relevant individual substance; among these are not only the essential features we attribute to the substance in line with our incomplete knowledge of them, but also all accidental features, including temporal properties. This distinction, indeed, originates from the incompleteness of *our* general concepts which we attribute to individual beings by abstracting from the whole series of events that happen to an individual through the course of its (his) life certain general properties which, with respect to our knowledge, defines the individual under question. But this arbitrariness of establishing general concepts as representing individuals forbids them to have an ontological objectivity. Thus, concepts are objective only if they coincide with those contained in the divine understanding, among which are the objective complete concepts of all possible individuals. And only for these concepts, we can say that the essence-accident distinction is abolished. This point will be made clearer in the next chapter.

to a certain extent, the sequencing of *ideas* (or concepts) in terms of *logical relations*, and this latter faculty pertains only to rational souls. Rational souls are *spirits*; they are endowed with reason, or capability of reasoning.

Now, to make sense of this hierarchy of monads, one point must be emphasized. As I have said above, for Leibniz, everything in the universe is in a continuous state of change. What this brings out for the internal life of monads is the *continuity* of perceptions. Leibniz claims that a monad "cannot subsist without some affection"[31]; in other words, perceptions follow each other continuously, without yielding any gap through the internal life of the monad. However, says Leibniz, states of *apperception* – states in which a monad is conscious of its perceptions (or of its *perceiving*) – may, and in fact do, last only for certain periods of time. Moreover, any state of perception derives naturally from the preceding state, so the continuity therein is with some reason. Any such state, whether conscious or unconscious, is a *natural* consequence of the preceding one, and this is what Leibniz means when stating that "the present is great with the future"[32]. God, as possessing the knowledge of the complete concepts of all monads, could read what will be the case in the universe at a certain instant through his knowledge of what was the case at the preceding instants. Indeed, the relation between *cause* and *effect* in general is an instance of determination – a cause is *determined* to bring out its effect – which is also the case for a series of perceptions. Leibniz's point is that a perception can only derive from another perception, just as in nature motions always follow from preceding motions. Thus, there is a continuum both in the internal lives of the monads (the *noumena*) and in nature *as we see it* (the *phenomena*) – that is, as *extra nos*. Any perception has some distinctive reality (a *distinctivity*) or a real difference which distinguishes it from the preceding one just as any motion is with a certain direction. Perceptions can differ in effectiveness: the magnitude and the number of phenomena contained in a perception determine the magnitude of its effect. In this way, the continuum of perceptions comprises an infinite variety of effects from different perceptions which are in a sequential order. Now, these given sequences may be repeated and reordered through

[31] "The Monadology", § 21, *Philosophical Papers and Letters*, p. 645.

[32] *Ibid*., p. 645.

memory, as in souls, or through reason, as in spirits. The former case, says Leibniz humorously, is that of beasts and empirical scientists, who rely on experience to relate certain ideas to certain others, and do not seek for any *a priori* basis to establish these relations.[33] Reason, on the contrary, refers to such a pre-experiential basis, and constitutes what is properly called a *spirit* or a *rational soul*. Reason consists in possession of necessary and eternal truths concerning the relations of ideas, and does what is to be done in souls by the aid of past experiences, without ever relying on experience: it establishes, through these truths and principles, "immutable" relations among perceptions and ideas. In so far as this is the case, memorial or experiential knowledge of the relations between ideas can only imitate a knowledge relying on reason, but never attain its solidity and universality, since it lacks those principles. And Leibniz finds in these truths the privilege of rational souls: through them, rational beings first come to know the 'I', and proceed to the knowledge of the essential features of all reality – being, substance, the simple, the compound, the immaterial, and God.[34]

The first two principles, which not only characterize the reason and the rational souls, as providing them the most general form of relating ideas and perceptions to each other, but also establish the logical and metaphysical foundations of Leibniz's whole system, are those of *contradiction* and *sufficient reason*. The principle of contradiction says roughly that which is self-contradictory is false, and that which is contradictory to the false is true. This principle is the principle of necessary truth and falsity, or of necessity and impossibility in general. The principle of sufficient reason, on the other hand, says that for any true proposition and any existent, there is an *a priori* reason why it is thus (true or existent) and not otherwise (false or non-existent), whether known to us or not. What concerns us now is that the latter principle, that of sufficient reason, applies both to truth and existence. In the case of truths or propositions, it merely calls for a basis on which the truth and falsity of propositions should stand; whereas in the case of existents or beings, it seems to refer to two different things: for any existent being, there must be some reason why it *is*

[33] "The Monadology", § 28, *Philosophical Papers and Letters*, p. 645.

[34] *Ibid*., p. 646.

and *is as such*. Thus, the principle of sufficient reason concerns, when applied to beings instead of truths, not only the determinate properties of a thing, i.e. the whole series of perceptions of a monad, but also its very *actuality*.

We will see after a discussion of the problem of contingency that these two things – determination and actuality – coincide in a very special sense, and that Leibniz's account for *contingent truth* is in close relation with this coincidence. Thus, the formulation of the principle of sufficient reason in this particular way is significant. More importantly, the two principles mentioned above, along with the principle of *the best* (or of *perfection*), will provide the machinery of dividing reality according to modalities – a modal conception of reality, which I will call 'Leibniz's modal ontology'. Connecting this with Leibniz's theory of truth and his own style of formalizing propositions, I will proceed to the foundations of the problem of contingency and try to show how Leibniz relates the idea of internal determination (relative independence) of an individual to the contingency of the events in the world through the notions of complete concept and *possible series* (or *possible world*). These will constitute the subject matter of the following chapter.

CHAPTER 2

ANALITICITY, NECESSITY AND CONTINGENCY

2.1 An Introduction to Leibniz's Modal Ontology

Monadology, to the extent that it gives an account of the nature of actual individual substances, can be seen as an explanation of the *actual reality* – the material and spiritual aspects of the present[35] actual world, which ultimately derives from the present structure of the internal life of monads. But actuality (or existence) in Leibniz's system cannot exhaust *reality in general*: actuality is nothing but a proper subset, so to speak, of *possibility* or *reality*. This is clearly reflected in the famous "Leibnizian idea that our world is not the only possible world, that there are other possible worlds"[36]. A first implication is that that which exists does so only contingently, for there are other possibilities which could have existed but which actually did not and will not. We will see in the following sections what kind of problems arise in connection with this implication; but here, I will present, in a simplified form, only the essential ideas concerning Leibniz's *ontological* conception of modalities – or his modal conception of reality, which amounts to the same thing – and related issues such as the theory of creation and God's existence.

Leibniz's modal ontological system[37] can be analyzed in three great segments: *impossibility*, *possibility* and *actuality*, the last being divided into two, in turn, as

[35] The term "present" is used here to underline the idea that some other possible world could have been *actualized* instead of the one which we occupy – an idea on which Leibniz's theory of contingency is founded, as we will see.

[36] Loux, M. J., Ed., *The Possible and the Actual: Readings in the Metaphysics of Modality*, Cornell University Press, Ithaca, New York, c1979, 1988, p. 15. However, this does not imply that the modal discourse should rely on an ontological view of possibility as Leibniz's does.

[37] In none of his writings, except one essay with the title "On the Ultimate Origination of Things", Leibniz provides a conclusive exposition of this covert system; however, it underlies all of his logical

contingency and *necessity*. The first idea is that things have to be *possible* for to be counted as *real*; more clearly, only those things, whose ideas or concepts can be given a definition which does not imply any contradiction, are real. A *bachelor married man*, to give a very common example, is not *real* in the Leibnizian sense, for the conjunction of the terms which define the essence of the bachelor husband – that is, the *nature* of the bachelor husband – imply a contradiction. For Leibniz, we can have thoughts about such things, but this does not mean that we can have the objective ideas of them, for they have none.[38] Thus, a thing is *possible*, and hence real, only if it has an objective idea – an idea which is contained in the divine mind. *Objectivity* here has nothing to do with the epistemological conditions of human knowledge; rather, it refers to the nature of God's understanding, which includes only *internally consistent* ideas or concepts – those which do not imply any contradiction – and excludes others. In this way, God's understanding provides the only criterion for being real or possible: an idea, and the thing which corresponds to it, is possible or real, if and only if it is contained in the region of all possible ideas, which is nothing but the divine understanding.

Then we can see that reality in Leibniz's system is determined with respect to *impossibility*: real is that which is not impossible or that which implies no contradiction. The point is that that which enables Leibniz to demarcate the *real* from the *impossible* is the *principle of contradiction*. The principle of contradiction, otherwise said, is the principle of reality: if the conjunction of the terms contained in an idea does not imply anything of the form *A-non-A* (or in modern terms, $p \wedge \sim p$), then this idea is possible and hence denotes a real being. Hence we have the first division: impossible, which is *non-being* (*non-ens*), on the one hand, and the

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and metaphysical treatments, and can be reestablished in a schematic way. This section aims, then, to provide a systematic and simple form to this covert theory.

[38] Leibniz states, in "Letter to Countess Elizabeth", that "we sometimes think of impossible things and we even construct demonstrations from them". After discussing the classical conception of God as *the most perfect being*, he says: "In brief, I do not yet know, for all that, whether such a being is possible, for if it were not possible, there would be no idea of it." Thus, for Leibniz, 'having an idea' denotes ontological possibility. "Letter to Countess Elizabeth", in G. W. Leibniz, *Philosophical Essays*, Ariew, R. And Garber, D., Ed. and Tr., Hackett Pub. Co., Indianapolis, c1986.

possible, which is *being* (*ens*)[39], on the other. Possibility in this ontological (or rather, onto-logical) sense overlaps with reality: to be real is to be possible, and vice versa. Leibniz calls those ideas, which are contained in the realm of possibility, *essence*s. Reality is the realm of *essences*, and to be real is *to be* (*esse*, *être*).[40]

However, 'being' or 'essence' properly refers to a *possible individual substance*. There corresponds to every individual substance, whether actual or possible, a complete concept, which contains its whole history – all its properties, universal or particular, non-temporal (eternal) or temporal, unary or relational. This concept is infinitely complex; for time is infinitely divisible and hence the states of a monad are infinite. The point is that a complete concept, insofar as it is internally consistent, denotes a possible being (a possible individual substance), even if that being is not part of the actual world. Thus, there are an infinite number of possible substances, which are grouped in diverse series – that is, *possible worlds*. A possible world is then a collection or series of an infinite number of beings or essences (possible individual substances), which are related logically to each other *ad infinitum*. Possible worlds inhere in the divine understanding, and so do possible individuals: "Prior to the creation (and we think here not of literal and temporal but of figurative and conceptual priority) all substances aside from God existed, or rather *subsisted* – since *ex hypothesi* they did not exist – only as ideas in the mind of God"[41]:

> "Possible" means at once mere *possibilia*, pure possibilities, what is essential in beings, the ideas of things, regardless of whether or not such an idea is ever actualized. To become actual, something must be intrinsically possible, but everything intrinsically possible need not also become actual.[42]

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[39] Here, 'being' is used in the sense of 'entity' (which is the literal correlate of 'ens') and not that of 'to be' (esse).

[40] In the next section, it will be seen that the terms 'ens' and 'non-ens' denote respectively self-consistent and self-contradictory terms or concepts in Leibniz's logic, so that he takes 'AB = AB' and 'AB ≠ AB' as referring respectively to a *being* (ens) and a *non-being* (non-ens).

[41] Rescher, N., *Leibniz: An Introduction to his Philosophy*, Gregg Revivals, Hampshire; Brookfield, 1979, p. 15.

[42] Heidegger, M., *The Metaphysical Foundations of Logic*, Indiana University Press, Bloomington, 1992, c1994, p. 44.

Not all possible individuals *exist*, or which comes to the same thing, not all possibilities are *actualized*. More fittingly to Leibniz's language, it can be said that *existence* is something more than *essence*. Other expressions are at hand; for example, that the class of all actual beings is a *proper* subset of the class of all possible beings, or *actuality* is a proper subset of *possibility*, and the like. The main idea is that instead of this set of actual beings other sets could have been actualized, but they did not by some certain *reason*. Then we have the second division: the *purely possible* (beings which are possible without being actual), and the *actual*. A purely possible individual is simply an essence, whereas an actual being is an essence with existence – i.e. an essence which exists. It may first be thought that all actual individuals exist in a contingent fashion, since there are other possible individuals which could have been actualized in place of them. But this is not the case: for Leibniz, there is one actual being, which not only exists, but exists also in a *necessary* fashion, i.e. *God*. Leibniz has in mind the classical conception of God as the being whose essence implies (or contains) existence: "In God, existence does not differ from essence, or what is the same thing, it is essential for God to exist."[43] For all the rest, that is, for all created beings, existence is contingent: "Creatures are contingent, that is, their existence does not follow from their essence."[44] Hence the third division: necessary and contingent actualities, as corresponding respectively to God and creatures.

Five modalities, then, characterize Leibniz's modal ontology: impossibility as *non-being*, possibility as *being*, actuality as *existence*, necessity as necessary existence, and contingency as contingent existence. The most important idea, which will relate us to Leibniz's treatment of propositional truth, however, is that while not all possible beings (or essences) are actual (or existent), all actual beings are possible[45].

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[43] "On Contingency", in Strickland, L., Tr. and Ed., *The Shorter Leibniz Texts: A Collection of New Translations*, Continuum, London, New York, 2006, p. 110.

[44] *Ibid.*, p. 111.

[45] This modal ontological thesis can be clarified by an analogy with modal logic (the system S5, for example): $p \rightarrow \Diamond p$ is a valid sentence while $\Diamond p \rightarrow p$ is not.

And this enables Leibniz to see actual individuals – individual substances inhering in the actual world – which are the true elements of actual reality, under *two different aspects*: first, they can be regarded *as actual* beings, that is, as what they are in fact; and secondly, they can be seen as other purely possible (i.e. non-actual) individual beings, without reference to the fact that they *exist*. In the case of God, however, this cannot be done; for God is a necessary being, so that his essence would be degenerated if we took out the idea of existence from it. But in the case of created individuals, "existence does not follow from essence", and hence nothing would change in their inner determinations if we did so.[46] Then an existing individual can be viewed either *as actual* or *as purely possible*. The latter view Leibniz refers to by the phrase "sub ratione possibilitatis": for example, Caesar the Emperor, who is an actual individual, can be taken 'Caesar the Emperor *sub ratione possibilitatis* (under the aspect of possibility)', that is, as a purely possible individual, without reference to the fact that he exists[47]. In *sub ratione possibilitatis* view, beings and concepts are referred to only as *possibilities*, not as actual beings and concepts[48]. Otherwise said, the second and third divisions which I have given above – concerning the *modes* of being possible (purely possible/actual) and of being actual (necessarily actual/contingently actual) – are disregarded when we take an individual *under the aspect of possibility*. Thus, *sub ratione possibilitatis* way of conceiving individuals concerns only the realm of essences or beings – of the *purely possible*.[49]

Now, it remains to clarify the relation between God and beings in general, which is essential to make sense of Leibniz's views on contingency. This issue can be

[46] To relate it to "the Monadology", the complete concept of an actual individual contains all of its actual states, but not its *actualization* or *actuality*.

[47] By 'exists', it is only meant that Caesar is a member of the actual world and not that he exists at present, which is, of course, not the case. Existence or actuality, then, must be regarded without reference to temporality, and the reason for this situation is that a possible world, whether actual or non-actual, is treated as an eternal essence, when the question is its existence or actualization. This point will be made clear in the following sections.

[48] It may be bothering that I use the term 'actual concept'; but this is line with Leibniz's language. An actual complete concept is simply a concept which corresponds to an *actual* individual. It is interesting to note that Leibniz sometimes attributes "existence" to *propositions*.

[49] It will be clear in the following sections that the *sub ratione possibilitatis* way of regarding individuals is the real foundation of Leibniz's theory of propositional truth, and that the problems in his accounts for contingency are closely related with this notion.

analyzed into two steps; first one is God's necessary existence, and the second is the theory of creation. The latter step will include an analysis of the ontological functions of the three basic principles of Leibniz's philosophy in relation to the idea that God creates only one among infinitely many possible worlds. But before that, I will give a brief analysis of Leibniz's conception of God as the *being* which necessarily *exists*, which will exemplify the ontological inclinations of Leibniz's modal thinking.

That I deal first with the idea of necessary existence is not without reason. I have presented above the realm of *necessary existents*, to which only God pertains, as an ordinary subset of the realm of existents in general. But this is misleading, if we take it to imply that existence is applicable univocally to God and creatures. Thus, to avoid this failure, I must give an account for this special *instance*, so to speak, of existence or actuality, that is, necessary existence. This will be in accordance with the presentation of the three principles on which Leibniz's system is founded – that is, (1) principle of contradiction, (2) principle of sufficient reason and (3) principle of the best (*le meilleur*) or perfection – and which provide criteria of dividing reality into modal segments as such. The third principle – the principle of the best – will give us the idea of how and why certain things come to existence, while others remain as pure possibilities, and this same principle, as I will show, cannot account for the existence of God, the necessary being, for God does not exist contingently, as creatures do. Hence the logic of coming to existence differs with respect to creatures and the Creator. In the former, existence is an *addition*[50] to essence – that is, something more than *pure possibility* – which implies that there must be a reason (in accordance with the second principle, as we will see) why this addition is made in certain things, and not in others. However, in the case of God, the relation between possibility (essence) and actuality (existence) is established on behalf of the former. And it is this relation which I will now explain.

[50] This idea will be slightly modified in the following sections.

The classical ontological argument for the existence of God[51] relies on the notion of a being which contains any perfection whatsoever in its essence or possibility. The idea or essence of this being, it is claimed, must then contain also existence, as 'existence' is counted among perfections[52]. For example, Anselm[53] defines God as *the being than which nothing greater can be conceived*, that is, the being whose idea contains all positive properties to the greatest degree, among which is also 'existence'. The conclusion is that since existence is contained in its essence *sub ratione possibilitatis*, God exists necessarily, for existence follows from its essence without any mediation. In other words, there is no process of *coming* to existence or *actualization* for such a being, for it is *actual and possible at once*. Metaphorically, it can be said that God, as the most perfect being, flows from possibility (being possible) to actuality (being actual) through its own possibility (essence).

Leibniz too aims to provide an ontological argument for God's existence, but claims that the classical version is insufficient: the possibility of such a being should also be demonstrated, because the argument rests on this very idea, i.e., the being which contains any perfection whatsoever in its essence. Otherwise said, the question whether the idea of the most perfect being – a being which contains all possible positive properties in its definition – is s*elf-consistent* remains unanswered in this form of argument. However, the ontological argument in its classical form – i.e. in Anselm and Descartes – does not give a demonstration of the compatibility of all perfections, which would show that it rests on a secure basis:

> The motion having the greatest speed is impossible in any body whatsoever, because, for example, if we assumed it in a circle, surrounding it and firmly attached to it, it would move with a speed still greater than the former, which, consequently, would not be one of the greatest degree, in contradiction to what we had assumed. In spite of all

[51] It must be noted that there are some significant variations among the ontological arguments for God's existence. But these variations are irrelevant to my point, thus giving the general idea shared by different versions will be sufficient.

[52] I will not deal here with the scholastic concept of perfection; for the present, it will be convenient to think of it as a purely positive and primitive property or predicate.

[53] St. Anselm, *Basic Writings: Proslogium; Monologium; Gaunilon's on Behalf of the Fool; Cur Deus Homo*, tran. By S. W. Deane, La Salle, III, Open Court Pub. Co., 1992, p. 55.

> that, we think about this greatest speed, something that has no idea since it is impossible… That is why there are surely grounds for wondering whether we should be careful about the idea of the greatest of all beings, and whether it might not contain a contradiction.[54]

Leibniz offers, on the other hand, a simpler form of ontological argument. His point is to change the definition of God: God is the *Being from itself* (*Ens a se*), "that is to say, a being that exists from its essence."[55] Now, if this being is possible – that is, if the idea or concept of this being is shown to be self-consistent – then this being necessarily exists: "For as the essence of the thing is only that which makes its possibility in particular, it is quite clear that for a thing to exist by its essence is for it to exist by its possibility."[56] This is "*the being which must exist because it is possible"*. To deny, therefore, existence of the being from itself is to deny its possibility. Taking the being from itself as 'the necessary being', Leibniz gives us a modal proposition, which he sees as "one of the best fruits of all logic": "*if the necessary being is possible, it exists*."[57]

It remains then, for Leibniz, only to show that the necessary being is itself possible – in other words, to show that the idea of a being which 'exists by its essence' is self-consistent or implies no contradiction. Leibniz, however, proves the stronger to show the weaker: it is not only the case that, but it is *necessary* that the necessary being is possible. "For if the *Being from itself* is impossible, all the beings by others are also impossible, because they exist ultimately, only through the *Being from itself*; and therefore nothing could exist."[58] And Leibniz gives us a second modal proposition which makes the stronger statement: if the necessary being does not exist, there is no possible being. That is, it is not only true, but in fact necessary, by the fact that there are possible beings, that the necessary being exists.

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[54] "Letter to Countess Elizabeth", *Philosophical Essays*, p. 238.

[55] "Extract from a letter concerning the Cartesian demonstration for the existence of God", *The Shorter Leibniz Texts*, p. 187.

[56] *Ibid.*

[57] *Ibid.*

[58] *Ibid.*, p. 188.

Now there are two points two make. First, the argument rests ultimately on the assumption that there is something existing, from which Leibniz derives the possibility of that which exists: there is something actual, therefore, there is something possible. And if the necessary being did not exist, nothing would be possible, because they owe their possibility to it. Therefore, the necessary being exists, from which follows that it is possible. The second point is about *hypothetical necessity*, an issue which I will deal with extensively in the last sections of this chapter. Now, the two conclusions, that the necessary being is possible, and that the necessary being exists, are necessary only on the contingent hypothesis that there are possible beings. But if the possibility of these beings is taken itself as necessary – that is, if it is assumed that it is necessary that possible beings are possible – the second conclusion, that the necessary being is possible, becomes absolutely necessary, because the very hypothesis from which its truth follows is necessary. And this seems to be the case, for Leibniz does not refer to the existence of things, but to the possibility of things, when stating that the necessary being cannot be impossible, because in that case nothing *could* exist. Yet the second modal proposition, that "if the necessary being does not exist, there is no possible being", can render the existence of the necessary being only hypothetically necessary, for the hypothesis that something exists is itself contingent.[59]

The ontological argument in this form cannot be thought to cover something more than an exercise of modal reasoning, but Leibniz's peculiarity lies in his effort to convert the classical question of necessary existence into a purely logical problem. Rescher argues, in the same way, that Leibniz's ontological argument for the existence of God in this form is in fact a *modal* argument: "A further proof of God's existence might well be termed the *Modal Argument*: like the Ontological Argument it starts from a definition of God, but establishes His existence not by ordinary but by *modal* reasoning."[60]

[59] The formulation will be given later as '*hypothetical necessity* = *absolute necessity* plus *contingent truth*'.

[60] Rescher, N., *Leibniz: An Introduction to his Philosophy*, *p.* 149.

The point here is that in the case of God, existence or actuality must be thought of as overlapping with possibility, which gives the result that the principle according to which creatures are actualized does not operate in the same way for God. It will then be more convenient to think of the terms 'actuality' and 'existence' only as applying to created individuals, in the following sections. Now, I have said that the second aspect of the relation between God and beings concerns the three principles – the *triad*, as I will call it – to which Leibniz frequently refers in his writings. The triad is as follows: the principle of contradiction (PC), the principle of sufficient reason (PSR) and the principle of (that which is) the best (PB). A first thing to note is that these principles are logical and ontological at once: from the logical perspective, they apply to truth and propositions, and from the second perspective, they apply to *beings* and reality. This dual character, in fact, is the result of two things: first, Leibniz's theory of concepts and propositions contains a good deal of ontological references, as will be seen in the next section. Secondly, and more importantly, Leibniz's formulation of the principle of sufficient reason itself bears this dual character.

The simplest formulation of PSR is that *everything has a reason*. The question is how to fill in the word 'everything'; and it appears that Leibniz is referring both to truth of propositions and being/existence of individuals (or occurrence of events). For example, in "the Monadology", when speaking of "the two great principles" which direct (or which must direct) "our reasonings", he displays this dual character:

> 31. Our reasonings are based on two great principles: the first the *principle of contradiction*, by virtue of which we judge that false which involves a contradiction, and that *true* which is opposed or contradictory to the false;
> 32. and the second the *principle of sufficient reason*, by virtue of which we observe that there can be found no fact that is true or existent, or any true proposition, without there being a sufficient reason for its being so and not otherwise, although we cannot know these reasons in most cases.[61]

[61] "The Monadology", in Loemker, E. L., Tr. and Ed. (with an introduction), *Gottfried Wilhelm Leibniz: Philosophical Papers and Letters*, D. Reidel Publishing Company, Dordrecht, 1969, p. 646

At some places Leibniz focuses much more on the logical sense of this principle, and even presents it as following from his complete concept doctrine and theory of truth; however, the logical and ontological senses overlap through the notion of complete concept and reason for truth, as will be seen later. Now, the question is: what does PSR say in relation to the three-folded system, consisting of *non-ens* (non-being, or impossibility), *ens* (being, or possibility) and *existens* (existence, or actuality)? The first idea is that there must be some reason for why certain things are possible, while others are not. As I have said, it is the principle of contradiction that distinguishes what is possible from what is impossible, and hence, the reason for the possibility of a being is that it is in accordance with PC – that is, that its idea does not imply any contradiction. Thus, PC determines what counts as a *reason for being* in all cases – self-consistency of the idea.

The second step is that there must be a reason for why certain things become actual while others remain purely possible. And this brings us to the famous Leibnizian idea that the actual world is the best of all possible worlds. A possible world, or a series of possibilities[62], is a particular set of possible individuals, such that the members are not only self-consistent, but also jointly possible – that is, does not contradict with each other. It is highly probable that the concept of a possible individual substance yields a contradiction when brought together with another such concept, for concepts of individuals contains the whole *history* – that is, the set of all temporal and non-temporal predicates – of the individual substances they denote; so that two such individuals can be jointly possible if and only if all of their temporal predicates, along with the non-temporal ones, relate them exactly to the same history of the universe. When such an agreement is achieved between possible substances, they are said to be "compossible" (i.e. possible together); a possible world, then, is a set of compossible individuals:

[62] Other names are also given by Leibniz, such as 'sequence of things'. My use of the term, in accordance with the Leibniz literature, must not imply that I am inclined to relate Leibniz's theory of modalities to the possible-world semantics for modal logic, for the problematic of this thesis is to formulate the problem of contingency in Leibniz's own machinery of concepts. Furthermore, it will be seen, in the last chapter, that the notion of contingency covered in this semantics cannot be applied, at least intensionally, to Leibniz's case, with a special reason.

> The possible world of any substance is the totality of all substances compossible with it. Each possible world consists of a family of possible substances, every one of which is compossible with all the rest, and the individual characteristics… of which are determined in every conceivable respect by their individual defining concepts. This omnidetermination of all its descriptive aspects endows possible worlds with a very strong sort of informational completeness. No matter what proposition *p* can be articulated with respect to such a world, it will have to turn out that either *p* or else not-*p* (and exactly one of them) obtains.
> …To use one of Leibniz's favorite metaphors, the substances of a possible world "mirror" one another in their mutual accommodation.[63]

The core idea is that a possible substance and a whole possible world are intertwined in a perfect manner, so that existence of the one implies the existence of the other. And this brings us to the point: God cannot change the sequence of events and the individual substances inhering in a possible world, once he chose that particular possible world to create. In other words, God's "intervention" in history is possible only in the sense that he can choose this whole history, instead of that one, as fitting to actualization: "Since the entire history of each possible world is determined in every possible detail in terms of the complete individual notions of its constituent substances, there is no question of God's direct, immediate intervention in the course of natural events."[64] Thus, creation occurs at once: God creates a world, a whole history at once, and all that is included in that history, that is, individual histories of all the possible substances which are members of that world, follow[65] from this decision.

And it is the principle of the best, according to which God makes his choice. There are infinitely many such possible worlds, consisting of infinitely many possible individuals, which are waiting, as it were, to be created; however, only one of them is to come to existence, since only one of them is the best: "In Leibniz's view, the fact that there are unactualized possibles demonstrated that there could not have been just

[63] Rescher, p. 17.

[64] *Ibid*., p. 17. This idea corresponds, again, to a division between absolute and relative independence, which I have given in the first chapter, in relation to the concept of monad. Rescher also notes the relation of this theme to those of pre-established harmony and Leibniz's criticism of *occasionalism*.

[65] And, in fact, follow logically.

one course open to God, i.e. it demonstrated that he could not have been necessitated. For these possibles, *qua* possibles, are objects of God's *power*, if not actually his will, which is another way of saying that he *could* make them, because on account of his omnipotence he 'can produce everything that is possible or whatever does not imply a contradiction', but won't, because on account of his will only 'produce what is the best among possible things'"[66]. Concerning the idea which determines what is to be counted as the best among an infinite number of series of possible individuals, Leibniz has in mind a certain balance between the amount of variety resulting from the conjoining of individuals in a series, and the degree of simplicity or orderliness of that variety:

> Hence it is very clearly understood that out of the infinite combinations of possibles, and possible series, there exists one through which the greatest amount of essence or possibility is brought into existence. There is always in things a principle of determination which must be sought in maximum and minimum; namely, that the greatest effect should be produced with the least expenditure, so to speak. And here the time, the place, or in a word the receptivity or the capacity of the world can be considered as the expenditure or the land on which a building is to be constructed as fittingly as possible, while the variety of forms corresponds to the fitness of the building and to the number and elegance of its rooms.[67]

> Thus we may say that no matter how God might have created the world, it would always have been regular and in a certain general order. But God has chosen that world which is the most perfect, that is to say, which is at the same time the simplest in its hypotheses and the richest in phenomena, as might be a geometric line whose construction would be easy but whose properties and effects would be very remarkable and of a wide reach.[68]

All possible worlds or series, though are the same with respect to self-consistency, differ as to the degree of balance they exemplify between simplicity and richness; and the one which exemplifies the greatest balance is brought to existence or actuality by God, in line with the principle of the best. However, Leibniz's

[66] Strickland, L., *Leibniz Reinterpreted*, Continuum International Pub. Group, London, New York, c2006, p. 10.

[67] "On the Ultimate Origination of Things", *The Shorter Leibniz Texts*, p. 33.

[68] "Discourse on Metaphysics", § 6, *Philosophical Papers and Letters*, p. 306.

conception of the process of coming to existence is much more complicated, for it involves his ideas on the nature of essence, and on the metaphysical connections between essence and existence, the discussion of which I leave to the last chapter. The point which is relevant to my discussion of his theory of truth is that actuality in the case of a possible substance is analyzed as *being a member of the best series of possible individuals*. We will see how this sort of analysis is related to Leibniz's accounts for contingency later.

A possible world or series is composed of infinitely many possible substances, to which correspond infinitely many *complete individual concepts*. Leibniz's general intention is to analyze the structure of reality in terms of the structure of the relations between concepts and propositions. In the following section, I will try to give an analysis of the essential ideas and formalizations of Leibniz's theory of concepts and propositional truth, and an introductory formulation of the logical question of contingency. I will also present Leibniz's complete concept doctrine, which will provide systematicity to Leibniz's conception of possible individual substance and *series* of possible individuals (possible worlds).

2.2 Essentials of Leibniz's Theory of Propositions and the Logical Question of Contingency

As I have said in the preceding chapter, the problem of contingency in its logical form appears as the tension between the notion of contingent truth and conception of truth in general as the containment of the predicate (concept) in the subject (concept) – the tension, in other words, between contingency and a strictly *analytic* theory of truth, as most Leibniz scholars see it. Now, what are we to understand here by *analyticity*? In light of the fact that Leibniz's logic is based on a view of *the proposition* as *categorical*, it appears that we are dealing with the Kantian conception of the division between analytic and synthetic judgments. Though Leibniz himself does not refer to his own theory of truth as covering only *analytic* propositions, Kant's definition of analytic judgment fits to what Leibniz has in mind when defining 'truth'.

It can be said that the most characteristic point made by Kant in his first Critique, *the Critique of Pure Reason*, concerning judgments and truth in general, is his category of *synthetic a priori* judgments. Even beyond the limits of this particular subject – that is, of judgment and truth – the notion of synthetic *a priori* knowledge is a core issue in a critique of pure reason. This is clear from Kant's emphasis on the notion, which he makes under the title 'The General Problem of Pure Reason' in the introduction of his *Critique*:

> Much is already gained if we can bring a number of investigations under the formula of a single problem. For we not only lighten our own task, by defining it accurately, but make it easier for others, who would test our results, to judge whether or not we have succeeded in what we have set out to do. Now the proper problem of pure reason is contained in the question: How are *a priori* synthetic judgments possible?[69]

What is novel in this conception, in fact, is the frame which permits us this very question – that is, a two-fold division of judgments on the one hand, and of our knowledge of their truth on the other: judgments as *analytic* and *synthetic*, and human knowledge of judgments as *a priori* and *a posteriori*. This frame implies the negation of the internal bond between syntheticity and a posteriority; and since a posteriority overlaps with contingency, it becomes possible then that a synthetic judgment be necessarily true (or false). Therefore, we have in fact three main divisions concerning: (1) form of judgments (analytic and synthetic); (2) modes of knowledge (a priori and a posteriori), and finally (3) modalities (or modes) of truth and falsity as necessary and contingent. Kant's work provides one of the clearest views on the interrelations of the forms of judgment and modes of knowledge, but this does not mean that his division between analytic and synthetic judgments can readily be taken to be applicable to pre-Kantian philosophers, especially to Leibniz. However, Leibniz's intensional theory of truth relying on the notion of conceptual containment can be taken to imply that truth in general is analytic. And with reason: for Kant gives a definition of analytic truth which corresponds, almost exactly, to Leibniz's conception of truth in general, as will be seen:

[69]Kant, I., *Immanuel Kant's Critique of Pure Reason*, tran. Smith, N. K., Bedford, St. Martins's, Boston, New York, 1965, p. 4.

> In all judgments in which the relation of a subject to the predicate is thought…this relation is possible in two different ways. Either the predicate B belongs to the subject A, as something (covertly) contained in this concept A; or lies outside the concept A, although it does indeed stand in connection with it. In the one case I entitle the judgment analytic, in the other synthetic.[70]

Now, the question is not whether the term 'analytic' is perfectly applicable or not to Leibniz's theory of truth, but whether the relation of *analytic truth* in Kant's theory to *necessary truth* is the same as the relation of *truth in general* to *necessity* in Leibniz. It is clear that though not all necessary truths are analytic in Kant's schema, since there are synthetic a priori judgments which are true with strict necessity, all analytic truths are necessary – in brief, analyticity implies necessity. And this is what concerns us in relation to Leibniz's conception of analyticity: does analyticity imply necessity for Leibniz?

The first and foremost idea which characterizes Leibniz's mature philosophy of logic is his univocal treatment of the logical foundation of truth: the containment of the predicate concept in the subject concept. Clearly, truth consists of this simple containment relation between the terms for any affirmative proposition, even if it is *particular* or *contingent*:

> An affirmative truth is one whose predicate is in the subject; and so in every affirmative proposition, necessary or contingent, universal or particular, the notion of the predicate is in some way contained in the notion of the subject, in such a way that if anyone were to understand perfectly each of the two notions just as God understands it, he would by that very fact perceive that the predicate is in the subject.[71]
>
> The fact is that in every true affirmative proposition, necessary or contingent, universal or particular, the concept of the predicate is always

[70] *Ibid*., p. 48.

[71] "Necessary and Contingent Truths", in Gottfried Wilhelm Freiherr von Leibniz, *Philosophical Writings of Leibniz*, ed. G. H. R. Parkinson, tr. Mary Morris and G. H. R. Parkinson, Dent, London, 1973, p. 96.

> in some way included in that of the subject, *praedicatum inest subjecto*… or else I do not know what truth is.[72]

At a first look, the answer to the question whether analyticity implies necessity for Leibniz is in the negative: all truths, including contingent ones, are analytic. How can Leibniz make sense of this bizarre conclusion that a true proposition might not be true although in it the concept of the predicate is included in that of the subject? The answer is hidden in the qualification made by Leibniz: "the notion of the predicate is *in some way* contained in the notion of the subject". What these ways are, however, in which a predicate is contained in the subject, can be made clear only by calling to aid the essential ideas covered in Leibniz's theory of propositions, which I will try to take a glance at in this section.

First of all, the relations between concepts, along with the concepts themselves, are unconditionally objective – that is, they have their objectivity independent of the epistemological limitations and contingencies of human knowledge – for all of them are contained, as essences or possibilities, in the infinite mind of the omniscient being, God, before any created being comes to have some knowledge of them. This is one of the basic functions of the concept of God[73] in Leibniz's system: God, as possessing an infinite mind, and having the acutest knowledge of anything which is possible to think of or conceive of, including the complete concepts of possible substances, provides the real criteria according to which concepts have objective possibility, and propositions, as statements of relations between concepts, have objective truth: "the notion of the predicate is in some way contained in the notion of the subject, in such a way that if anyone were to understand perfectly each of the two notions *just as God understands it*, he would by that very fact conceive that the predicate is in the subject." Then we get the idea that truth, as inclusion or containment of one term (the predicate) in another (the subject), is objective, for truth

[72] "Letter to Antoine Arnauld", *The Shorter Leibniz Texts*, p. 47.

[73] A parallel function concerns Leibniz's modal ontology: God is the sole essence which exists through itself, and by that fact, he is the foundation of both the essences (possibilities) and existents (actualities). This idea, which is referred to in "On the Ultimate Origination of Things", implies that there is no reality without some certain existent, which, in this case, is God. In line with Rescher, I take this as an expression of Leibnizian existentialism – some sort of *logical existentialism*. This issue will be explained in the next chapter.

refers to the relations between concepts, which have themselves objective reality. However, it is still unclear what Leibniz means by inclusion or containment of terms, as the sole criterion of truth, while he admits that there are *particular* propositions on the hand, and *contingent* propositions on the other. In other words, how should he establish his theory of propositions and of truth as conceptual containment so that it can also cover particular and contingent propositions? The case of contingent propositions is what I see as the logical question of contingency. But before a discussion of this question and Leibniz's 'solution' to it, I will try to explain how Leibniz reconciles his definition of truth as the containment of the predicate *in* the subject with the idea of a quantitative division of propositions as universal and particular, and then I will turn to the first question, in terms of the relation between modes of truth and the notion of *demonstrability*.

In *General Investigations*, which is one of the most important and extensive works on propositional calculus from his mature period[74], Leibniz gives us an example of formalization of his logical ideas and his theory of propositions. Here, Leibniz's point is to set out a formal system which is based on the idea of identity or *coincidence* of terms, in accordance with his effort to ground his philosophy of logic on 'primary truths', that is, *identical propositions*. An identity in general is the relation between two concepts which are the *same*. To see that a concept A is the same as another concept B, two alternative criteria can be used: either the terms, A and B, must be substitutable for each other in any proposition in which one or the other occurs without changing the truth value of the proposition, or an *a priori analysis* of both terms must be given which ends in primitive terms – terms which cannot be further analyzed – such that the resulting conjunction of terms on two sides are formally identical. "That A is the same as B signifies that one can be substituted

[74] Though Leibniz never developed a conclusive work on propositional calculus, "General Investigations" appears to be the most extensive source of reference concerning this subject. The development of Leibniz's calculus is discussed in Castaneda, H. N., "Leibniz's Syllogistico-Propositional Calculus", *Notre Dame Journal of Formal Logic*, Vol. 17, No. 4 (Oct. 1976), pp. 481-500.

for the other in any proposition whatsoever without destroying its truth."[75] Giving the examples, 'trilateral' as the same as 'triangle', and 'Alexander the Great' as the same as 'king of Macedonia, the vanquisher of Darius', Leibniz continues: "Moreover, these can be shown always to coincide by an analysis, namely if they are analyzed until it appears a priori that they themselves are possible [that is, internally consistent] and furthermore if the same terms formally result, then the diverse terms are really the same."[76]

There are two things to underline. First, the method Leibniz prescribes is one which is not always (in fact, which is rarely) possible for men to pursue, but only for God, who possesses an infinite mind – namely, the method of *a priori analysis*. The reason for this restriction is that there are some concepts in Leibniz's system, which are infinitely complex and hence not analyzable into their primitive constituents, or not conclusively conceivable in all their details, by finite, created minds: complete concepts of possible individual substances. For example, the concept of 'Alexander the King' contains an infinite set of (temporal) predicates, which can only be known a priori by God, whose understanding contains the whole concept, but inconceivable by men. The method of a priori analysis, then, is a method which relates the possibility of the kinds of knowledge to God's understanding, so that a particular kind of knowledge is regarded by Leibniz as possible, only if it is possible for God to possess it a priori, as we have seen. And the second point is that Leibniz speaks of the 'sameness of diverse terms', which seems bothering. If these terms are the same, how could they have ever been diverse? The problem cannot be solved by taking *terms* as the elements which are diverse, and *the concept* as the element which is said to be the same, that is, which is referred to by the terms (by taking *term* as a sentential entity, like *word*), for "Leibniz refers to the logical analysis of terms into

[75] Gottfried Wilhelm Freiherr von Leibniz, *General Investigations Concerning the Analysis of Concepts and Truths*, a translation and an evaluation by O'Briant, W. H., UMI, Ann Arbor, Mi., 1998, p. 34-5.

[76] *Ibid*., p. 35.

simple terms as analysis of concepts, and refers to his calculus of terms as a calculus of concepts or ideas"[77]. Moreover:

> For Leibniz…the problem of the identity of concepts is not one of the synonymy of the corresponding words. The concept of a triangle or a trilateral is not the meaning of these words which express the concepts. Both concepts are complex, one being a function of the concepts three and of angle, and the other a function of the concepts of three and of side. A concept may be specified by different expressions with different senses. Even if the meanings of the expressions "triangle" and "trilateral" are different, so long as the meanings are related in such a way that anything that is a triangle is necessarily a trilateral, then the concept of a triangle is the concept of a trilateral.[78]

Ishiguro claims that the problem can only be explicated by reference to Leibniz's epistemological thesis that concepts are always embodied in signs or 'symbols', and by elaborating the substitution criterion of sameness of concepts. I will leave aside the details of this discussion, and following Parkinson[79], I will state that these problems are related with traditional (Aristotelian and Scholastic) logic in general, but not particularly with Leibniz. However, it must be stated that terms and concepts in Leibniz's theory are intertwined; moreover, 'subject' and 'predicate' refer to something more than the terms of a proposition: they indicate the concepts of those terms, and even at some cases the substance and its properties, respectively.

Now, Leibniz refers to the sameness of terms as 'coincidence':

> *A coincides with B*, if the one can be substituted for the other without destroying its truth, or if, when both are analyzed by the substitution of values (or definitions) for terms, the results are the same on both sides – that is formally the same, for example, if on both sides the results were: L.M.N[80]. The changes which are made by substituting the definition for

[77] Ishiguro, H., *Leibniz's Philosophy of Logic and Language*, Cornell University Press, Ithaca, New York, 1972, p. 26.

[78] *Ibid.*, p. 27.

[79] Parkinson, G. H. R., *Logic and Reality in Leibniz's Metaphysics*, Clarendon Press, Oxford, 1965, p. 6.

[80] 'L.M.N' is a formalization denoting the complex term which is the sum of L, M and N. For example, if 'animal' and 'rational' are denoted by A and B respectively, 'man' can be denoted by AB.

> the thing defined, or conversely, occur without destroying its truth. From this it follows: if A coincides with B, B also coincides with A.[81]

We can see, from a broader perspective[82], that 'coincidence' of terms is somewhat a correlate of the *biconditional* or *equivalence* in modern propositional and predicate logics. But what is most important here is that Leibniz analyzes also the subject-predicate relation in terms of the notion of coincidence: "The next concept is that A is the *subject*, B the *predicate*, if B can be substituted for A without destroying the truth, or if, when A and B are analyzed, the results in B are results also in A. This same thing can be explained in another way: A is B, if *all* A and *some* B coincide."[83] Therefore, containment of the predicate concept in the subject concept is an instance of the relation of coincidence – something like *partial* coincidence[84]: in the categorical proposition 'Man is animal', it is stated that the concept 'animal' is contained in that of 'man'. This containment relation can be thought of as the coincidence of *some part* of 'animal', that is, 'rational animal', with the whole concept 'man'. Now, the basic forms of categorical propositions are 'A is B' (conceptual containment) and 'A coincides with B' (coincidence); however, conceptual containment can be expressed in terms of coincidence:

> (16) An *affirmative proposition*: 'A is B' or 'A contains B' or (as Aristotle says) 'B is in A' (namely, *in recto*), i.e. if a value be substituted for A the result will be: 'A coincides with BY'. For example, 'Man is an animal' or 'Man is the same as…animal', i.e., 'Man is the same as rational animal'. By the mark 'Y' I mean something indefinite, as 'BY' is the same as 'some B' or '…animal' (where 'rational' is understood, if only we know what is to be understood) or 'some animal'. Thus 'A is B' is the same as 'A is coinciding with some B', or A = BY.
> (17) Hence these coincide: 'A is B', and 'Some B coincides with A', or BY = A.[85]

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[81] *General Investigations*, p. 35.

[82] This perspective covers the Leibnizian idea that any proposition is in fact a complex term, and conversely, any concept or incomplex term implies a certain proposition.

[83] *Ibid*., p. 35.

[84] We can simply think of containment as implication, and coincidence as mutual implication.

[85] *General Investigations*, p. 39.

An important note given in a footnote to this article says that it "is noteworthy that in place of A = BY one can also say A = AB, and thus there is no need to assume a new letter."[86] The idea captured by 'A = AB' as expressing the same proposition as 'A = BY' is as follows. A = AB means that A contains B, but B might not contain A. For it is clear, first of all, that if A coincides with AB, then either B is contained in A, or B itself coincides with A. In either case, A is the container. But it is not made clear by this form that B itself – without the addition of A – coincides with A. Therefore, the only apparent thing is that B is in A; and hence, A = AB signifies 'A is B' ('B is in A').

The fact that the asymmetrical relation of containment, where one of the terms is contained in the other but not vice versa, can be expressed as an identity relation – as coincidence of terms – gives us an idea of how Leibniz reconciled the particular affirmative form with his conceptual containment theory of truth. But the case with negatives (both universal and particular) is still unclear. Thus, it will be useful to set out some relevant ideas and formalizations covered in *General Investigations*, which will be useful also in the following sections, article by article before I give Leibniz's schema for the four forms of propositions, that is, universal affirmative (UA), universal negative (UN), particular affirmative (PA) and particular negative (PN).

1. *Propositions and Terms*. Leibniz uses capitals to denote both propositions and terms. "Any letter such as A, B, L, etc., signifies for me either some integral term or some entire proposition."[87] Thus, the proposition A = B can in turn be expressed by one single capital, L, for instance.
2. *Propositional coincidence*. Two propositions, just like two terms, coincide if either (i) a perfect substitution can be made with one another, that is, a substitution without any change in the truth values, or (ii) each one implies

[86] *Ibid.*, p. 39, footnote 10.

[87] *Ibid.*, p. 36, footnote 5.

the other. "I say that propositions *coincide* if one can be substituted for the other without destroying its truth, or they are inferred reciprocally."[88]

3. *Iteration*. Addition of the same term more than once makes no change in the term or proposition. For example, A does not differ from AA, AAA and etc. Thus, A = AA (A coincides with AA).
4. *Negation*. The general form of negative propositions is "A does not contain B" or "it is false that A is (contains) B".[89] Negation is expressed by 'non', so that 'non-B' denotes the negation of the term 'B' (e.g. 'non-animal') or the proposition 'B' (e.g. 'it is not the case that animal is man', or 'animal does not contain man').
5. *Contradiction, Impossibility and Possibility*. 'A-non-A' is the general form of contradiction. If A is a term, A-non-A signifies the addition to the term of its negation, as in 'man-non-man', which denotes a man which is not a man. If, on the other hand, A is a proposition, A-non-A signifies assertion of truth to both A and its negation, as in 'B is C and it is false that B is C', where A = 'B is C'. Leibniz refers to contradiction by '*impossible*': "What contains B-non-B is the same as the impossible; or EB-non-B is the same as the impossible."[90] In the same way, possible is defined as that which is not impossible: "Possible is what is not 'Y-non-Y'."[91]
6. *Universals*. Leibniz uses 'A is B' to denote a universal proposition. "A term set forth by itself I customarily use for a universal, for example 'A is B', i.e., 'All A is B', for the concept B is contained in the concept A." Thus, the form 'A is B' can be interpreted in two different ways: either as referring to the classes A and B of individuals, or as referring to the concepts A and B. The former interpretation is extensional, while the latter is intensional.[92]

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[88] *Ibid.*, p. 36.

[89] *Ibid.*, p.41.

[90] *Ibid.*, p. 42.

[91] *Ibid.*, p. 37.

[92] *Ibid.*, p.41. Leibniz's choice, clearly, is of the latter interpretation. If one reason for this choice is the fact that his theory of truth is based on the relations between concepts, another reason may be that the intensional interpretation, which focuses on the relations between concepts without any reference

7. *Definition of 'is'*. It is interesting to note that for Leibniz, the proposition 'AB is B' is an axiom, which defines conceptual containment, or the conceptual whole-part relation, by exemplifying it. "AB is B. This is indemonstrable and it is either an identity or a definition, either of the 'is', or of 'containing', or of a true proposition. It indicates that AB, or what contains B, is B or contains B."[93]
8. *Inequality as representing negation*. The negation of 'A is B' is 'A ≠ B', which means that B is not contained in A. Thus, if we take 'A is B' to be L, 'non-L' coincides with 'A≠B'. The negation of 'A is non-B' is 'A ≠ A-non-B' (literally, A is not that A which contains non-B). 'A is non-B' is, then, 'A = A-non-B'. "Thus that no A is B is the same as that A is non-B, or that any A is one of those which are not B; or 'AY ≠ ABY' is the same as 'A = A-non-B'. Therefore, we have link between affirmative and negative infinities."[94] Negative universals have the general form 'A is non-B', which is formally 'A = A-non-B' (A coincides with that A which contains non-B), and which states that no A is B.[95]

Though there are a number of other formalizations, the ones given will suffice to display Leibniz's schema of the four basic forms, and make sense of the ideas which lead him to that particular formalization. In fact, he gives several sets of formalizations for these forms, but the ones which include inequality (≠) are not relevant to my point that Leibniz tries to regard all propositions in the form of identity or coincidence. Now, the first member of the quartet is the *universal affirmative*. The basic function of a universal affirmative proposition is to relate a whole class of objects to a particular property or predicate, in terms of predicate

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to the existence of individuals to which the concepts are attributed, fits better to his modal ontology. This issue will be dealt with at the following pages.

[93] *Ibid*., p. 42. The idea implied here is that the relation between any concept and one of its parts is necessary, which will provide the basis of my criticism of the bare reading of Leibniz's infinite analysis theory of contingency. Moreover, Leibniz refers to the same idea when stating that truths concerning essences *sub ratione possibilitatis* are necessary. These will be the subject matter of the last sections of this chapter.

[94] *General Investigations*, p. 53-4.

[95] *Ibid*., p. 53.

logic, i.e. $\forall x$ (Fx $\rightarrow$ Gx), as 'All x's which are F, are also G'. In the classical intensional context, which is shared by Aristotle and Leibniz, this idea is expressed in the form 'All A is B'. But as we have seen, Leibniz regards 'A is B' as corresponding to 'All A is B'. The idea is that the concept A contains the concept B, so that if something is A, then it is also B. And Leibniz converts 'A is B' to the proposition of coincidence 'A = AB'. 'A = AB' states that A is *that A* which contains B. Secondly, the *universal negative* form in predicate logic is '$\forall x$ (Fx $\rightarrow$ ~Gx)', that is, 'No x, which is F, is G', or simply, 'No F is G'. Intensionally, it corresponds to the fact that a concept *excludes* the other: No A is B, hence A excludes B. Exclusion of B, in the Leibnizian form, is the inclusion of the negation of B, that is, non-B. Thus, 'No A is B' turns into 'A is non-B'; and in the same way as 'A is B' is converted to 'A = AB', 'A is non-B' is converted to 'A = A-non-B'. Then we have these basic coincidental forms for universals: Universal Affirmative 'A = AB', Universal Negative 'A = A-non-B'.

Before giving the basic forms for particulars, I must make an emphasis on the modal aspects of Leibniz's logic. We have seen that Leibniz calls the general form of contradiction, 'A-non-A', 'the impossible', and further defines 'possible' as "what is not Y-non-Y", that is, he refers to modal concepts within his theory of propositions and terms, which have ontological implications, as I have set out in the first section. A simple idea covered in Leibniz's logic is that a concept which does not contain any contradiction within itself is self-identical, i.e. coincides with itself, while an *impossible term*, as Leibniz calls it, cannot be so. These two basic forms, those of impossibility and possibility, Leibniz refers to as 'non-ens' (non-being) and 'ens' (being).[96] To be *ens*, for A, is then *not* to imply anything of the form 'Y-non-Y'. And Leibniz formalizes this sense of possibility as 'A = A', so that A is possible if and only if it coincides with itself. This is an interesting way, for within the same paper, Leibniz refers to 'A and A' as an instance of "the first coincidents", that is, takes 'A = A' as an axiom or an express identity; however, 'A = A' seems to give us much more than a bare self-identity: it states that A is possible (internally consistent)

[96] "'Impossible' in incomplexes is 'non-being'; in complexes it is 'false'." *General Investigations*, p. 42, footnote 15.

or *being*.[97] However, we can make sense of this way of formalization in light of Leibniz's statement that only those terms which are possible are true and hence to be treated as proper terms. Thus, Leibniz must have in mind that 'A = A' is an express identity (a necessary proposition), given that A is possible; that is, given that A is a proper term, 'A = A' is a "first truth". Now, the real question is: how can this idea give Leibniz a chance to formalize particular propositions in the form of coincidence?

Take a particular affirmative proposition, 'Some A is B'. From an extensional point of view, it states that at least one member of the set of individuals which is referred to by the concept 'A' is also a member of the set which is referred to by 'B'. If we take it, on the other hand, in the intensional sense, it will state that the concept 'A', with some addition to it, contains the concept 'B'. Now, 'Some animal is man' says extensionally that there is at least one animal which is man, and can be formalized as '$\exists x (Ax \wedge Mx)$'. But in the intensional interpretation, it merely states that the concept 'animal' (A), when combined with some concept (for example, that of *rational*), comes to contain the concept 'man' (B): "'AY contains B' is a *particular affirmative proposition with regard to A*."[98] 'AY is B' then says that A, with a certain addition (which is expressed by the indefinite term 'Y', which we have seen above), contains B. In this way, Leibniz is able to derive 'AY is B' (Some A is B) from 'AC is B', where C is definite and Y indefinite, and hence the former can be taken to imply the latter, just as we can make an existential generalization from Fa to $\exists x Fx$. But the question is how to eliminate the indefinite term 'Y', and convert 'AY is B' into a pure coincidence, as in the case of universals. There are two ideas Leibniz seems to follow: first that 'Some A is B' implies 'Some B is A' and vice versa; and secondly, in the case of concepts, possibility implies, and is implied by, self-identity, that is, A is possible if and only if A = A, which is an instance of coincidence. These ideas give the result that 'Some A is B', in an intensional context, can be expressed by 'AB = AB'. 'AB = AB' states that AB is a possible concept – a possible combination –

[97] Russell points to the same problem, in the context of Leibniz's conception of primitive ideas as purely positive. Russell, B., *A Critical Exposition of the Philosophy of Leibniz*, Routledge, London, 1992, c1937, p. 20-21.

[98] *General Investigations*., p. 43-4.

therefore, it is neither the case that A contains non-B, nor that B contains non-A (for if these were the case, AB would be impossible), so that A and B are compatible with each other.[99] But this does not lead to the fact that A contains B, for it may well be that while B contains A, A does not contain B, but contains it only when it is combined with some concept, as in the case of 'Some animal is man', where 'animal' itself does not contain 'man', yet is compatible with it. 'Man-animal', thus, implies no contradiction, which means that it is *being* (*ens*) or *possible*; indeed, it gives us the concept 'man' itself, for 'animal' is contained in 'man'. Hence, the general coincidental form of particular affirmative: AB = AB.

It is clear what the case would be for particular negatives: 'A-non-B = A-non-B'; that is, the combination 'A-non-B' is possible, so that neither A implies B, nor that B implies A. But it is also *possible* that 'AB' is possible, since nothing is said concerning the relation between 'A' and 'B' (nothing about inclusion or exclusion), but only the relation between 'A' and 'non-B', that is, that they are compatible. Hence a perfect expression of the particular affirmative: A-non-B = A-non-B. Of course there will be some further questions about this way of formalizing *the quartet*, which I will not be able to account for within the context of this study. But one of them seems a bit relevant to the general point: the problem of *existential commitment*. Some scholars claim that Leibniz's inclination to intensionality is partly due to his aim to provide a non-existential logic – a logic without any commitment to existence of terms or concepts – which seems to be in line with his modal ontology in which *being* is equaled with *pure possibility*:

> Couturat has argued that it was an excessive respect for the authority of Aristotle which made Leibniz prefer the intensional to the extensional point of view. But it is by no means certain that Leibniz would accept anything on Aristotle's authority alone… Certainly, if his only reason for adopting the intensional approach was a belief that this was Aristotle's approach also, then this would do him no credit. However, he mentions explicitly another, and much better, reason: that concepts 'do not depend on the existence of individuals'. He does not enlarge on this, but what he

[99] In ontological terms, they are *compossible*.

> says is sufficient to show that he proposes to regard universal affirmative propositions as being without what is now called 'existential import'.[100]

But, on the other hand, it can be argued that the form 'AB = AB' does not give the idea (which it must give) that there *is* at least one A which is B, where an existential statement is made. Moreover, modern predicate logic gives us the same intuition that particular propositions are existential, for to express particulars, the existential quantifier is used: as in $\exists x\ (Ax \wedge Mx)$, to express 'some animals are men'. Leibniz might have several answers, two of which are: (1) the intuition that particular propositions are existential in their own nature is misleading; and (2) in 'Some A is B', the predication can be made either *existentially* or *essentially*, so that in the former case, it will be stated both that AB is possible and there *exist* A's, while in the latter case, it will be stated only that AB is *being*. The division of predications into essential and existential is not an arbitrary idea; on the contrary, Castaneda, for example, claims that Leibniz *did* rely on such a division in his philosophy of logic, and his account for contingency.[101] The core idea is that in a predication, the copula 'is' can operate either as importing only possibility or *also* actuality to the complex term which is the product of the subject and predicate terms. For instance, in 'A is B', if the predication is existential, it is stated that AB is *actual*, whereas if the predication is essential, it is stated only that AB is *possible*. There are also some signs that he was leaded to this way in General Investigations. Though this issue is one which must be considered in the context of Leibniz's division of propositions as essential and existential, and which, in fact, will provide the basis of my argument, the simple idea can be summarized in this way: in essential predications, the concept, to which a predicate is attributed, is taken *sub ratione possibilitatis*, so that the proposition in which such a predication is made is a *proposition of essence* (or an essential truth, if it is true); whereas in an existential predication, *both* the predicate is attributed to an essence – i.e. to a concept essentially – *and* it is stated that the subject exists. Thus, an existential predication yields a *proposition of existence* (or a

[100] *Logic and Reality in Leibniz's Metaphysics*, p. 18.

[101] The reference is made in Adams, R. M., *Leibniz: Determinist, Theist, Idealist*, Oxford University Press, New York, 1994, p. 31, footnote 46. And we will see in the last sections that this reading fits better to Leibniz's account for contingency.

truth of fact, in terms of "the Monadology"). And this idea implies that the division between truths (or propositions) of essence and those of existence is a division between two points of view just as the one between possibility and actuality in the case of an actualized substance; in other words, the same proposition, where the subject is an existent, can be seen both as essential and as existential.[102]

Thus, we can now see that Leibniz's formalization enables him to regard universal and particular propositions on the one hand, and affirmative and negative propositions on the other, as propositions of coincidence, that is, as equivalences (or proper identities). And when it is remembered that any coincidence can be converted to a number of subject-predicate propositions, it follows that his theory of truth as containment of the predicate in the subject concept can account for particular, nay, for negative propositions. But how can Leibniz account for modalities with this theory of truth? Before turning to that question, I will try to take a glance at one more peculiarity of Leibniz's calculus and philosophy of logic: the relation between terms, propositions and syllogisms. Now, the conceptual containment theory of truth is directed to give a systematic unity to various kinds of propositions under the subject-predicate form and the idea that truth is *praedicatum inesse subjecto*. But as Leibniz also will admit, not all propositions are given in this simple form; there are conditional, modal and other kinds of propositions, to which also truth and falsity can be attributed. Leibniz's point is simply that any other form can be reduced to the categorical form (subject-predicate), yet he does not give an account for how to accomplish such conversions, except for conditionals. However, the case for conditionals may give us an idea of what Leibniz had in mind in treating all propositions as convertible to the S-P form, to which I now turn.

In Leibniz's calculus, truth and falsity are attributed not only to propositions, but also to terms or concepts. That a term A is false means simply that A is *non-being* (or impossible), that is, implies something of the form 'Y-non-Y' (contradiction). In the

[102] My point in the last section will be that if Leibniz regards all true essential predications as yielding necessary propositions (which he must do, in fact), then his theory of contingency cannot be seen as a *bare* reconciliation of analyticity with contingency. And I must emphasize the fact that this two-folded view of existent beings and events cannot work, in principle, in the case of God, for whom, "existence does not differ from essence".

same way, truth of A signifies that A is *being* (or possible). Such an understanding of truth and falsity – as attributable both to terms and propositions – implies that Leibniz wants to treat propositions as terms, and vice versa. And in fact, this is the case:

> (55) If A contains B and A is true, B is true also. By a false letter, I understand either a false term (either one which is impossible, or one which is non-being) or a false proposition. Also, similarly by true may be understood a possible term or a true proposition. Further, as I shall explain later, a whole syllogism is in my view also a proposition. The rest of what I am declaring here can also be expressed in this way: any part of the true is true, or what is contained in the true is true.[103]

The idea is simple: propositions in general can be viewed as terms, and sequence of propositions as propositions, and in turn, as terms. And this is accomplished by *abstraction*. The general form of the categorical proposition, as we have seen, is 'A is B'. Leibniz abstracts what is stated in this proposition, that is, that A is B, and gets the result 'The B-ness of A'. The general idea covered in a conditional proposition is that two statements are related to each other as antecedent and consequent, so that if we can turn these two elements into terms, such as L and K, then the whole conditional turns into a categorical proposition. For example, in the conditional 'If A is B, then C is D', the antecedent is 'A is B' and the consequent is 'C is D'. By abstraction, the terms 'B-ness of A' and 'D-ness of C' emerge, as corresponding to the antecedent and the consequent, respectively.[104] Now, by giving the letter L for 'B-ness of A' and K for 'D-ness of C', the result is the categorical proposition 'L contains (or is) K'. At a first appearance, the containment of 'D-ness of C' in 'B-ness of A' might not clearly give an idea of the conditional relation between the propositions 'A is B' and 'C is D'; but the general intensional form for universal affirmative, 'A is B', as we have seen, yields itself a conditional, namely, that if something is A, then it is also B. In other words, the intuition of *conditionality* is

[103] *General Investigations*, p. 44.

[104] *Ibid.*, p. 66.

already covered in the containment relation of classical logic.[105] Thus, it makes sense to treat a conditional statement, consisting of an antecedent and a consequent, as a categorical proposition consisting of a subject and a predicate.

The case for syllogisms is also clear. A syllogism is a sequence of propositions, grouped into two classes as premises and the conclusion, where affirmation of the former and the denial of the latter yield a contradiction. Therefore, a whole syllogism can be thought of as one complex conditional statement, where the antecedent is the conjunction of the premises, and the consequent is the conclusion; and finally, with abstraction, the whole syllogism can be turned into a categorical proposition.

Now, it becomes clear that Leibniz aims to do too many things at once with one simple idea: the containment of the predicate concept in the subject concept. He reduces the four forms, UA, UN, PA and PN, to equalities and in turn to the subject-predicate form; he converts conditional propositions, nay syllogisms, to categorical propositions. But it is still unclear how he can open a space for contingency, under this simple form of truth and falsity. First of all, what is the question of contingency?

The logical facet of the problem is almost clear. Now, Leibniz states that in all true affirmative propositions, the predicate is contained in the subject[106], while in some cases the proposition is one that might have failed to be true. How can it be that while the subject contains the predicate and yet the proposition fails to be necessary? First of all, this question relies on the assumption that the relation between a concept and one of its parts is *necessary*. And this assumption *seems* to be validated by Leibniz's treatment of the form 'A is B' as expressing conditionals and syllogisms, where the relation between an antecedent and a consequent, or a number of premises and a conclusion, is a deductive one. Moreover, Kant's definition of analyticity and

[105] We can roughly state that the common predicate logical form for universals, $\forall x\,(Fx \rightarrow Gx)$, focuses on conditionality, and the classical form 'A is B' rather focuses on containment, while both denote the same idea, namely, *universality*. In a Leibnizian context, however, 'A is B' refers to more than universality; it signifies logical following, and even *necessity*, as we will see.

[106] From now on, I will use, following Leibniz himself, 'predicate' and 'subject' instead of 'the predicate concept' and 'the subject concept'. This is not, however, a mere abbreviation, as is clear from the earlier discussion on terms and concepts.

his claim that all analytic propositions are necessary justifies this view. Then does Leibniz have a proper logical answer to this question?

In fact, Leibniz has several answers, consisting of fragmental ideas on modalities and other related issues. However, two general lines of thought can be discerned from his writings, one of which focuses on the notions of infinite analysis and demonstration, and which is taken to be Leibniz's real theory of contingency, the other focusing on a division between kinds of necessity; but the problem as a whole is one which is both logical and metaphysical at once. The bridge, as it were, which combines, albeit loosely, the two lines of thought is the notion of *complete individual concept*. But the relation between this notion and Leibniz's theory of contingency, and especially the first line of thought, is established through the notion of *a priori proof*, which I will explain now.

We have seen that in Leibniz's calculus any proposition of any quantity (universal or particular), affirmative or negative, categorical or conditional, can be analyzed formally as an equation or coincidence, or, to make the point, as an *identity*. In this sense, "all statements are identities"[107]. Leibniz affirms that this is the case, but with a qualification: not all identities are identities proper, so to wit, if that a proposition is identical is taken in the narrow sense that the proposition is *formally* true or false. And it is this sense which Leibniz thought of the term identity, in fact, *express identity*, as bearing: an (express) identity is a tautology, or a 'primary truth', that is, a proposition which is true or false *through itself* (*per se*):

(10) A *proposition true per se* is: 'A coincides with A'.
(11) A *proposition false per se* is: 'A coincides with non-A'.[108]

The point, to emphasize it again, is that an express identity – a truth or falsity *per se* – may be of the usual categorical form, as in 'A is A' or 'B is non-B', instead of an equation, as in 'A =A' ('A coincides with A); in other words, a proposition is an

[107] *The Metaphysical Foundations of Logic*, p. 39.

[108] *General Investigations*, p. 39.

express identity, if and only if its truth or falsity is clear from its *form*. Leibniz calls those propositions which are true through themselves "primary truths". Now, the building blocks, as it were, of Leibniz's logical doctrines are primary truths. These truths, in principle, can have two functions: attribution of a concept to itself, or denial to a concept of its negation. "Primary truths are those which express the same thing of itself, or deny the opposite of its opposite, such as *A is A*, or *A is not non-A*. If it is true that *A is B*, it is false that *A is not B*, or that *A is not-B*."[109] And the non-formal examples Leibniz gives are: "*each thing is what it is*, *each thing is like itself*, *nothing is greater or less than itself*."[110] The remaining true propositions, which are not formally true – that is, whose truth is not clear from the formal relations between the terms – are *virtual identities*. A virtual *identity* is a true proposition, for it is an identity, in the sense that it can be converted to a true proposition of coincidence, yet there is no formal relation between the terms – the subject and the predicate – which would suffice to show its truth, as in the true propositions 'a square is a rectangular' and 'Leibniz writes the Monadology'. In the case of virtual identities, that the proposition is an identity can be made clear only by an analysis of the concepts of the subject and predicate terms until the strictly formal relation between them is brought to light (and in all true propositions, there is one such relation, since all truths are identities); and through such an analysis, the proposition which was initially a virtual identity would then be turned into a set of express identities. Therefore, all truths, for Leibniz, are *provable*, in a certain sense. Now, before explaining what this means for Leibniz, and what its implications are with regard to his theory of modalities, it should be made clear what he understands by this notion of proof, and where does it come from.

An important assumption of Leibniz's theory of truth is that all true predications are based on the nature of things: a predicate can be attributed to a subject, only if there is a proper reason why this predication is true, which is to be found in the concept of the subject and in the most general logical principles. This is in fact what is stated by the principle of sufficient reason in its logical interpretation: for every true

[109] "Logical-Metaphysical Principles", *The Shorter Leibniz Texts*, p. 48.

[110] *Ibid*., p. 48.

proposition, there is a reason, indeed, an *a priori* reason, why it is thus (true) and not otherwise (false). This reason, as is clear, can only be given for virtual identities – that is, true propositions which are not *true through themselves*, but reducible to such propositions. However, *reducibility* must be seen as a logical, and not an epistemological, property of propositions, for it is the divine understanding, containing in itself all possible individual concepts and all possible combinations of those concepts (possible worlds or series of possibilities), which gives concepts, propositions and syllogisms their objectivity and truth. Thus, that a proposition is reducible to an express identity means that an infinite mind (i.e. that of God) can accomplish such a reduction, where a perfect analysis of the concepts of the relevant terms (of a subject and a number of predicates) is required. Otherwise said, since truth requires objective foundations, and concepts and their relations which are stated in propositions have their objectivity solely in God's understanding, the objective method of truth must express God's mode of knowledge, which is certainly *a priori*. Hence Leibniz calls this method '*a priori* proof': "all remaining truths are reduced to primary truths by the help of definitions, i.e. through the resolution of concepts, in which consists *a priori* proof, independent of experience."[111]

Leibniz relates this notion of proof to his theory of truth as conceptual containment in this way: in primary truths, the connection (*nexus*) of terms, which is the only thing to give truth, is explicit, and hence their truth is apparent – there is no need, and indeed no way, of showing that they are true. But the same connection is implicit or virtual in the case of other truths; thus, a priori proof is nothing more than a method of transforming a virtual identity to an explicit one: "And in identities[112], this connection and inclusion of the predicate in the subject is explicit, whereas in all other truths it is implicit and must be shown through the analysis of concepts, on which *a priori* demonstration is found."[113] And concerning the relation of the principle of sufficient reason to a priori proof: "Every truth can be demonstrated

[111] *Ibid.*, p. 48.

[112] Here, by 'identities', Leibniz refers to primary truths or express identities, not to true propositions in general.

[113] "Logical-Metaphysical Principles", *The Shorter Leibniz Texts*, *p*. 49.

either from absolutely first truths… or is itself an absolutely first truth. And this is what I usually say, nothing must be asserted without a reason, or rather nothing happens without a reason."[114] To give reason, then, why a proposition is true, that is, why its predicate is contained in its subject, is to give an *a priori* proof of it.

It is now clear what Leibniz understands by 'identity' in general: a true proposition is an identity in the sense that its truth relies on the connection of its terms. Primary truths are express identities, in which this connection is explicit; the others are virtual identities, in which the connection is implicit, and can be made explicit by reducing the proposition to an express identity, of which consists the proof. The notion of identity, as Heidegger states it in his formula '*inesse* means *idem esse*' (*to be* in means *to be the same*), constitutes the basis of Leibniz's theory of propositions:

> All statements are identities. But identities in a special sense are those statements whose identity is immediately manifest (*manifeste*). In other statements the identity is hidden (*tecte*), and the proof of their truth consists in making explicit the underlying identity.
>
> The essence of truth is identity, completely aside from the question of whether human knowledge can succeed at actually demonstrating all truths as identities. But truth characterizes the essence of judgment, and the nature of truth, *natura veritatis*, is equivalent to the *nexus*. The inclusion theory is therefore a theory of identity.[115]

However, virtual identities, truths which must be proven to be true, differ with regard to modality: some of them are necessary, while others are contingent. I have stated that the problem of contingency is already clear from Leibniz's treatment of all truths as analytic. But now, it is much clearer: all truths are reducible, by way of analysis of terms, to primary truths or express identities, which are absolutely necessary. And when we remember that if a proposition *p* follows necessarily from another proposition *q* then *q*'s necessary truth will bring out *p*'s necessary truth[116], how can there be any contingency in Leibniz's system?

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[114] "On First Truths", *The Shorter Leibniz Texts* , p. 30.

[115] *The Metaphysical Foundations of Logic*, p. 39.

[116] Formally, $\Box(p \rightarrow q) \rightarrow (\Box p \rightarrow \Box q)$, which is called 'the distribution axiom' in modal logic. It will appear that Leibniz also affirms this axiom, and yet some of his statements are in opposition to this

As we have seen in the first section, actual realm is divided into two, as those beings which exist necessarily (and among them is only God), and those which exist contingently (the creatures or the actual world), implying that truths concerning the second group of beings, that is, truths about the individuals and individual events in the actual world, are contingent. I have proposed that God's case can be thought to be an exception for existence, since he is the only being which exists necessarily, while all other existents are contingent. And this hints at a covert relation between existence and contingency; in fact, Leibniz clearly states that truths concerning pure ideas or essences – that is, possibilities – are necessary, while truths concerning existents – actual beings – are contingent. But in light of our discussion of the phrase *sub ratione possibilitatis*, the difference between essential and existential truths appear as a difference of perspective, so that a particular predication concerning the same existent individual, for example 'Leibniz the philosopher', can be seen either as essential or existential. In the first case, the proposition 'Leibniz went to Paris' states nothing more than a relation between the temporal predicate 'going to Paris (at a definite time)' and the concept 'Leibniz'; but in the latter case, the same proposition states further that Leibniz who went to Paris is actual, that is, a member of the actual world. And this nuance between essential (*sub ratione possibilitatis*) and existential way of interpreting truths about individuals constitutes the main problematic of Leibniz's theory of contingency. Now, Leibniz makes a *modal* division between truths of reasoning and truths of fact in the Monadology:

> There are also two kinds of truths, truths of *reasoning* and truths of *fact*. Truths of reasoning are necessary, and their opposite is impossible. Truths of fact are contingent, and their opposite is possible. When a truth is necessary, the reason for it can be found by analysis, resolving it into more simple ideas and truths until we reach the primitive…[117]

Leibniz sometimes refer to truths of reasoning, that is, truths which are necessary but not primary, as 'eternal truths', to underline the fact that they do not concern what is

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affirmation. This relation is referred to in an unpublished paper by Jens Tomas Anfindsen, with the title "Leibniz on hypothetical necessity", which can be found in the following electronic address: http://www.honestthinking.org/en/pub/HT.2005.06.JTA.Leibniz_on_hypothetical_necessity.htm.

[117] "The Monadology", § 33, *Philosophical Papers and Letters*, *p*. 646.

fact or *actual*. In an essay, when speaking of the relation between the terms of a proposition, he says: "And indeed, the connection is necessary in the case of propositions of eternal truth, which follow from ideas alone or from definitions of universal ideas."[118] But more interestingly, he sometimes refers to truths of fact as 'existential'. For example, in *General Investigations*, after stating that all "existential propositions are certainly true, but not necessary"[119], he gives the example 'Peter denies', which is a truth of fact, that is, a truth which concerns the actual series of individuals. And at another place, where he relates the idea of possible world to modalities (which he rarely does), he gives us this division fitting to necessary and contingent virtual identities:

> Propositions of essence are those which can be demonstrated by the resolution of terms; these are necessary, or virtually identical, and so their opposite is impossible, or virtually contradictory. The truth of these is eternal, not only will they hold whilst the world remains, but they would have held even if God had created the world in another way… Existential or contingent propositions differ entirely from these. Their truth is understood *a priori* by the infinite mind alone, and cannot be demonstrated by any resolution. These propositions are such as are true at a certain time; they express not only what pertains to the possibility of things, but also what actually exists...[120]

However, we may be tempted to regard only those propositions as *existential* which state that a certain thing exists, that is, which attribute 'existence' to some subject. But this is not the case for Leibniz: the difference between essential truths (i.e. truths concerning essences, truths of reason) and existential truths (i.e. truths concerning existents, truths of fact) is relative, to a certain extent[121], to our view of the ontological scope of the subject term, relating us either to the realm of the purely possible or to that of the actual. This is clear from the following article on adjective conversions in particular negative propositions:

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[118] "On the perfect concept of substances", *The Shorter Leibniz Texts*, p. 41.

[119] *General Investigations*, p. 51.

[120] "Necessary and Contingent Truths", *Philosophical Writings of Leibniz*, p. 98.

[121] What this extent is will be clear in the following section, in the context of complete concept doctrine.

> (148) A particular negative proposition 'Some A is not B' will be transformed into a proposition of the second adjection in this way: 'A-non-B is', *i.e.*, A which is not B is a certain thing, possible or actual, according as the proposition is essential or existential.[122]

To state it more clearly, Leibniz's calculus does not contain a logical structural difference between essential and existential truths, that is, between truths of reason and truths of fact, a situation which is justified also by Curley's treatment of the adjective conversions in *General Investigations*. Now, the basic idea in these Leibnizian conversions is to give an ontologically committed version (*secundi adjecti*, second adjection) of a categorical proposition in the "standard" predicative form (*tertii adjecti*, third adjection) of one of the four quantities (UA, UN, PA; PN), by attributing, either affirmatively or negatively, 'thing-hood' to the conjunction of the subject and the predicate terms. For example, the universal affirmative '(All) A is B' is converted to 'A-non-B is not a thing', while the particular negative 'Some A is non-B' is converted to 'A-non-B is a thing', where the latter ones are of the second adjective form. "The reduction", says Curley,

> …is apt to make modern readers think of the interpretation given the categorical propositions in Boolean algebra, or modern quantification theory, with "is a thing" playing a role analogous to that of "$\neq 0$" or the existential quantifier. But the comparison is misleading. For Leibniz makes it plain that the phrase "is a thing" is subject to two possible readings – "is an actual thing" or "is a possible thing". If it is given the latter reading, the proposition is essential; if the former, the proposition is existential.[123]

Thus, in a proposition 'A is B', where A is an existent individual, the predication will be either essential or existential according to whether we take A *sub ratione possibilitatis* or not. And the question is what would be the implications of this dual view of propositions with respect to modalities, which I will deal with through the following sections.

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[122] *Ibid.*, p. 70.
[123] Curley, E. M., "The Root of Contingency", in Frankfurt, H. G. (ed.), *Leibniz: A Collection of Critical Essays*, University of Notre Dame Press, Notre Dame [Ind.], 1976, c1972, p. 91-2.

To make the question clearer, let me give an example. Now, for Leibniz, a perfect example for truths of reason would be the proposition 'square is rectangular'. The concept of square contains that of rectangular by definition, so that the proposition is an eternal truth or truth of reason, and hence absolutely necessary; 'square is rectangular' refers to nothing existential, that is, nothing concerning what is fact or actual. And a truth of fact, or an existential truth, would be 'Caesar crossed the Rubicon'. This is a truth of fact, for it concerns what really is fact or not – what the case is in the actual world; and moreover, it is temporal in the sense that it refers to an event occurred within the actual sequence of things, but not in other possible sequences, whose only mode of reality is eternal subsistence in the divine understanding. But if we take 'Caesar' *sub ratione possibilitatis*, the same proposition, in line with Leibniz's view of the difference between essential and existential truths, turns into a truth of reason, that is, to a truth concerning ideas or concepts, not what the fact is. Then we get the idea that while truths of fact are only those which concern actual individuals under the aspect of actuality, truths of reason are those which concern either universal ideas/concepts, or individual ideas/concepts, without reference to existence. As Mates has also seen, this distinction characterizes the division of modalities in Leibniz's system:

> Often Leibniz writes as though the distinction between necessary and contingent truths coincides with that between true essential and existential propositions, it being assumed here that we are dealing only with categorical propositions. From what he says, it is clear that the intuition behind this is that insofar as the truth of a proposition depends on what exists and what does not exist, the proposition must be contingent (for God could have created a different series of individuals from the one he chose, and hence there is a possible world of which the proposition is false); while if, on the other hand, the truth of a proposition is independent of what exists or does not exist, that proposition must be necessary, or true of all possible worlds.[124]

[124] It must be noted, however, that 'truth in all possible worlds' must not be taken literally, for an essential proposition concerning a possible individual has nothing to do with possible worlds other than the one in which the individual inheres. This point will be made clear later, in the context of the notion of hypothetical necessity. Another point is about Mates' position. Mates argues that this reading is inconsistent with Leibniz's doctrine of adjective conversions, according to which the necessary proposition '(Every) A is A' can be taken as existential, since its *secundi adjecti* form is 'A-non-A *does not exist*'. However, Leibniz's point, as we have seen, is that this existential conversion, as yielding a statement about the non-existence, instead of non-being, of A-non-A, is possible only if

Now, this difference between two perspectives cannot be accounted for by the structure of the proposition or the *formal* aspects of the predication, for the proposition 'Caesar crosses the Rubicon' is formally the same in both interpretations. Otherwise said, the fact that Caesar exists or is actual cannot be expressed in terms of Leibniz's calculus; in general, Leibniz's calculus cannot express the difference between pure possibility and actuality, for it concerns only the objective relations between concepts and propositions *sub ratione possibilitatis*.

And this explains Leibniz's "tendency" to *eliminate* the idea of *actuality* or *existence* from his theory of propositions through his theory of contingency, as we will see. Heidegger expresses the same thing in a perfect manner:

> Contingent truths are truths about that which is not necessary, what can also not be. The basic aim of Leibniz's theory of judgment is to comprehend even these *veritates facti* as identities, as ultimately primordial, eternal truths, and thus to attribute to them as well an ideal absolute certainty and truth. There is thus the tendency in his theory to assimilate as far as possible the *veritates facti* to truths of reasoning – though this is not stated with complete accuracy, since truths of fact are supposed to retain their own quality and nonetheless have the character of identities.[125]

As I have stated above, Leibniz's theory of contingency covers two lines of thought, one of which is regarded generally as Leibniz's real theory of contingency, namely, the infinite analysis theory. The other can be regarded, however, not as a whole theory or explanation of contingency, but as a theme, which nevertheless makes it clear what Leibniz understands by contingency of facts and truths of fact. In the next section, I will try to present the first line in the simplest form possible, for it covers a huge number of problems, each relating us to further questions about other departments of Leibniz's philosophy, such as his theology and metaphysics of freedom, which transcend my discussion.

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the proposition 'A is A' is itself taken existentially. Mates, B., *The Philosophy of Leibniz: Metaphysics and Language*, Oxford University Press, New York, c1986, p. 114.

[125] *The Metaphysical Foundations of Logic*, p. 42-3.

The infinite analysis theory, in general, is read under two interpretations. To characterize them, we can turn back to the example given above. The modal difference between the (necessary) truth of reason 'Square is rectangular' and the (contingent) truth of fact 'Caesar crossed the Rubicon' can be seen either as a difference between their subject concepts, where the former is a universal concept and the latter a complete individual concept, or as a difference stemming from the latter's commitment to actuality or existence, that is, its existentiality. In the first reading, the difference between modalities, as we will see, is traced back to a difference between *modes of containment*, so that while in the former the predicate is necessarily contained in the subject, in the latter, the containment relation is contingent. This is the vulgar interpretation of Leibniz's infinite analysis theory, which can be found in Blumenfeld, and which, in fact, has textual justification, albeit only to a certain extent. The second reading, which is best formulized by Rescher, on the contrary, leaves the question unanswered whether the modality of the containment relation varies according as the proposition is necessary or contingent. We will see that the second line of thought will take the side of the second reading of the first line of thought, and that the two together will bring us to the conclusion that the question of contingency in Leibniz's system reduces to the question of how to give a logical sense to 'existence'.

2.3 The First Line of Thought: Infinite Analysis

The first idea is a categorization of propositions according to whether they are provable – that is, reducible to primary truths – *in finite steps* or not. Now, for the sake of clarity, we must determine the terminology used. First of all, for Leibniz, all truths are *provable*, as explained above, but not all truths are *demonstrable*, although he sometimes uses the term 'demonstration' in place of 'proof'. Thus, by *demonstration proper*, we will be referring to *proof in finite steps*, or simply, *finite proof*. A second case is about *demonstrability*: primary truths are, as we have seen, true through themselves, and cannot have any proof whatsoever for their truth. We will be referring to them as *non-demonstrable*, to underline the idea that they are *out* of the question of demonstrability. However, we will say that those propositions

which are in need of proof, yet which cannot be demonstrated – that is, cannot be given a finite proof – are *indemonstrable*, following Leibniz. Therefore, we have these two divisions concerning truths before us:

According to the explicitness of the relation of terms

1. Express identities or primary truths, all of which are necessary,
2. Virtual identities, which are either necessary or contingent.

According to demonstrability

1. Non-demonstrable truths: express identities
2. Demonstrable truths: necessary truths which are not express identities
3. Indemonstrable truths: contingent truths.[126]

In the second division, the first two groups consist only of necessary propositions, while the third consists only of contingents. Then we come to the question of what 'indemonstrability' means. To answer the question, I will follow a simple formal example, which is in line with Leibniz's own examples, for demonstration – finite proof – and then extend the example to display indemonstrability.

My example is the virtual identity 'A is BC'. To show that 'BC' is contained in 'A', we must reduce the proposition to an express identity of one of the forms 'X = X', 'X is X' or 'X is not non-X'.[127] Now, assume that when we analyze A (in an *a priori* fashion) into its primitive constituents, we see that 'A = DEFGH'. Again, by the same kind of analysis for B and C, assume that we get the results 'B = DE' and 'C = F'. If we substitute the values for the terms which are given in the initial proposition, we will then have the proposition 'DEFGH is DEF' (which coincides, for Leibniz, with 'DEF is contained in DEFGH'). If, in turn, we give the term 'L' for 'DEF' and 'K' for 'GH' (so that DEF = L and GH = K), the result is 'KL is L'. In line with the

[126] A similar but much more complex schema is given by Heidegger; see *The Metaphysical Foundations of Logic*, p. 42.

[127] Other forms are possible, such as 'XY is not non-Y', or 'XY is Y'; moreover, the reduction can end in a *conjunction* of such propositions. The point is only that the final form of the reduced proposition is a *tautology*.

Leibnizian conversion of 'A is B' to 'A = AB', we can convert 'KL is L' to 'KL = KLL', where one of the Ls is redundant according to the iteration rule, and hence the final form is 'KL = KL', which is an express identity, nay, a coincidence.

Now, as a second example, we may assume that the *a priori* analysis of A into its primitive constituents gives the result that A = MNPR…*et cetera ad infinitum*.[128] In that case, the analysis, in an idealized form, will proceed as

1. **A** = XY
2. **X**= ST and **Y** = RQ
3. **S** = WI and **T** = JZ and **R** =…
4. **W** = …

…

and will never end, for the values which are substituted for the initial terms will always require a same sort of analysis, so the same operation will occur *ad infinitum*. Thus, that 'A is BC' will not be reduced to an express identity, that is, will not be demonstrated properly, since A is not conclusively *analyzable* into its constituents. This means that 'A is BC' is indemonstrable. And that which makes the difference is that A is in this case an *infinitely complex concept*. Now, as to this oversimplified schema, 'A is BC' in the first case is a necessarily true proposition, whereas in the second case, it is a contingent truth. Of course, this is not an explanation of how Leibniz reconciles the notion of contingency with conceptual containment theory of truth and the idea that all truths are in a certain sense identities. Now, there are three points to make: first, what Leibniz has in mind in this way of categorizing truths as demonstrable and indemonstrable is a mathematical analogy, as we will see. The second point is a question about the root of infinity: is it the infinity of the subject concept alone, that which makes the reduction impossible, or is there something else? And the third: is this an epistemological explanation of contingency; in other words, is it meant to account for the presence of contingency only in *human knowledge*? These points, along with certain references to the theory of creation, will

[128] "And so on to infinity". My use of this phrase is in line with Blumenfeld's, in "Leibniz on Contingency and Infinite Analysis", *Philosophy and Phenomenological Research*, Vol. 45, No. 4 (Jun., 1985), pp. 483-514.

be made clear. But before them, I must explain Leibniz's doctrine of complete concept, which is closely related to the conception of contingent truth as indemonstrable.

In the "Discourse on Metaphysics", Leibniz relates the conceptual containment theory of truth to the idea of complete concept as constitutive of the nature of individual substance in this way:

> This is what the philosophers call *in-esse*, when they say that the predicate is in the subject. So the subject term must always include the predicate term in such a way that anyone who understands perfectly the concept of the subject will also know that the predicate pertains to it. This being premised, we can say it is the nature of an individual substance or complete being to have a concept so complete that it is sufficient to make us understand and deduce from it all the predicates of the subject to which the concept is attributed. An accident, on the other hand, is a being whose concept does not include everything that can be attributed to the subject to which the concept is attributed.[129]

As Heidegger has also seen[130], Leibniz here has in mind the traditional logical definition of substance, which goes back to Aristotle's concept of 'primary substance', and which marks classical rationalist metaphysics in general. In the *Categories*, Aristotle defines primary and secondary substance in this way: "A *substance* – that which is called a substance most strictly, primarily and most of all – is that which is neither said of a subject nor in a subject, e.g., the individual man or the individual horse. The species in which the things primarily called substances are, are called *secondary substances*, as also are the genera of these species."[131] Aristotle's example is the relation between an individual man, the specific concept of man, and the specific concept of animal. And individual man is properly a substance, for it *is* neither *in* nor can *be said of* anything else. The difference between the two kinds of predications, namely, 'being-in' and 'being-said-of', is as follows: in a

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[129] "Discourse on Metaphysics", *Gottfried Wilhelm Leibniz: Philosophical Papers and Letters*, *p*. 307.

[130] *The Metaphysical Foundations of Logic*, p. 32. I must state again that I made up this connection independent of Heidegger's discussion, nay, in exactly the same terms; but I thought it necessary to make this reference, in case of plagiarism.

[131] Ackrill, J. L. (ed.), *A New Aristotle Reader*, Clarendon Press, Oxford, 1987, p .7.

predication, of B to A, if both the name and definition of B are predicated to A, then B *is said of* A; but if B is predicated to A only as a name, then B *is in* A. In the case of an individual man, e.g. Socrates, neither the name nor the definition can be predicated of anything other than itself. But *man* can be predicated to an individual man (Socrates) both as a name, as in 'Socrates is man', and as a definition, as in 'Socrates is a rational animal'. Again, *animal* can be predicated in the same way both to *man* and to *Socrates*: 'Man is animal', 'Man is living being with sensation', 'Socrates is animal' etc. Thus, *animal*, as a genus of the species 'man', is said of *man* and of Socrates, and *man* is again said of Socrates. For Aristotle, universals other than genera and species can be predicated of subjects only as names: white can be predicated to an individual table only as in 'this table is white', but not as in 'this table is the color which yields gray when mixed with black'. And finally there are abstract particulars, which can be in subjects, but cannot be predicated to them: "For example, the individual knowledge-of grammar is in a subject, the soul, but is not said of any subject; and the individual white is in a subject, the body (for all colors are in a body), but is not said of any subject."[132]

Two things are of concern here: first, 'substance' is defined through a logical notion, namely, *subject*. Aristotle's definition implies that though anything whatsoever can be the subject of a proposition, only those things which cannot be predicated in any way of other subjects are properly substances; that is, substance is a being whose term cannot be the predicate of a proposition. Secondly, it seems that the metaphysical doctrine which underlies this conception is that all realities have their basis in individual substances: "Thus all other things are either said of the primary substances as subjects or in them as subjects. So if the primary substances did not exist it would be impossible for any of the other things to exist."[133] In light of the *individualism* of his mature metaphysics, we can say that Leibniz relies on the same idea when defining individual substance in this way: "It is of course true that when a

[132] *Ibid.*, p. 5. It must be remembered that in Aristotle's schema, abstract (non-generic) universals, are present in individuals *through* abstract particulars, as *white* is present in some individual through the particular white pertaining to it.

[133] *Ibid.*, p. 7.

number of predicates are attributed to a single subject when this subject is not attributed to any other, it is called an individual substance."[134] Thus, it appears that, at least from a logical point of view, Leibniz's 'individual substance' is closely related to the Aristotelian 'primary substance'.

We have seen that Leibniz takes as a requisite for truth that the proposition is reducible to a primary truth (an express identity). Interestingly, he also sees this reduction, that is, a priori proof, as 'proof of the predicate from the subject'. Here, Leibniz's point may be that since a proposition is simply a statement that a (number of) predicate(s) is (are) true of a subject, and since this truth is founded on the containment relation between the predicate and the subject, the real source of truth in general is the subject concept, which is the *container*. In this sense, truth of the predicate is grounded on the subject. And Leibniz equates a priori proof (reduction) with giving a *reason* for the truth of a proposition, as I have noted. A priori proof is accomplished through the analysis of the terms to a degree that it becomes clear that the predicate is contained in the subject, or that the proposition is an identity (in the broad sense). Therefore, the subject concept, as the container, is the source from which a *reason* can be given for the predicate; and for every true proposition which is not a primary truth an a priori reason for truth can be given from the subject: "And the predicate of the proposition is proved from the subject, or the consequent from the antecedent, by resolution either of the antecedent or subject alone, or of both the antecedent and the consequent simultaneously, or of the subject and the predicate simultaneously."[135]

The relation of the notion of 'proof from the subject' to the notion of complete concept is significant: "*If some concept is complete*, *i.e.*, *is such that from it a reason can be given for all the predicates of the same subject to which this concept can be attributed, it will be the concept of an individual substance, and vice versa*."[136] An individual substance, then, is a subject (concept) which is not contained in any other

[134] "Discourse on Metaphysics", p. 307. Hence it becomes clear what I have meant by the correspondence between metaphysical and logical independencies in the preceding chapter.
[135] "The Principle of Human Knowledge", *The Shorter Leibniz Texts*, p. 42.

[136] *Ibid*., p. 43.

subject (concept) so that anything predicable of it is already contained in it. Now, a subject which cannot be a predicate – that is, which cannot be predicated of something else – is a term which cannot be *modified*. For example, 'man' cannot be such a term, for it can be modified in various ways: 'this man', 'philosopher man' etc. Correspondingly, it can be the predicate of a proposition: 'This is man', or 'philosopher is man'. Thus, if a term is predicable of a subject, it can be modified by a proper addition of that subject term, and vice versa: from the predication 'philosopher is man' we can make up the term 'philosopher man', and from the possible (self-consistent) term 'philosopher man', the proposition 'philosopher is man'. And in this sense, a predicable term is 'incomplete' – that is, it is open to possible modifications. However, the concept of an individual substance is not modifiable and hence 'complete'. This must be the way in which Leibniz provides a foundation for the traditional logical definition of substance. And now, Leibniz's definition of accident as "a being whose concept does not include everything that can be attributed to the subject to which the concept is attributed", which is quoted above, makes more sense. For example, 'prince' is an accident, for it does not include everything that can be attributed to all the subjects to which it is attributed, that is, all possible and actual princes. Alexander the Great is an individual prince, and there are infinitely many predicates attributable to him for which the specific concept 'prince' cannot provide a *reason*, since it "is not determined enough to define an individual, for it does not include the other qualities of the same subject or everything which the concept of this prince includes."[137] However, the *complete concept* of Alexander is enough to give a reason for any such predication, as it contains the infinite set of all predicates, temporal or non-temporal, which can be attributed to him:

> God, on the contrary, in seeing the individual notion or 'haecceity' of Alexander, sees in it at the same time the basis and the reason for all the predicates which can truly be affirmed of him – for example, that he will conquer Darius and Porius – even knowing a priori (and not by experience) what we can know only trough history – whether he died a natural death or by poison. Thus when we well consider the connection of things, it can be said that there are at all times in the soul of Alexander

[137] "Discourse on Metaphysics", *Philosophical Papers and Letters*, *p.* 307.

> traces of all that has happened to him and marks of all that will happen to him and even traces of all that happens in the universe, though it belongs only to God to know them all.[138]

An individual complete concept, therefore, is sufficient to give reasons for the predications not only concerning the relevant individual, but also the whole universe of which the individual is a member (that is, all other individuals in that universe).[139] Now, a complete concept is infinitely complex, for there are an infinite number of states of an individual substance, and an infinite number of other substances which are embedded in the same universe, which are to be expressed in the concept. This leads Leibniz to treat those propositions in which a complete concept is the subject in terms of a mathematical analogy:

> And here is revealed the secret distinction between necessary and contingent truths, which will not easily be understood except by those who have some knowledge of mathematics, namely that in necessary propositions, when the analysis is continued for a time, we arrive at an identical equation; and this is how to demonstrate a truth in geometrical rigor. In contingent propositions, however, the analysis continues to infinity through reasons of reasons, so that we never have a full demonstration, there is always an underlying reason for the truth, even if it is only perfectly understood by God, who alone penetrates an infinite series in one stroke of the mind.
>
> The matter can be illustrated with an appropriate example from geometry and numbers. Just as in necessary propositions, where, through a continual analysis of the predicate and the subject, a thing can at last be brought to the point where it is apparent that the concept of the predicate is in the subject, so it is in the case of numbers, where through a continual analysis (of successive divisions) we can finally arrive at a common measure. But just as in incommensurables there is also a proportion or comparison, even though the resolution proceeds to infinity and never comes to an end, as has been demonstrated by Euclid, so also in contingent truths there is a connection of the terms, i.e. there is truth, even if it cannot be reduced to the principle of contradiction through an analysis into identities.[140]

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[138] *Ibid.*, p. 307.

[139] It then makes sense that just as an individual substance – a monad – expresses the whole universe from its own particular perspective, its complete concept expresses the concepts of all other individuals in the same universe from a particular *logical* perspective. The same point has been made by Rescher, which I quoted above.

[140] "On Contingency", *The Shorter Leibniz Texts*, p. 112.

The same analogy is given elsewhere:

> So the relation of contingent truths to necessary truths is somewhat like the relation of surd ratios (namely, the ratios of incommensurable numbers) to the expressible ratios of commensurable numbers. For just as it can be shown that a lesser number is in a larger, by resolving each of the two into its largest common measure, so also propositions or truths of essence are demonstrated by carrying out a resolution of terms until one arrives at terms which, as is established by definitions, are common to each term. But just as a larger number contains another which is incommensurable with it, though even if one continues to infinity with a resolution one will never arrive at a common measure, so in the case of a contingent truth you will never arrive at a demonstration, no matter how far you resolve the notions.[141]

There are two things to be stated. First of all, Leibniz at some places admits that the analogy is not perfect, for in the case of incommensurable numbers, there is in fact a rule to bring the resolution to a definite conclusion, so that it can be *demonstrated* that there is a definite proportion between the terms, whereas in contingent propositions, which concern the events in the actual world, there is no such rule, and we are left with an infinite series where the process of resolution of terms never ends:

> The sole difference is that in the case of surd relations we can, none the less, establish demonstrations, by showing that the error involved is less than any assignable error, but in the case of contingent truths not even this is conceded to a created mind.[142]

The second point is that this division between necessary and contingent truths does not point to a merely *epistemological* conception of contingency, as if a proposition concerning an *actuality* were contingent *for created minds* and yet necessary *in the case of God*, insofar as God can see the truth lying there. As Blumenfeld notes, this was a great misconception of Leibniz's theory of infinite analysis, exemplified by Russell and Lovejoy – a failure relying on a confusion of "an epistemic with a metaphysical notion", which brings them to the conclusion that for Leibniz "there is no real contingency in nature, but only the appearance of it to a limited extent."[143]

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[141] "Necessary and Contingent Truths", *Philosophical Writings of Leibniz*, p. 97.
[142] *Ibid.*, p. 97.

[143] "Leibniz on Contingency and Infinite Analysis", p. 496-7.

Now, Leibniz states at many places that a necessarily true proposition is one which is reduced to identities by a finite analysis *or* which it is contradictory to deny, so that its opposite (i.e. negation) can be reduced, again by a finite analysis, to an impossible truth (a necessarily false proposition or a *primary falsity*, as we may call it).[144] Thus, that a proposition is *necessary in the case of God* would come to mean that it is contradictory to deny it *for him*, which is definitely not the case for contingent propositions. To state it more clearly, the core division Leibniz has in mind is between those propositions denial of which leads to contradiction and those denial of which is possible. Indeed, Leibniz's point is that the resolution of terms and the process of reduction to an identity cover an infinite series[145], so that even the divine understanding cannot see the end, for "there is none to see"[146]; and yet that understanding, which is itself infinite, grasps this infinity in one *stroke of mind*. In other words, God knows that a contingent proposition is true only because he is able to grasp the connection (*nexus*) of terms, where the subject concept is the infinitely complex, complete concept of an individual:

> Demonstration, on Leibniz's view, is always finite. Thus, even God cannot reduce a true contingent proposition to an identity nor see a contradiction in the negation of such a statement. According to the theory, there is none to see. What God sees is the 'connection' (i.e. the inclusion or noninclusion) that holds between the predicate and the subject concepts…. Leibniz defined contingency in terms of whether a proposition is in principle demonstrable. This is not an epistemic property. It is a logical notion which depends on the nature of concepts themselves and is not relative to the capacities of any given intellect.[147]

Thus, the notion of irreducibility to an identity, as giving the criterion of being a contingent truth, refers to a structural property of propositions, and not one of human knowledge, which is the reason why Blumenfeld sees it as a "logical notion". But

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[144] For example, in "Necessary and Contingent Truths", he says: "An absolutely necessary proposition is one which can be resolved into identical propositions, or, whose opposite implies a contradiction."

[145] Leibniz sometimes speaks of a rule-governed series: he claims that there are 'mathematically' detectable signs that it proceeds to a definite conclusion – and signs of what this conclusion really is.

[146] "Leibniz on Contingency and Infinite Analysis", p. 498.

[147] *Ibid*., p. 498.

there is something bothering in this statement, which seems to be shared by many Leibniz scholars, namely, the idea that Leibniz's infinite analysis theory is meant to *define* contingency. It provides, in fact, only a certain criterion for dividing true propositions as necessary and contingent, but it by no means defines contingency; for it were the case, then we would face the question of how infinity were to ground contingency. This point will be explained later.

However, our problem is the interpretation the idea of infinite analysis in terms of Leibniz's modal ontology and theory of creation. Now, in this schema, contingent truths are those which are indemonstrable, that is, irreducible in *finite* steps to identities (in the narrow sense). And hence the question is what causes that infinite series which makes a contingent proposition indemonstrable. The oversimplified formal example I have given at the beginning of this section implies that it is the infinite complexity of the subject, which is, in the case of contingent truths, a complete concept, that which produces this indemonstrability. In other words, the infinite analysis theory, according to this interpretation, is meant to explain the *contingent connection* between a subject concept and a predicate concept: in a truth of fact, the subject concept is an infinitely complex complete concept, for it is the concept of an individual substance. An analysis of the concepts of the terms is needed to prove the predicate from the subject, that is, to give an a priori proof for the proposition, for to be true is to be provable a priori. But since the subject concept is infinitely complex, it cannot conclusively be reduced to its constituents, and hence the process of proof never ends. In that case, the proposition is indemonstrable, that is, cannot be proved in finite steps. And since indemonstrable truths are only contingently true by definition, the proposition is contingent. From this it follows that the connection between the terms is contingent, since truth is founded on this connection. Therefore, in contingent truths, where the subject is a complete concept, the predicate is *contained* in the subject *contingently*. This means that the difference between *modes of truth* stems from a difference between *modes of containment*. Blumenfeld exemplifies this line, when discussing what Leibniz might have meant by infinite analysis theory for contingency, in his example about the actual event that Adam accepts the apple:

> It is in virtue of this infinite analysis that "Adam accepts the apple" cannot be reduced to an identity and is thus not necessary. The very same reasoning, however, applies to the proposition, "The concept of *Adam* contains the concept of *accepting the apple*." Since an infinite analysis is required to exhibit the connection between *Adam* and *apple-acceptance*, the latter proposition cannot be reduced to an identity either. This commits Leibniz to saying that, **considered purely as possible,** the connection between Adam and his sin is contingent…the fact that the notion of Adam's sin is **contingently contained** in his concept does not entail that it is impossible for Adam to refuse the apple.[148] (Emphasis is mine.)

According to this interpretation, that the existential proposition 'A is B' is contingently true implies that the relation between A and B *sub ratione possibilitatis* is contingent, that is, that B is contained in A contingently. This idea, in fact, fits to the formulation of the question of contingency in Leibniz's system as a bare reconciliation of contingency with analyticity: analyticity, that is, containment of the predicate in the subject, does not imply necessity, for in some true propositions, the predicate is contained contingently in the subject, since the relation between them, without any reference to existence, is contingent. It is clear that this reading implies that the relation of a purely possible substance to the possible world in which it inheres is contingent. Thus, contingency is accounted for regardless of which possible series is actual, and only in terms of the nature of *complete concept*.

Ironically, if this were the point of infinite analysis theory, Leibniz would have succeeded in what Heidegger calls assimilation of truths of fact to truths of reason, for then the idea of contingency would be disconnected with that of being actual or existent. But this is not the case, for (1) there is a more justifiable explanation of infinite analysis theory, which focuses, not on the infinite complexity of complete concepts, but on the infinity of the possible worlds and God's choice of one to create among them, and (2) the second line of thought implies that the idea of a contingent connection between concepts *sub ratione possibilitatis* is erroneous. The second point will be discussed in the following sections. Now I turn to the first point.

[148] *Ibid*., p. 493-4. It must be noted that Blumenfeld's point is not that this reading is the only true interpretation of infinite analysis theory. I relied on his example only because it represents this vulgar interpretation in a perfect manner.

A second interpretation refers to the idea of a divine comparison between possible worlds, by which God chooses the best possible world to create. Now, for Leibniz, everything has a reason by the principle of sufficient reason, and this implies that God's choice to create this particular world but not some other is also with some reason. Though Leibniz has several principles for determining which possibility or essence is the best among others, the core idea is that possible beings other than God are actualized under the restriction of the principle of the best. Thus, God, in an idealized form, relies on the principle of the best when making his choice among infinitely many possible worlds. But since there are an infinite number of such worlds to choose among, the comparison which God makes between them yields an infinitely long argument, where there is no end, but only a rule-governed series, pointing to the best of all possible worlds. In this way, God's choice is contingent, for the argument covers a procession to infinity. This is the essence of the second interpretation of the infinite analysis theory as an account of contingency, which, in fact, is closer a reading to Leibniz's real point. The idea of infinite analysis, as also shown by Rescher, is in fact meant to underline the infinity of the ideal argument which God faces when making his choice about which possible world to create or actualize. Now, Rescher's point is that in the case of a contingent proposition, what is really contingent, and what in fact requires an infinite analysis to be revealed out, is that the individual substance, whose complete concept occupies the subject position in the proposition, *exists*. Thus, after a treatment of the principle of the best, which is, as we have seen, the principle of existence for created beings, he says:

> ….This principle is a formulation of the thesis that, in His decision of creation, God acted in the best possible way. Accordingly a contingent proposition is true if what it claims actually exists in the world, and thus *if an (infinite) analysis shows that what it asserts is indeed a claim that characterizes the best possible arrangement of things*.
>
> Since every substance has its own characteristic complete individual notion, all of its features are *necessarily* features of it – except for the issue of existence and its ramifications.[149]

[149] *Leibniz: An Introduction to his Philosophy*, p. 26. The qualification, "except for the issue of existence and its ramifications", made by Rescher, should remind us, again, of the division made between absolute and relative independence concerning individual substances.

Thus, in the second (and in fact the real) sense of the infinite analysis theory, the difference between necessary and contingent truths is that the latter concern existents (actual beings and events), and hence their truth is a matter of whether their subject – which is a complete concept and denotes an individual substance – *is actual* or *exists*. The point made by Ross, however, fits better to mine:

> In fact, corresponding to every contingently true proposition, there will be a false one which is analytically true of another possible, but unactualized, subject, which differs only in that respect. Consequently, contingent truths are not true because they are analytic [that is, because of the inesse principle], but because the subjects of which they are analytically true are actual. And the difference between the actual and the merely possible involves the notion of existence, which… is not part of the concept of any created being.[150]

Leibniz's aim, then, in arguing for infinite analysis theory as accounting for contingency can be made clear in this way: there are infinitely many possible worlds among which God chooses one through a comparison relying on the principle of the best, and this comparison covers an infinitely long process, so that the divine choice, according to the division of demonstrable and indemonstrable truths as referring respectively to necessary and contingent truths, is contingent; therefore the chosen, that is, the actual world, is also contingent. Here, we can see that the problem is not the relation between the predicate and the subject of a contingent truth (or a truth of fact), but the reduction of the idea that *the contingent event E occurs* to the idea that this event, *sub ratione possibilitatis*, is the member of the best possible world. In other words, Leibniz wants to read the contingent *existential* proposition 'A is B', which says that A is *actually* B, as a statement that AB is a member of the best possible world. The problem is that 'A is B', as a truth of fact or an existential truth, says *not only* that the concept A contains the concept B *sub ratione possibilitatis*, *but also* that this same A *exists*. Otherwise said, 'A is B' makes both an essential and an existential predication, yielding two propositions: the first is the *essential* proposition which says that A contains B *sub ratione possibilitatis*, and the second one is the *existential* proposition saying that A exists, where the sense given to 'existential' *is*

[150] Ross, G. M., *Leibniz*, Oxford University Press, Oxford, 1984, p. 60.

not Leibnizian. In Ross' terms says, 'A is B', in this case, is true not because it is analytic, but because the subject of which it is analytically true – namely, A – is actual. And A's actuality, in turn, means that the possible world, in which A rests, is actual, for A can be the member only of one possible world, as we will see later. Thus, Leibniz's point in infinite analysis theory seems to be to *eliminate* the idea of existence (or actuality) from the procedure in which the contingent truth 'A is B' is shown to be true, by reducing the idea of *being actual* or *existing* to that of *being the member of the best possible world*, which has no reference to actuality or existence, and hence, to the division of reality into pure possibility and actuality. And this, again, makes sense of Leibniz's inclination to treat truths of fact as truths of reason, and hence to eliminate the idea of actuality from his division of propositions.

However, this elimination is not flawless. First of all, there are some logical and intuitive problems concerning this final form of the infinite analysis theory, related with the real meaning of the contingency of God's choice of the best possible world to create, which are somewhat irrelevant at this point: for instance, the question whether God's choosing the best is contingent, or that the best is the best is contingent. What is really crucial for the present is that Leibniz's conception of contingency in terms of indemonstrability has nothing to do with a bare reconciliation of analyticity with contingency, which is to yield two modes of containment, one for necessary propositions, and the other for contingent propositions, so that when 'A is B' is a contingent truth, B would be *contained* in A *contingently*. On the contrary, as the following section will clearly show, this relation is always necessary, and hence infinite analysis theory would have nothing to do with the infinite complexity of a complete concept, if the possible world in which it is contained covered a finite set of elements. Whether or not Leibniz is able to eliminate the idea of existence or actuality from his account of contingency in terms of the idea of being *the member of the best possible world*, the actualization or creation of this possible world sets a new problem, again, related with existence. And it is significant that Leibniz's second line of thought comes to the same problem: making sense of the contingency of the existence of the actual world. After giving some criticisms of the infinite analysis theory, I will turn to that line of thought,

which covers the idea of a division between two kinds of necessity, in the last section.

2.4 Some Criticisms

A first criticism concerns the intuition of contingency. Leibniz's infinite analysis theory is based on two basic moves: first one is the reduction of a contingent truth of fact of the form 'A is B' (e.g. 'Caesar crossed the Rubicon') to a truth of reason of the form 'AB is a member of the best possible world (sub ratione possibilitatis)' (e.g. 'Caesar who crosses the Rubicon is a member of the best possible world'); and the second is a division between demonstrable and indemonstrable identities (truths), only the former being necessary. And these two moves intersect at the idea of infinity; in other words, the point of this line of thought is to trace the problem of contingency to the notion of infinity, and nothing more, in fact. Now, what does provide the relation between the common intuition of contingency, which Leibniz would not hesitate to accept, and that of infinity? Why are we to see those propositions as contingent, for which the relevant deductive proof covers an infinite series? Mates makes the same point before giving an explanation of the infinite analysis theory: "I have to confess that I can find no intuitive plausibility whatsoever in this 'solution'. It is hard to see what the length of the reduction of a proposition would have to do with whether the proposition is false of some possible world."[151] Though Leibniz does not clearly propose a definition of contingency in terms of the notion of possible worlds[152], he does have definitions for contingent truth and existence, which cover in general the idea of *not being necessary*. To that extent, infinite analysis theory can give us the intuition of contingency only with regard to this idea, because Leibniz sees a perfect reduction to express identities as yielding strict necessity. However, the notion of contingency cannot be exhausted with the simple idea of the lack of necessity; for a contingent proposition is one which *is true* (in fact) without being necessary. And in the ontological view, a contingent being is

[151] *The Philosophy of Leibniz*, p. 108.

[152] And indeed he cannot, given that the essence of the idea of contingency in possible-world semantics contains the notion of 'truth in the actual world', as will be explained in the third chapter.

a being which *exists*, albeit not necessarily. Formally, contingency is not expressed as '◊ ~ p', but as 'p ∧ ◊ ~ p'. And it is that part, namely, actual truth or existence, which Leibniz aims to eliminate through his account of contingency, as I have stated above.

A second important criticism is about the relations established by Leibniz between the notions of demonstrability and necessity. Blumenfeld gives an analysis of the real problematic of Leibniz's division between demonstrable and indemonstrable truths:

> The problem Leibniz faced was this. The notions of necessity, demonstrability and analyticity were generally thought of as equivalent… Since Leibniz believed that all truths are analytic but that some are not necessary, he needed to provide a reason for separating analyticity and necessity, and for showing that, contrary to common opinion, they are not equivalent.[153]

To achieve this, says Blumenfeld, Leibniz attacked on the given bonds between these three notions, and chose to separate analyticity from demonstrability, leaving the bond between necessity and demonstrability untouched. But for Blumenfeld, this choice seems arbitrary, for Leibniz could have changed, as well, the relation between necessity and demonstrability, and claimed that *not all necessary truths are demonstrable*: "the denial that every analytic truth is demonstrable forces one to admit either that there are contingent analytic truths or that there are indemonstrable necessities."[154] It does not, in other words, force us to take analyticity as applicable to contingency, for there is the other choice, namely, to take necessity as applicable to indemonstrability. Blumenfeld's point is that the second choice seems more acceptable, especially in the light of the fact that there are indemonstrable truths in mathematics which are nevertheless necessary:

> Confronted with the fact that there are indemonstrable analytic propositions, one's natural response, I think, is simply to suppose that there are indemonstrable necessities. Analyticity seems to involve necessity quite apart from any assumptions about demonstrability, but

[153] "Leibniz on Contingency and Infinite Analysis", p. 499.
[154] *Ibid.*, p. 499-500.

> necessity does not entail obviously demonstrability… Therefore, when Leibniz infers that there are contingent analytic truths from the fact that not all propositions are demonstrable – rather than giving up his definition of necessity – he makes an implausible move in order to be able to find room for contingency in his system.[155]

This seems to be a strong criticism, but there are some points to be made. First, what Blumenfeld has in mind is the case of indemonstrable mathematical necessities; however, Leibniz sees mathematics, without any reference to the idea of analyticity, as consisting wholly of absolutely necessary propositions, so that even God cannot cope with this necessity – that is, cannot contradict mathematical and geometrical truths. This is where Leibniz differs from Descartes, for whom, those truths which we call eternal and necessary are so only arbitrarily, that is, by the will of God; whereas for Leibniz, eternal truths are true independent of God's *will*. And this idea is in fact covertly contained in his claim that possible worlds are *given* to God's understanding, before God wills to create one of them. Secondly, Blumenfeld seems to have in mind that Leibniz's account for contingency is meant to modify the concept of analyticity, and this is affirmed by his treatment of the infinite analysis theory in terms of the infinite complexity of complete concepts, which I have shown to be a misleading idea, for this theory relies in fact, on the infinity of the possible worlds which are to be compared with one another by God through the course of his decision to create one of them.

The third and last criticism concerns the negativity of the idea of indemonstrability. Now, a contingently true proposition is *a fortiori* a *true* proposition. However, that a proposition is irreducible to one which is true through itself points to, at a first glance, *falsity*, and not to *non-necessary truth*. In other words, indemonstrability is a purely negative notion, which does not seem to provide an account for a positive notion such as *truth*. This is also reflected by Leibniz's confession that the important difference between the calculation of a surd ratio and demonstration of a contingent proposition is that in the former there are certain rules to cope with the infinite series occurring from the divisions of terms, so that the calculation points to the convergence of the ratio to a *limit*. In the latter case, on the other hand, there is no

[155] *Ibid*., p. 500.

such rule, and therefore even God cannot see the end of the argument but only the *nexus* of the terms, for he grasps the infinite in the one stroke of his mind. However, as I have referred to above, Leibniz sometimes speaks of limits and the convergence of the series on such limits even in the case of the proof a contingent proposition, and thus tries to push the mathematical analogy to the ultimate point. Unfortunately, he seems to have no accurate idea of what would such a rule be like: "The idea of convergence on a limit involves (among other things) the notion of a well-behaved or rule-governed series of terms. As far as I have been able to discover, however, Leibniz does not explain how a rule-governed series of steps would arise in the analysis of a contingent truth."[156]

In fact, it would not matter for us if Leibniz could have succeeded to deal with these problems. The point is that his infinite analysis theory is directed to solve a certain problem, and this problem is not the reconciliation of analyticity (the theory of containment) with contingency in a way that the possible relations between possible concepts should vary with regard to modalities, but of making sense of actuality or existence in terms of pure possibility, for Leibniz's calculus rests on the latter, as Loemker has also underlined. The second line of thought will bring us closer to this conclusion.

2.5 The Second Line of Thought: *Necessity of the Actual*

The bare formulation of the problem of contingency in Leibniz's system as the tension between categorical truth and contingency directs us to a Leibnizian answer which would provide a distinction between two *modes of containment*, as necessary and contingent. This is the point, as we have seen, of the first interpretation of the infinite analysis theory as relying upon the infinite complexity of complete individual concepts, which are the subjects of contingent truths or truths of fact. I have stated that any event in the actual realm is analyzed into the idea of substances' having certain properties, which is, in turn, reflected on the logical level as the simple conceptual containment relation. This relation, in the case of truths of fact, appears to

[156] *Ibid.*, p. 496.

occur between a number of temporal predicates and a complete concept. Thus, the point of the bare reading of the infinite analysis theory is to analyze the difference between necessary and contingent truths into a difference between abstract and complete individual concepts, where the latter are infinitely complex and hence the relation between one such concept and one of its parts is contingent, which yields a contingent containment. In this way, the real difference between truths of reason and truths of fact, namely – the latter's reference to actuality or existence – is overlooked, so that the contingent truth 'A is B' differs from a necessary truth 'C is D' only with respect to the quality of its subject; otherwise said, the question of contingency is reduced to the question of infinite complexity of a subject concept, which is too unsatisfying a solution, as we have seen. Indeed, Leibniz's infinite analysis theory is directed rather to the contingency of the choice made by God among an *infinite* number of possible worlds, which by no means implies that the relation between the terms of a contingent proposition *sub ratione possibilitatis* is itself contingent. And this is not all. Another theme which has a considerable place in Leibniz's account of contingency, that is, the division between *absolute* and *hypothetical* necessities, gives us the idea that the relation between the predicate and the subject in a contingent truth is necessary, though this does not affect the contingency of the proposition. What Leibniz means by hypothetical necessity, and how he accounts for the contingency of a proposition without appeal to the idea of *contingent containment* is the subject matter of this section.

Leibniz gives a metaphysical statement of the problem of contingency in the 13th article of the "Discourse", in relation to the notions of complete concept and individual substance:

> We have said that the concept of an individual substance once and for all includes everything which can ever happen to it and that in considering that concept, one can see everything which can truly be predicated of it, just as we can see in the essence of the circle all the properties which can be deduced from it. But it seems that this will destroy the distinction between contingent and necessary truths, that it will leave no place for human liberty and that an absolute fatalism will rule over all our actions as well as over the other events of the world. To this I reply that we must distinguish between what is certain and what is necessary. It is

> universally agreed that future contingents are certain, since God foresees them, but this does not make us say that they are necessary.[157]

Thus, the first idea is that actual events are *certain*, in the sense that God, who can see what is contained in the complete concept of every actual individual, knows perfectly what has happened and will ever happen in the universe (the latter being "future contingents"), and they are nevertheless *contingent*. In this form, nothing is done more than a refinement of terms, for there remains the question of how we can make sense of the contingency of those events which are said to be certain, while they can be "deduced" from the complete concepts of individuals, just as the properties of a geometrical figure can be "deduced" from its definition. However, the notion of 'certainty without necessity' is founded on a definite logical idea:

> But some may object that if a certain conclusion can be deduced infallibly from a given definition or concept, that conclusion will be necessary. And we are now maintaining that everything that happens to some person is already contained virtually in his nature or concept, just as the properties of the circle are contained in its definition. Thus the difficulty still subsists. To answer it squarely, I say that there are two kinds of connection or sequence. One is absolutely necessary, for its contrary implies a contradiction, and this deductive connection occurs in eternal truths like those of geometry. The other is necessary only *ex hypothesi*, and by accident so to speak, and this connection is contingent in itself when its contrary implies no contradiction. A connection of this kind is not based on pure ideas and on the simple understanding of God but also on his free decrees and on the sequence of events in the universe.[158]

A first look at these words may give us the idea that Leibniz wants to make a distinction between different *modes* of implication or logical following, so that in eternal truths this relation is necessary whereas in contingent truths it is contingent. However, it is already clear from the terminology applied here that this is not the case: *necessity* on hypothesis (or hypothetical necessity). In other words, there is something necessary even in the case of contingent events and the propositions

[157] "Discourse on Metaphysics", § 13, *Philosophical Papers and Letters*, p. 310
[158] *Ibid*., p. 310.

which refer to them, albeit to a certain extent. And now the question before us is what this *extent* will be.

Leibniz explicates the idea of hypothetical necessity in terms of the classical division between necessity of the *consequent* and necessity of the *consequence*. In brief, those truths which are properly, i.e., absolutely, necessary are necessary by the *necessity of the consequent*, while hypothetically necessary truths are necessary only by virtue of *the necessity of the consequence*: "The necessity of the consequence is when something follows from another thing by a necessary consequence. Absolute necessity is when the contrary of a thing implies a contradiction."[159] Following Adams, Curley and Mates, Leibniz's point can be illustrated by the two different ways of attributing necessity to a conditional proposition, in the Leibnizian form, 'If L, then K'. Now, when it is said that 'if L, then necessarily K', we can understand either the proposition 'Necessarily, if L, then K', or the one 'If L, then necessarily K'. In the former proposition, necessity is attributed to the relation between the propositions L and K, that is, to *the logical following* of K from L; thus, it is said that from L's truth, it follows *in a necessary fashion* that K is true. On the other hand, the latter form, 'If L, then necessarily K', gives the idea that from L's truth, K's *necessary truth* follows – that is, not the following, but K itself, is necessary. Mates explains this difference in terms of what he calls the "fallacy of the slipped modal operator", which goes back to the famous Aristotelian argument on the necessity of the future events:

> In classical Greek, as in English and other modern languages[160], when a modalized conditional is to be expressed, one naturally puts the modal operator in the consequent….Thus we make it appear that necessity is being conditionally predicated of the consequent, rather than unconditionally predicated of the whole….The tendency to fall into this kind of fallacy, which we may call the "fallacy of the slipped modal operator", is very strong, as one can verify for oneself by discussing it

[159] "A note on Freedom and Necessity", *The Shorter Leibniz Texts*, p. 110.

[160] We can see that the same problem is present in modern Turkish. In the proposition 'Eğer A doğruysa, B de zorunlu olarak doğrudur', it appears that B's necessary truth is said to follow (whether necessarily or contingently, we do not know) from A's truth, while the exact form should be 'Zorunludur ki, A doğruysa B de doğrudur', if we are to attribute necessity to the *relation* between A and B, and not to the consequent itself.

> with friends who are not logicians. People want to say things like "Of course, it isn't really necessary that Smith have a wife, but *given that* (or *on the hypothesis that*) he is a husband, it is necessary."[161]

In modal logical terms, the point is the difference between the forms '□(p → q)' and 'p →□q', the latter being the erroneous one, where necessity is attributed to the *consequent* instead of the *consequence*. However, though it is true that the necessity of a whole conditional proposition says nothing about the modality of the consequent, it says that *given* that the antecedent is true, it is impossible then that the consequent be false, for the relation between them is undeniable. And, indeed, this is what Leibniz understands by 'hypothetical necessity': a proposition or an event is hypothetically necessary, if (1) it follows from another proposition or an event in a necessary fashion, and (2) the proposition or the event it follows from is *true* or *actual*. On the other hand, absolute necessity is necessary truth or actuality, without being conditioned in a necessary fashion by another truth or existent.[162] The point here is the Leibnizian conception of necessary truth: a proposition is necessarily true, if and only if its denial is impossible, that is, leads to contradiction. In the case of '□(p → q)', it is clear that *q*'s being false is impossible *given* that *p* is true; and only to that extent, *q* is necessary – that is, to the extent that *p* is true and *p* implies *q* in a necessary fashion. Thus, *q* is necessary on the hypothesis (*ex hypothesi*) that *p* is true, given that *p* implies *q* in a necessary fashion.

Now, the contingent event that Caesar crosses the Rubicon is hypothetically necessary, in the sense that once some certain hypothesis becomes true, Caesar's turning back without crossing the Rubicon becomes impossible, that is, contradictory with that hypothesis:

> Leibniz defined a 'necessary' truth as one which could not have been otherwise, in that its opposite would imply a contradiction. So it is necessary that a triangle has three sides, since the idea of a non-three-sided, three-sided figure is self-contradictory. By a 'contingent' truth, he meant one that could have been otherwise, in that its opposite would be

[161] *The Philosophy of Leibniz*, p. 117.

[162] And this is why Leibniz regards God's existence as necessary, i.e., absolutely necessary.

> non-contradictory or logically possible…The difference between Leibniz and his critics lies in the question of what might or might not be contradicted by the idea of Caesar's turning back. In so far as the actual Caesar was the realization of a complete concept including the predicate 'crossed the Rubicon', it is indeed contradictory to deny that that Caesar crossed the Rubicon. But this presupposes God's decision to actualize a Rubicon-crossing, rather than a non-Rubicon-crossing Caesar. And it is a trivial truth that, given God's final decision, any alternative would contradict it.[163]

Thus, in light of Leibniz's conception of necessity, we can see that it is the idea of *hypothetical impossibility* which makes sense of the idea of hypothetical necessity. But the question is what Leibniz has in mind when considering actual events as certain but only hypothetically necessary: what is that hypothesis, truth of which makes the contingent event of Rubicon necessary? Leibniz's answer in general is that it is God's choice to create that possible series of individuals, in which Caesar inheres, so that once this series is *actualized*, the *actual* occurrence of the event that Caesar crosses the Rubicon *becomes* necessary. It appears, then, that all truths of fact which concern particular events, such as Caesar's crossing the Rubicon, Leibniz's writing "The Monadology", etc. are all necessary, given that the possible world in which these events are *contained sub ratione possibilitatis* is actualized. But Leibniz goes further, and states that not only such *particular* events, but also all universalities concerning this world, including the laws of nature which apply to it, are contingent, and yet hypothetically necessary. The point can be generalized in the dictum 'universality does not imply necessity', where both relative and absolute universalities or regularities are taken as contingent, insofar as their occurrence is preceded by God's choice to create that series of individuals which *exemplify* them:

> But it must not be thought that only particular propositions are contingent, for there are (and can be inferred by induction) certain propositions which are for the most part true; there are also propositions which are almost always true in the course of nature at any rate, so that an exception would be ascribed to a miracle. Indeed, I think that in this series of things, there are certain propositions which are true with absolute universality, and which cannot be violated even by a miracle. This is not to say that they could not be violated by God, but rather that,

[163] *Leibniz*, p. 59.

> when he chose this series of things, by that very act he decreed that he would observe them, as the specific properties of just this chosen series.[164]

Therefore, all universalities (universal truths and facts), with differing degrees of application to individuals (restrictedly or absolutely), are only hypothetically necessary, and the hypothesis on which they depend is nothing but that this series of things, and not some other, *exists*, through God's choice. But more interestingly, these same universal truths are not exceptional to the coincidence between contingency and existentiality; in other words, they are also existential, though they do not have any literal reference whatsoever to *existence*: "…Couturat has suggested that one problem is that Leibniz regards not only existential propositions, but the laws of nature too, as contingent. The reply to this is simply that the laws of nature are also existential propositions, so that they do not form a distinct class of contingent truths."[165]

From a certain perspective, in fact, there is no difference between truths which concern universal facts and those which concern individual facts, since what essentially characterizes them is that they concern, before anything, *actual* events, that is, the *actual* series of things. And this explains why Leibniz regards contingent truths as *existential*: they concern existents, that is, actual events, which are either universal or individual, and actual beings from whose concepts these events and regularities derive. In line with this view, Leibniz does not hesitate to call contingent truths 'physically necessary' and underline the universalistic aspects of the actual realm. The idea captured here is that while all series of possible individuals agree on the *metaphysical* or *logical* conditions of their structure – those conditions which transcend the actual world and apply to all possible worlds without distinction, insofar as they give the general formal requisites of *being possible*, originating from the *principle of contradiction*, such as not implying anything of the form 'Y-non-Y' or any proposition which is both true and false at once – they differ in the *physical* regularities their individuals exemplify. Physics, it seems, for Leibniz is the acutest

[164] "Necessary and Contingent Truths", *Leibniz: Philosophical Writings*, p. 99.

[165] "The Root of Contingency", *Leibniz: A Collection*, p. 91.

paradigm of science, and hence of *universality*; connectedly, the *physics of a particular series* of individuals is the whole set of universal truths applicable to those individuals, and of all the regularities covered therein. However, we know from "the Monadology" that a Leibnizian world is originated in the individuals and their inner lives, so that any universality or regularity occurring in a possible series is the outcome of a detailed harmony between the complete concepts of the individuals which inhere in that series; clearly, *the universal is the outcome of the individual*. Thus, all universalities in a series follow from one and the same individuality, namely, the whole series itself, which can nevertheless be expressed by a few laws – the "laws of the series" – which are more comprehensive than the ordinary universal laws, since they apply to the whole at once, without any restriction or modification:

> And through these propositions, once they have been established by the force of the divine decree, a reason can be given from other universal propositions, or even of many of the contingent things which can be observed in this universe. For from the first essential laws of the series – true without exception, and containing the entire purpose of God in choosing the universe, and so including even the miracles – there can be derived subordinate laws of nature, which have only physical necessity and which are not repealed except by a miracle, through consideration of some more powerful final cause. Finally, from these there are inferred others whose universality is still less; and God can reveal even to creatures the demonstrations of universal propositions of this kind, which are intermediate to one another, and of which a part constitutes physical science.[166]

All actual regularities, even those which apply to individuals without restriction (except for miraculous cases), are the consequences of one and the same individuality, that is, the whole actual series itself, so that any truth referring to actual being and events, whether universally or particularly, is contingent without exception. However, Leibniz speaks in the above quotation as though the laws of the series, from which any other universal law is derived, are *essential* truths, and hence not hypothetically, but absolutely necessary. But this is not the case: though it is true that these laws are essentially true *of* the series – for they give the most exact

[166] *Ibid.*, p. 99. We must note here the tension between the idea of contingent universal laws and idea of demonstrability.

expression possible of it – their truth in abstraction is contingent, for "since the fact that the series itself exists is contingent and depends on the free decrees of God, its laws also will be contingent in the absolute sense; but they will be hypothetically necessary and will only be essential *given the series*."[167] Thus, that which is true of the actual series *sub ratione possibilitatis*, that is, only as definition and *not by reference to its actuality*, is true in an absolutely necessary fashion, or in Leibniz's terms, *essentially*. And this gives us the idea that the relation between the whole series and any of its parts is always absolutely necessary, while the actualization of the part remains contingent, since the whole itself is actual only contingently. Contingency of a particular event, or a universal law, then, is the contingency of the actuality of the whole to which it pertains essentially, and hypothetical necessity of the part is the necessity of the actualization of the part, *given* (or *on the hypothesis of*) the actualization of the series.

The final question before us is what this abstract frame would imply for the division between truths of reason and truths of fact, and the true formulation the problem of contingency in general. The answer lies, in fact, in the relation Leibniz establishes between a possible series (a possible world), the possible individuals inhering in that series, and their predicates. Leibniz's conception of this relation is best expressed in his account of *physical determination*. In the first section of the preceding chapter, I proposed that Leibniz's reconciliation of conceptual containment theory and the idea of contingent truth is a logical expression of a deeper reconciliation between determinism and freedom. In fact, Leibniz has further explanations and formulations for the latter problem (i.e. freedom), which exceed our discussion, but his unique definition of determination can shed light on our point.

Individual substances, for Leibniz, are only *relatively* independent. A monad lives its own inner program without any external interruption or affection, and to that extent it is independent and free, for it is the real source of its own actions and passions; however, it is dependent on God in its actualization (or theologically, its creation). Metaphorically, the complete concepts of possible individual substances are ready-

[167] *Ibid*., p. 99-100.

at-hand blueprints contained in God's understanding; the complete concept of Caesar, for instance, with all the non-temporal and temporal predicates which can ever be attributed to Caesar himself, waits in the divine understanding to be actualized, along with an infinite number of other complete concepts with which it constitutes a whole possible series or a possible world. Leibniz's point is that the logical determinateness or completeness of a complete individual concept, that is, the fact that it contains anything ever to happen to the individual to which it pertains, provides certainty and infallibility to the events in the actual world. Moreover, all the regularities these events exemplify, expressed in universal propositions "of which a part constitutes physical science", are in the same way certain and infallible, *given the series* in which they are contained *sub ratione possibilitatis*. Therefore, once a possible series is actualized, actualization of an event which is part of that world comes to mean the relevant individual's (or individuals') being determined to realize that event; in other words, logical determinateness of the complete concept of a possible individual, namely, that that concept contains anything attributable to it, becomes the determination of that individual to do what it is bound to do, when the possible series which contains that individual is actualized: "I understand a 'determination' to be produced when a thing comes into that state in which what it is about to do follows with physical necessity."[168] For the sake of simplicity, I will call this latter kind of determination 'actual determination', and refer to the logical determinateness or completeness of an individual complete concept by 'possible determination'. Actual determination, for Leibniz, is the existence of a possible world or series; that an individual substance is actually determined to act in a certain way means, then, that the series in which it inheres, along with the whole set of its predicates, is actualized. This is why Leibniz defines (actual) determination in terms of physical or hypothetical necessity: that A is determined to realize the predicate B means that it is hypothetically (or physically) necessary for A to do this, so that Caesar is determined to cross the Rubicon and do what he is to do after this event means that (1) 'crossing the Rubicon' is contained in Caesar's complete concept *sub ratione possibilitatis*, and (2) Caesar is actualized. To express the same thing, it can be said that Caesar's (actual) determination to cross the Rubicon is the result of

[168] "Necessary and Contingent Truths", p. 102.

Caesar's *possible determination* to cross the Rubicon *and* his actuality, for "there is never any metaphysical necessity in mutable things, since it is not even a matter of metaphysical necessity that a body should continue in motion if not other body impedes it; just as some contingent thing is not determined with metaphysical necessity until it actually exists"[169].

Now, it makes sense why Leibniz sees future contingents, that is, events that will certainly happen, yet will do so in a contingent fashion, only hypothetically necessary; and this is the way, in fact, in which Leibniz reconciles the deterministic character of his system with the pressures coming from the contingent realm: any event occurring in the actual world is determined in the sense that this possible world, as a pure possibility, contains these events by definition, that is, *sub ratione possibilitatis*, and is also actual. However, this determination does not make the actuality of these events necessary, for the hypothesis on which their actuality is founded is itself contingent, namely, the hypothesis that this world exists: "For a determination which does not impose necessity on contingent things, but affords certainty and infallibility, in the sense in which it is said that the truth of future contingents is determined – such a determination never *begins*, but always *was*, since it is contained from eternity in the very notion of the subject, perfectly understood, and is the object of a kind of divine knowledge, whether of vision, or mediate knowledge."[170] With Leibniz's example, Caesar's crossing the Rubicon is certain in the sense that its complete concept contains this predicate from eternity, and only in this sense this "determination never *begins*, but always *was*", and is absolutely necessary; but this same concept does not contain the actuality of Caesar, and hence Caesar's *actual* determination to cross the Rubicon is only physically necessary, that is, necessary only on the hypothesis that this world, which contains Caesar by definition, is actualized. In a word, determination is the necessity of the actual, in opposition to that of actualization.

[169] *Ibid.*, p. 102-3.

[170] *Ibid.*, p. 103.

Where do these metaphysical insights bring us? There are, in fact, two sets of conclusions, one concerning the relation between series (worlds), individuals and events, the other concerning the formulation of contingent truth. As to the first, two things are clear from Leibniz's use of the notion of hypothetical necessity: the relation between a possible series and one of its members (a possible individual inhering in that series) is absolutely necessary; moreover, the relation between a complete concept, denoting a possible individual, and its predicates, temporal or non-temporal, is also absolutely necessary, if we regard this relation under the aspect of possibility and not that of actuality. Thus, the proposition 'Caesar crosses the Rubicon', if taken in the sense that 'the concept Caesar contains the predicate of crossing the Rubicon', is an essential truth or a truth of reason, which concerns the connection between two ideas, those of Caesar and crossing the Rubicon, *sub ratione possibilitatis*, without reference to existence. However, the existential interpretation of 'Caesar crosses the Rubicon' says more than that that predicate is contained in that subject; it states further that Caesar exists, or is actual.[171] And the point is that since a possible series and an individual inhering in that series are intertwined, this latter statement is equivalent to one concerning the existence of the whole possible series in which Caesar, as a possible individual, inheres or subsists. As Mates puts it:

> Since the actual world is the set of complete individual concepts of actual individuals, to bring it into existence is to create an individual corresponding to each and every one of its constituent concepts. And because of the mutual mirroring of these concepts, if one such individual exists, they all will exist. Therefore, the proposition "The actual world exists" is equivalent to each and every proposition of the form '*A* exists', where *A* is any concept belonging to the actual world. So the absolutely necessary truth "If Caesar exists, then he will cross the Rubicon" is equivalent to "If the actual world exists, then Caesar will cross the Rubicon", and hence the proposition "Caesar will cross the Rubicon", though not absolutely necessary, is hypothetically necessary.[172]

[171] A similar analysis of the proposition 'Adam sins', which is one of the classical Leibnizian examples, is given by Curley in "The Root of Contingency", *Leibniz: A Collection of Critical Essays*, p. 93-4.

[172] *The Philosophy of Leibniz*, p. 118-19.

Mates continues by giving the general form for hypothetically necessary truth: "Thus, we may say in general that a proposition *P* is hypothetically necessary if and only if, for some true proposition *Q*, 'If *Q* then *P*' is absolutely necessary though *P* is not."[173]However, this must not give the idea that *Q*'s modality is not of concern, for as Adams and others has also seen, *Q*'s necessity would be disastrous in the light of the distribution axiom, which states that if some proposition *p* follows necessarily from another proposition *q*, then it follows that if *q* is necessarily true, *p* is also necessarily true: $\Box(q \rightarrow p) \rightarrow (\Box q \rightarrow \Box p)$. Thus, in terms of Mates's formula, Q cannot be *any* true proposition, but must be one which is *contingently* true. Connectedly, existence of this world must itself be contingent, if Caesar's crossing the Rubicon is to remain a contingent event, which is nevertheless necessary on the hypothesis of the former. And indeed Leibniz's point is to account for the contingency of the events occurring in the actual world, in terms of the contingency of the existence of that world; in other words, it is that latter contingency, from which all other contingencies follow in an analytic and necessary fashion, through the complete concepts:

> The fact that God actualized this world rather than some other, cannot itself be an analytic truth. But given this one fundamental and infinitely complex contingent fact, all else is indeed analytic as part of it.[174]

It now remains to give a general formulation of contingent truths or truths of fact. We can begin with a negative statement: the first reading of the infinite analysis theory, which implies that the contingency of a truth of fact relies on the infinite complexity of its subject, which is an individual complete concept, is simply wrong. For it is clear from Leibniz's conception of hypothetical necessity that the relation between a possible series and one of the possible individuals inhering in it, on the one hand, and the relation between a possible individual and its predicates, on the other, are necessary, that is, absolutely necessary, as the above quotation from Mates has also shown. In other words, the containment relation between terms is in all cases necessary, which shows that Leibniz does not mean to account for the difference

[173] *Ibid.*, p. 119.

[174] *Leibniz*, p. 60.

between necessary and contingent truths in terms of a division between *modes* of containment, as necessary and contingent. Hypothetical necessity, in brief, is the sum of *contingent truth* (a contingently true hypothesis) and *absolutely necessary truth* (a necessary connection between the terms); from the metaphysical perspective, that an event is hypothetically necessary means (1) that the relevant individual (or set of individuals) is *possibly determined* (or determined *sub ratione possibilitatis*) to realize that event (i.e. the complete concept of the individual contains it in an absolutely necessary fashion), and (2) that the relevant individual *exists*. Thus, the contingency of a truth of fact concerning an individual comes, not from the possible determinations of the complete concept of an individual, but from the existence of the individual or of the whole possible series in which it is contained *sub ratione possibilitatis*.

To return to the Leibnizian example: the event that Caesar crosses the Rubicon is contingent in itself, for denial of this predicate of Caesar does not imply any contradiction whatsoever. But as Caesar did really crossed the Rubicon, the predicate 'crossing the Rubicon' is *a fortiori* contained *sub ratione possibilitatis* in the complete concept of Caesar; in other words, as a purely possible concept, 'Caesar' contains 'crossing the Rubicon' without any relation to God's choice and will to create this possible world – to the actualization of the possible world which contains the complete concept of Caesar. But once this choice is made by God, in accordance with the principle of the best or of perfection, Caesar's crossing the Rubicon becomes necessary, for to deny it will be to deny that this world is actualized, which is our hypothesis in this case. However, if this denial contradicts with a true proposition, then we might think that it is false, but only contingently. That is, since contradiction with a true proposition does not lead to necessary falsity, but only to falsity, Caesar's crossing the Rubicon is true, but not necessary. Then why does Leibniz think that this particular event is hypothetically *necessary*? Otherwise said, where does the *necessity* come from? We see that the term 'hypothetical necessity' involves two elements: the hypothesis, and the necessity. The first element refers to the assumption that God chooses this sequence of events to actualize, which contains the concept of Caesar by definition, that is, in a necessary fashion. The second

element must then refer to the relation of the concept 'Caesar' to the predicate 'crossing the Rubicon'. This explains why Leibniz holds that once this possible world, in which Caesar is embedded *sub ratione possibilitatis*, is actualized, it becomes necessary that Caesar crosses the Rubicon, and does other things which follow that particular event, and nevertheless actualization of this same event remains contingent in itself – that is, when it is taken regardless of the actualization of this world – for its denial does not lead to any contradiction. The account Leibniz gives is as follows: The complete concept of Caesar contains necessarily the event that he crosses the Rubicon. Thus, actualization of this complete concept, that is, of Caesar, implies the actualization of this event, so that once Caesar becomes actual, it is necessary that he crosses the Rubicon (or that his crossing the Rubicon becomes actual). But taken in itself, the event that Caesar crosses the Rubicon becomes actual is contingent, for the question, in fact, is the actualization of the possible world in which this event is contained *sub ratione possibilitatis*, and this is also contingent.

Thus, we get the idea that Leibniz means two different things by 'containment': purely possible containment of a predicate in a subject, and actual containment of a predicate in a subject. Metaphysically, the former denotes what I call 'possible determination' or 'determination *sub ratione possibilitatis*', that is, concerns the relation between two concepts *under the aspect of possibility*. The latter, on the other hand, denotes what I call 'actual determination', and concerns *not only* the relation between two concepts under the aspect of possibility, *but also* the existence or actuality of the subject, or of the series which contains that subject. 'Actual containment', however, does not refer to a mode of containment, but a mode of interpreting a truth of fact, that is, a truth concerning an actual subject, so that in the case of a truth of fact, the division between truths of reason and truths of fact becomes a division between two ways of regarding things: as purely possible, or as actual, which implies that a truth of fact can be taken as a truth of reason if we focus on the necessary condition – the containment relation or analyticity – instead of the sufficient condition of its truth, namely, the existence of its subject. It is clear that the terms 'essential truth' and 'existential truth', which Leibniz sometimes uses in place of 'necessary truth' and 'contingent truth', or of 'truth of reason' and 'truth of

fact'[175], shows in a more exact way that the difference between these two modalities lies in the idea of existence, and that the same proposition 'A is B', where A is an existent individual, can also be taken as the truth of reason 'the concept A contains the concept B'. Thus:

1. 'Caesar crosses the Rubicon', as a truth of fact, says that 'Caesar' contains 'crossing the Rubicon', and 'Caesar' denotes an actual or existent individual.
2. 'Caesar crosses the Rubicon', as a truth of reason, says that 'Caesar' contains 'crossing the Rubicon'.

The former is contingent, while the latter is necessary; so that their difference lies in the statement that Caesar *exists*, which is the real source of contingency. And as Mates and Ross have shown, this proposition states nothing more or less than that the possible world in which the possible Caesar, so to wit, is embedded as a member, exists. In this way, for any contingent proposition of the form 'A is B', the reason for contingency is one and the same contingent proposition which says that this world or series of individuals is actual.

Then we get the idea that the infinite analysis theory is meant to explain how this latter statement, concerning the existence or actualization of a whole series of individuals, can be contingent. This question can have only one answer by Leibniz: it is contingent, for it is an indemonstrable truth that God creates this world. Therefore, the first and second lines of thought both come to the same conclusion – that the creation of this world is contingent and it is this contingency on which all others are founded. I have tried to show that this way of explaining contingency is insufficient. However, this last claim is analyzed by some commentators, relying on Leibniz's own accounts, in terms of the division between *de dicto/de re* modalities and the notion of *rigid designator* in relation with the term 'the best of all possible worlds', though without any solution to the intuitive problems which I have mentioned above. These same accounts, on the other hand, show that Leibniz tries the one way or the other according as the context permits him. But before accounting for the

[175] *Leibniz: Determinist, Theist, Idealist*, p. 45.

contingency of the truth that this world or any of its members exists, there is the question of how we are to express a *purely existential* proposition, that is, a proposition which explicitly attributes 'existence' to a subject, like 'A exists' or 'A is actual': is this proposition *existential* in the Leibnizian sense? It appears that this cannot be the case, since (1) an existential proposition is one which attributes a predicate to an existent subject, and (2) this attribution is made on the basis of a purely possible connection between the subject and the predicate. In other words, that the proposition 'A exists' or 'A is actual' is existential would mean that:

1. 'A exists' can be interpreted either by taking A as actual or as purely possible; that is the proposition itself can be interpreted either as essential or existential;
2. the predicate 'exists' is contained in the concept 'A', according to the necessary condition for any propositional truth whatsoever, that is, conceptual containment or analyticity.

The first conclusion is clearly disastrous: we would be obliged to make sense of some bizarre statements like 'A is *actually* actual', or 'A, as an existent, exists'; in general, we would have a division between *actual* and *purely possible actualities* – *actuality under the aspect of actuality* and *actuality under the aspect of possibility* – which, it seems, is absurd. As to the second conclusion, the problem is not as clear as it is in the first; it depends on the question whether Leibniz regards 'existence' as a predicate attributable to subjects. We have seen in the first section of the present chapter that Leibniz thought of existence as part of the essence of God, while as external to the essences of creatures. In relation with the classical forms of the ontological argument for the existence of God, this view implies that existence is a genuine predicate in the case of God, but not in that of other beings. However, Leibniz's ontological view of the idea of existence and the relation between possibility and actuality is not that simple. In the next chapter, I will take a glance at some of his statements on this issue; but for the present, it is sufficient to remind that Leibniz's general intention is to define actuality or existence in terms of pure possibility – more clearly, to analyze the *intensional* difference between 'being

possible' and 'being actual' into a purely extensional one. It is true that he sometimes takes the other way, and states that 'existence' is contained in the concept of any actual subject. For example, in the *New Essays*, when speaking of 'real existence', he states that "when it is said that something exists or possesses real existence, this existence itself is the predicate; i.e. the notion of existence is linked with the idea in question, and there is a connection between these two notions."[176] But whether this comes to mean that 'existence' follows from 'Caesar' just as 'crossing the Rubicon' does is not clear, as can be understood from the fact that he does not use the term 'contained' but 'linked'. From many passages where he clearly states that existence is not involved in the concepts of actual individuals[177], and his general intention to treat the connection between concepts and their parts as necessary (which would bring out a disaster if 'existence' was a genuine predicate), we get the idea that Leibniz wants to treat 'existence' in a way that would harm neither the universal applicability of the conceptual containment criterion of truth, nor the idea of contingent existence. Indeed, his treatment of the purely existential statements in general shows that he tries to analyze them under the covert form of existential statements, that is, leave the purely existential 'AB exists (or is)' in its usual categorical appearance 'A is B', *implying without expressing* A's actuality. Yet Leibniz needs to give an account of the purely existential propositions in this or that way, for any contingency whatsoever in his system is based on the contingency of these propositions.

In line with Heidegger's view on Leibniz's assimilation of truths of fact into truths of reason, we can claim that Leibniz's real aim is to analyze contingency without any appeal to the idea of actuality or existence, for the other choice, that is, taking existence as a predicate, leads to unsolvable problems, among which is the collapse of the division between God and creatures with regard to the relation of essence and existence. And his infinite analysis theory is meant to eliminate this idea in terms of the notion of "the best possible world". The path he takes is as follows: among

[176] G. W. Leibniz, *New Essays on Human Understanding*, tr. and ed. by Remnant, P. and Bennett, J., Cambridge University Press, Cambridge, New York, 1996, p. Ch. i, Bk. IV, § 7, p. 358.

[177] One of which is in the essay "Necessary and Contingent Truths", as Adams has shown in *Leibniz: Determinist, Theist, Idealist,* p. 42.

possible individuals, only those exist which are the members of the best possible series of individuals. Thus, the difference between actuality and possibility, which would give the meaning of existence, can be given in terms of the qualitative differences between those possibilities which exist and which do not.

> Leibniz made a number of attempts to explain how existence is contained in the concepts of those things that exist. These attempts typically involve all or some of the following claims. The predicate of existence is in some way equivalent to "entering into the most perfect series of things"…or to pleasing God. The analysis of concepts would have to be carried to infinity, however, to prove the existence of any contingent thing…The underlying idea, of course, is that existence is contained in the concepts of existing things, not directly, but by virtue of the factors that determine God to create those things.[178]

The same point is made by Curley in different terms:

> It [existence] is an extrinsic denomination, but not one which is wholly extrinsic. There is always some basis in the nature of the thing for the correct predication of existence, a basis which consists of the fact that the thing enters into the best possible world. Still, existence does not follow from that fact *simpliciter*. It follows only given the further fact that God chooses to create the best possible world.[179]

We can now see that if Leibniz is to account for contingency in terms of the infinite analysis theory (which does not seem to be the case), he must first resolve what Ross calls 'the problem of existence': "So what is the difference between a substance that *exists*, and one that does not? It cannot be any property, or equivalent to any set of properties, otherwise the existent substance actualized by God would be different from the possibility he had willed to create. Consequently, the notion of existence is essentially indefinable."[180] From the logical perspective, Leibniz's problem is to express the logical difference between two realms, pure possibility and actuality, with a propositional calculus and a theory of truth which are totally restricted to one – some sort of problem of transcendence. And this is what he tries to achieve by

[178] *Ibid.*, p. 43.

[179] "The Root of Contingency", *Leibniz: A Collection*, p. 90.

[180] *Leibniz*, p. 56-7.

defining ‘existent’ as that which is the member of the best possible series of things, or existence as a certain degree of essence – an issue to which I will turn in the next chapter. Another question will be how he provides contingency to the statements of the form ‘A is a member of the best possible world’, which do not transcend the realm of essences and essential truths.

CHAPTER 3

CONCLUSION: DEFINING EXISTENCE

In the first section of the preceding chapter, I have presented Leibniz's conception of reality in general as divided into three segments, i.e., impossibility, possibility and actuality. The first two realms were totally disconnected: no possible could be impossible, and no impossible concept, denoting a non-being, could be self-consistent. However, the case for the latter two – possibility and actuality – is more complicated. First of all, I have mentioned the modal thesis that anything actual is possible but not vice versa, and drawn an analogy with the modal logical propositions '$p \rightarrow \Diamond p$' and '$\Diamond p \rightarrow p$', the latter of which is not valid in a normal modal logical system (like M, Brouwer, S-4 or S-5). Secondly, in the case of God – the necessary being – the two modes of being, i.e. pure possibility and actuality, coincide, which is reflected in Leibniz's 'modal' argument for the existence of God, and in the essence of the ontological argument in general. However, my interpretation of Leibniz's treatment of the division between essential and existential truths might have given the idea that these two realms or modes of being are also disconnected, in the sense that existence or actuality of a possible being has nothing to do with its internal determinations *sub ratione possibilitatis*, or as I call it, its 'possible determination'. If this were the case, then Leibniz would have no way to explain the contingency of the ultimate existential proposition stating that this world (or any one of the individuals inhering in it) exists, for then he would face the dilemma whether to take existence as a genuine predicate, as attributable to a subject concept *sub ratione possibilitatis* like any other temporal or non-temporal predicate, or to leave aside the question of how to express a purely existential proposition. The first would bring Leibniz to treat any existential proposition as necessary, in light of his treatment of the relations between subject concepts and their predicates, which

would destroy logical contingency altogether. The second would not be a solution either, for it is clear that this is the vanishing point of his theory of contingency, and needs an explanation. We have seen that Leibniz's solution consists of two steps: (1) defining the notion of existence over some other notion which would have no reference to the modal division of possible reality as purely possible and actual beings, and hence which would not transcend the borderlines of the domain of Leibniz's conceptual containment theory, that is, the domain of *being* (*ens*); (2) rendering the propositions which contain this substituted notion – the predicate 'is the member of the best possible world' – contingent, through the infinite analysis theory. It has been said that the second step does not rely on any intuitive basis, and covers some technical problems, which bear in mind that the concept of indemonstrable truth – or in Rescher's terms, 'infinitely analytic' truth – is some sort of *ad hoc* idea. But is this the case for the first step? Or rather, does Leibniz provide a basis for defining existence over essence?

In this section, I will try to answer this question, in relation to what Ross calls 'the problem of existence'. I have mentioned in the preceding chapter Heidegger's claim that Leibniz tried to assimilate *veritates facti* to truths of reason, and stated that this is achieved by the infinite analysis theory and the establishment of an equivalence between the notions of 'existing' and 'entering into the best possible series' (or 'being the member of the best possible world'). My point there was that Leibniz attempted in fact to eliminate the idea of existence or actuality from his theory of propositions and to express purely existential statements, that is, statements of the form 'X exists', in terms other than that of the predicate 'exists', and that the problem of contingency could be reduced to the problem of saving the contingency of one unique purely existential proposition – the proposition that this world exists – from which all other contingencies derive. This elimination, however, is not a logical *ad hoc* move; it is rather based on deeper ontological ideas on the relation between *essence* and *existence*.

In *General Investigations*, after hinting at (without proposing a solution for) the problem of *purely existential* propositions, Leibniz formulates the question of existence in this form:

> But we are trying to find out what the word "existing" signifies, for at least "existing" is being or the possible, plus something else. Further, all things considered, I do not see that anything else is conceived in "existing" than some degree of being, since it can be applied to various beings. However, I am unwilling to say that that something exists is possible or that existence is possible, for this is nothing other than its very essence; further we understand existence as actual or something added over and above the possibility or essence, so that in this sense "possible existence" would be the same as cutting off actuality from actuality, which is absurd.[181]

In simpler terms, Leibniz's problem is to make sense of the metaphysical difference between an existing individual substance seen under the aspect of possibility – as a purely possible complete concept – and the same substance seen under the aspect of actuality, that is, as an existent (or a complete concept denoting an actual being). Even as a question, the idea is one that is not easy to grasp, but it needs an answer, for the modal division between truths of reason and truths of fact relies on the very notion of existence: the latter are those which concern not only the containment relation between a subject and a number of predicates, but also the actuality or existence of the subject. And we have seen that Leibniz was not able, nor willing, to take existence as a genuine predicate attributable to the concepts of individuals. As Adams has clearly stated, Leibniz tried different strategies to deal with the problem of defining "existence" and "existent", which is also clear from the statements following his above formulation of the problem:

> Therefore I maintain that "existence" is being which is compatible with the most other things. Or it is being in the highest degree possible, and so all co-existents are equally possible. Or, what amounts to the same thing, existence is what is acceptable to a perceptive and proficient one; but he himself is thus presupposed to exist. It will be definable minimally as:

[181] Gottfried Wilhelm Freiherr von Leibniz, *General Investigations Concerning the Analysis of Concepts and Truths*, a translation and an evaluation by Walter H. O'Briant, UMI, Ann Arbor, Mi.,1998, p. 50-1.

> that exists which is acceptable to the mind of another, and is not displeasing to another more powerful mind, if any minds are supposed to exist. And so therefore the matter amounts to saying that what is not displeasing to the most powerful mind, if a most powerful mind be assumed to exist, exists… However, it is more pleasing to a mind that that happen which has a reason than that which does not have a reason.[182]

Leibniz's words here, like many others at various places, seem to be too ambiguous to give us a clear idea of how he treats the notion of 'existence'; however, we can begin by analyzing his account into two steps: first, he tries to formulate a criterion according to which certain possible individuals would be actualized, while others would remain as purely possible, which, as we have seen in the first section of the preceding chapter, is in line with the principle of the best. Secondly, and more importantly, he takes the difference between existing and non-existing beings with regard to that criterion as the *definition* of existence itself. As to the first, he begins by stating broadly that only that being which is distinctive in some respect among a number of possible beings should exist: "Thus, if the many are A, B, C, D and one of these is to be chosen, and B, C, D are similar throughout, but A alone is distinguished from others in some aspect, then A will be pleasing to any mind which discerns this…it will choose A."[183] Reflected on the Leibnizian macrocosm, among an infinite number of possible worlds, God chooses to create the one which differs from others in terms of the harmony between simplicity (of the laws) and variety or richness (of the phenomena) it exemplifies. The difference here is not a quantitative but a qualitative one: each possible world may be different from the others with regard to the degree of harmony it exemplifies, so that each is relatively good (superior) or evil (inferior), but only one has a real difference – only one is the *best* of all. Now, for Leibniz "*nothing exists without there being a greater reason for existing than for not existing*"[184]; and the possible world which is not only relatively good, but in fact the best, has the greatest reason for existing. The point is that any possible individual which is a member of this privileged world is also said to have

[182] *Ibid*., p. 51.

[183] *Ibid*, p. 51.

[184] "On Contingency", in Strickland, L., Tr. And Ed., *The Shorter Leibniz Texts: A Collection of New Translations*, Continuum, London, New York, 2006, p. 112.

the greatest reason for existing, for as Mates have stated, they are logically equivalent. Thus, individuals A, B, C, D… have greater reason for existing than K, L, M, N…, where the former are the members of the best possible series, and the latter are the members of other possible worlds, and hence are obliged to remain as pure possibilities.

However, it is not clear why possible beings should *ever* come to existence; in other words, what is the reason for existence *in general*? What we are dealing with is in fact the famous Leibnizian question of *why something exists rather than nothing*, which makes sense only in the context of the ontological connection between essence (pure possibility) and existence (actuality) established by him, and which will lead us to the second step he takes in accounting for the latter notion. Leibniz's answer is simple: "The same reason that it brings about that these things exist rather than other things, also brings it about that something exists rather than nothing. For if a reason is given why these things exist, the reason will also be given why anything exists."[185] Leibniz here assumes that essences – purely possible individuals – demand to exist *by their nature*. Now, if there is to be some difference among possible individuals as such – that is, a difference concerning their possible determinations – according to which some would be actualized while others would remains as pure possibilities, this same difference would also be the reason why something exists rather than nothing, since possible individuals are naturally inclined to become actual; or with Leibniz's terms, essences naturally demand existence.

Roughly, nothing would become actual, either (1) if there were no demand whatsoever to exist among possible individuals, or (2) if there were no differences between possible individuals according to which they would be divided as those fitting to exist and those not. In fact, in the second case, not something, but everything – every possible individual, and hence every possible world – would be actual, and there would be no real difference between possibility and actuality: the

[185] "On the Reason Why These Things Exist Rather Than Other Things", *The Shorter Leibniz Texts*, p. 30.

two realms would perfectly overlap, which would lead us to a strict necessitarianism. Thus, what saves this latter difference is the "prevalence" of reasons:

> This reason is the prevalence of reasons for existence, compared with the reasons for non-existence, that is, to say it in a word, in the essences' demanding of existence, so that those things will exist, which are not impeded. For indeed, if nothing demands existence, there would be no reason for existing.[186]

'The reason why these things but not others exist', in fact, refers to certain non-existential (purely possible) differences among possible individuals; if one could find a reason in existent individuals which brought them instead of others to actuality, one certainly would have found the reason why something *ever* exists. For without this difference, all essences would exist, given their natural tendency to existence, in which case it would be impossible to demarcate actuality from possibility – any possible individual, by the very common nature of possibility, would be actual, and 'non-being' would coincide with 'non-existent'. Therefore, it is the *nature* of a possible individual, and a whole possible world, to incline towards actuality, and this is *the first aspect* of the natural connection between essence and existence – *conatus* to existence[187] in possible beings:

> 7. But it does not follow from this that all possibles exist; though this would follow if all possibles were compossible.
> 8. But since some things are incompatible with others, it follows that certain possibles do not arrive at existence; again, some things are incompatible with others, not only with respect to the same time, but also universally, since future events are involved in present ones.
> 9. Meanwhile, from the conflict of all possibles demanding existence this at any rate follows, that there exists that series of things through which the greatest amount exists, or, the greatest of all possible series.[188]

'Caesar', for instance, directs us only to one definite history of the universe, in which Leibniz writes "the Monadology", and in this sense, it is in contradiction, not only

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[186] *Ibid.*, p. 30.

[187] Pena, L., "Essence and Existence in Leibniz's Ontology", http://www.sorites.org/lp/articles/historia/essexlei/htm, p. 8.

[188] "A *Résumé* of Metaphysics", in Parkinson, G. H. R., Ed., Morris, M., and Parkinson, G. H. R., Tr., *Leibniz: Philosophical Writings*, J. M. Dent & Sons Ltd., London, 1973, p. 145-6.

with respect to the interval of time in which Caesar actually lived, but also to the entire history of the universe, with an individual concept which directs us to a possible series which does not contain the event that Leibniz writes "the Monadology". Thus, 'Caesar' is compossible only with those concepts which denote the individuals subsisting in the 'greatest of all possible series'. And there are an infinite number of such sets of compossible individuals, but only one of them yields the "most capacious" possible world, that is, the world which exemplifies the greatest amount of, and greatest variety in, individuals, relative to the greatest orderliness and lawfulness of the phenomena emerging from the inner lives of those individuals: "This series alone is determinate, as among lines the straight line is determinate, among angles the right angle, and among figures the most capacious, namely, the circle or sphere."[189] Non-existence, in fact, is a marginal state for an essence, for 'being an essence' implies 'tending to exist'; and yet it does not imply 'to exist', since it must be compossible with the whole set of individuals yielding the greatest possible series to become actual. In this sense, "there are no other reasons for not existing, unless they arise from connected reasons for existing."[190]

However, these considerations should not imply that the goodness or perfection of the best possible world is an issue unrelated with the individuals it contains. On the contrary, as our discussion in the preceding chapter has shown, the complete concept of a possible individual is logically equivalent to the complete concept, so to speak, of the whole possible world of which that individual is a member. Thus, that this world is the greatest possibility to be actualized means also that the possible individual Caesar is the greatest possibility to come to existence. In other words, the perfection pertaining to the best possible world is the same perfection pertaining to Caesar, to Leibniz, or to any other possible individual subsisting in that world. We must have in mind, then, that Leibniz is speaking both of individuals and series when he says that there "exists…that which is the most perfect, since *perfection* is simply quantity of reality."[191] Connectedly, that a possible individual is possible in itself

[189] *Ibid*., p. 146.

[190] "On the Reason", *The Shorter Leibniz Texts*, p. 30.

[191] "A *Résumé*", *Leibniz: Philosophical Writings*, p. 146.

should mean that the whole possible series it 'mirrors' from its own *logical* perspective is possible. Hence, the 'degree of reality' or of essence an individual possesses is the degree of reality of the corresponding possible world, and vice versa. It is that perfection, which brings an individual and the relevant possible world to existence at once: "And just as possibility is the principle of essence, so perfection or degree of essence (through which the greatest number of things are compossible) is the principle of existence."[192] To be counted as an essence, it is sufficient for an individual to have an internally consistent concept; but the *sufficient reason* for existence is entering into the most perfect possible series, that is, having the greatest degree of essence or of reality.

Then it is clear what Leibniz has in mind when treating existence as "some degree of being" or "being in the highest degree possible"[193]. However, we are still in need of an account of why there is such a natural connection between essence and existence: why do essences strive for existence? The answer to this question brings us to *the second aspect* of this connection, namely, the reliance of all possible reality on an actual being, God. As we have seen, Leibniz assured himself of the existence of God through the *Modal Argument* where this ultimate being was defined as the necessary being, and yet we have not seen on what grounds this definition was given. It is in fact an ontological axiom which leads Leibniz to the conclusion, through what is generally called 'the cosmological argument', that there should have already been some existing being behind the scene, if that scene – the universe – is to be actual, namely, that "existing things cannot exist except from existing things"[194]. Mentioning the reason why there is ever something existent, Leibniz says that the foundation is a being which cannot but exist:

> 2. This reason must be in some real entity, or cause. For a *cause* is simply a real reason, and truths about possibilities and *necessities* (that is, where

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[192] "On the Ultimate Origination", *The Shorter Leibniz Texts*, p. 34.

[193] *General Investigations*, p. 50 and p. 51.

[194] "On the Ultimate Origination", *The Shorter Leibniz Texts*, p. 34.

> the possibility of the opposite has been denied) would not produce anything unless those possibilities were founded on a thing which actually exists.
> 3. This entity must be necessary; otherwise a cause must again be sought outside it for the fact that it exists rather than does not exist, which is contrary to the hypothesis. This entity is the ultimate reason for things, and is usually called by the one word 'God'.
> 4. There is, therefore, a cause for the prevalence of existence over non-existence; or, *the necessary being is existence-creating*.[195]

All possible individuals, then, stems from one unique individual, which is both possible and actual at once; and insofar as this is the case, all possibles by their nature – founded on an existent being – strive equally for existence, but only the best collection – the best possible world – comes to existence. Indeed, if there were no such foundation, not only there would be no natural connection between essence and existence, but also there would be no *reality* in essence itself. In other words, *possible reality* is preceded by existence or actuality: "However, there must be in reality an existing source of existence-demanding essences; otherwise there will be nothing in essences except a figment of the mind, and since nothing follows from nothing, there will be a perpetual 'nothing'"[196].We can now see that the simplified schema which presents possibilities as logically preceding actual beings must not imply that possibility *in general* precedes actuality; for all possible individuals find their origin in God: "So now we have the ultimate reason for the reality of both essences and existences in a unity, which is of necessity greater, superior and prior to the world itself, since through it not only existing things, which make up the world, but also possible things have their reality."[197] It is interesting to note that Rescher sees this aspect of Leibniz's ontology as implying some sort of *existentialism*:

> Leibniz is an "existentialist" in the sense of maintaining that existence precedes essence. As he sees it, everything that has any sort of reality whatsoever – even that which exists only as a possibility – has this status in view of its presence in or connection with something that actually exists. Thus even mere unactualized possibilities have a domain in which

[195] "A *Résumé*", *Leibniz: Philosophical Writings*, p. 145.

[196] "On the Reason", *The Shorter Leibniz Texts*, p. 30-1.

[197] "On the Ultimate Origination", *The Shorter Leibniz Texts*, p. 35.

> they "subsist," as it were – namely in the thoughts of God. The mind of God is the domain of the possible: if – *per impossibile* – God did not exist, then the whole realm of the possible would be abolished – and the sphere of the necessary would vanish with it.[198]

Therefore, we have seen the ontological foundations on which Leibniz fills the gap between possible and actual realities, and what his answer would be to Ross's question concerning existence: existence is a certain degree of essence or of reality. In other words, 'to exist' means simply 'to subsist in the greatest possible series', or 'to be the best'. However, the real question is what this comes to mean in the context of the theory of propositions.

Now, ontological perfection is the criterion according to which possible individuals are sorted as actual and purely possible, and the principle of the best is that principle which formulates this criterion: only that which is the best should be actualized. From the logical perspective, on the other hand, the same principle becomes the principle of contingent truth, for contingent propositions differ from necessary propositions (save that proposition which concern God's existence) only in that they refer to the existence of their subjects. Thus, a truth of fact is true, if and only if, (1) the predicate(s) it attributes to the subject is (are) contained in the concept of the subject; (2) the individual which is denoted by the subject exists. The first criterion is the general *requisite* (the *necessary condition*) for any truth whatsoever – containment of the predicate in the subject – but also the *sufficient condition* for truth in the case of truths of reason, which merely concern the *nexus* of the terms and nothing else. However, in the case of truths of fact, where a number of predicates are attributed to an existent subject, that the containment relation holds does not suffice to make the proposition true, although it is among the requisites; the sufficient condition is rather the existence of the subject, and consequently of the whole possible world which contains it. And this is the case, if and only if the relevant individual passes the perfection test in accordance with the principle of the best or perfection; thus, as Rescher has also seen, the principle of the best is the principle of contingent existence and contingent truth at once. On the other hand, both contingent

[198] Rescher, N., *G. W. Leibniz's Monadology: An Edition for Students*, University of Pittsburgh Press, Pittsburgh, Pa., c1991, p. 153.

and necessary truths are bound with the principle of contradiction, according to which only those predicates which are contained in – or in light of the maximality of complete concepts, which are not excluded by – an individual concept can be attributed to it; however, only in the case of the latter, it is gives the sufficient reason for truth; or, which amounts to the same thing, only in necessary truths the requisite and the sufficient condition are one and the same, namely, self-consistency of the concept which is the conjunction of the subject and the predicate.

Now, the problem is the tension between the terminology we applied and the final form of purely existential propositions. If a contingent truth 'A is B' is to be analyzed as the conjunction of the truth of reason 'A contains B' and the converted purely existential proposition 'A is the member of the greatest possible series', how can we still say that all truths of reason are necessary? For it is clear that the latter proposition is an essential truth (being the result of a process which Heidegger calls "assimilation") and yet contingent. In fact, the answer lies in the two main strategies Leibniz uses to save the contingency of the true propositions of the form 'X enters the best possible series' as substituted for those of the form 'X exists'. The first strategy can be summarized as analyzing the proposition 'A is the member of the best possible series' into two propositions, one of which is necessary and the other is contingent: 'A is the member of this series' and 'This series is the best possible series'. Leibniz's point is that there is no finite demonstration which shows that this series is the best one, since the divine comparison between possible worlds covers an infinitely long process. For instance, in "On Contingency" he says: "And therefore, although it should be conceded that it is necessary that God choose the best, or that the best is necessary, nevertheless it does not follow that what is chosen is necessary, because there is no demonstration that it is the best."[199] However, this does not solve the problem concerning the terminology, for the proposition 'this series is the best' is still a truth of reason. Leibniz's other strategy, on the other hand, seems to resolve this problem, though it does not suffice to provide an intuition of logical contingency. This time, that which is taken as contingent is not that this world is the best, but that God chooses to create the best. In fact, the concept of God, for Leibniz,

[199] "On Contingency", *The Shorter Leibniz Texts*, p. 113.

contains the concept of being good and consequently willing always that which is the best, an instance of which is to create the best of all possible worlds. To that extent, this choice must be necessary; however, Leibniz, relying on a division between the form and content of a copula, tries to make the proposition 'God wills the better' contingent:

> The necessary proposition 'A is B'. Is it not then true: 'A is necessarily B'? This is a necessary proposition: 'God wills the better'. So is it therefore the case that 'God necessarily wills the better'? I answer that 'necessarily' can be applied to the copula, but not to what is contained in the copula. God is necessarily he who wills the best. But not he who necessarily wills the best. Because he wills freely. In the same way it is permitted to say: 'A man wills to walk'. This proposition is contingent by necessity, but it does not therefore become a necessary contingent.[200]

He concludes that "[i]t is necessary that God wills the best, but by a will that is not necessary"[201]. Otherwise said, the predicate 'willing the best' is contained necessarily in 'God', while the meaning content of the word 'willing' renders the proposition contingent, so that actualization of this possible world by God's choice of the best remains contingent, and so does anything contained *sub ratione possibilitatis* in it, including Caesar's crossing the Rubicon. Under this form, this strategy seems to be in harmony with the idea that all truths of reason are necessary, or that conceptual containment *sub ratione possibilitatis* is always necessary. Yet it does not seem to provide a clear intuition of the logical contingency of the world.

I have tried to show that the problem of contingency in Leibniz's system can be traced to that of interpreting existential propositions. It has appeared that only those truths which contain a reference to the existence of the subject were properly contingent, but in line with Heidegger's claim, we have seen that Leibniz tried to convert them to truths of reason, and by way of the infinite analysis theory, render them contingent. However, this is also disastrous, since it contradicts the claim that the relations between essences *sub ratione possibilitatis* are all necessary, which

[200] "Notes on Pierre Bayle's *Reply to the Questions from a Provincial*", *The Shorter Leibniz Texts*, p. 114.

[201] *Ibid.*, p. 114.

marks Leibniz's theory of creation. It is significant to note that Blumenfeld makes a similar point after his treatment of the problem of contingency in Leibniz's system, which proceeds in a different direction than mine: "Many of the antinomies I have discussed have a common root: Leibniz's official account of creation (including the theory of world-bound individuals) implies that all truths about possibles, qua possible, are necessary, while his infinite analysis solution to the problem of contingency implies exactly the opposite."[202] However, we must emphasize that the infinite analysis 'solution' is in contradiction with the 'official account of creation', not because it implies that the connection of a temporal predicate to a complete concept is contingent, but that the predicate 'is the member of the best possible series' is contained in such a concept contingently; for the former option is ruled out with Leibniz's theory of hypothetical necessity. In other words, the real problem is the incompatibility of the second interpretation of the infinite analysis theory, focusing on the contingency of the creation or actuality of the best of all possible worlds, with the idea that truths of reason are truths about essences *sub ratione possibilitatis* and hence necessary. The critical notion, then, is 'contingent existence', and the problem of contingency is reduced to one of expressing 'existence' without (1) making the propositions of the form 'A exists' necessary, and (2) contradicting the claim that truths of reason are all necessary.

As a conclusion, I will try to illustrate the peculiarity of Leibniz's case by a comparison between the conceptions of contingent truth in Leibniz's system and the possible-world semantics for modal logic in general. The difference which I will show concerns the *intuition* of contingency, and hence it will be an instance only of the *intensional* inapplicability of the possible-world view of contingent truth to Leibniz's case. For the sake of simplicity, I begin with summarizing the final form of Leibnizian contingency.

1. Actual determination is the actualization of the determined possibility. Caesar's actual determination to cross the Rubicon is the actualization of the possible Caesar, who, *qua* possible, crosses the Rubicon.

[202] Blumenfeld, D., "Leibniz on Contingency and Infinite Analysis", *Philosophy and Phenomenological Research*, Vol. 45, No. 4. (Jun., 1985), pp. 483-514, p. 513.

2. Possible determination is the eternal subsistence of a complete concept in the divine understanding. Caesar's possible determination to cross the Rubicon is the eternal subsistence of 'Caesar', which contains *sub ratione possibilitatis* 'crossing the Rubicon', in God's understanding.
3. Those truths which concern actual determination of individuals are truths of fact. All truths of fact are contingent, and their truth principle is the principle of the best or of existence. A truth of fact makes an 'existential predication', i.e., attributes a predicate to a subject which denotes an actual being. 'Caesar crosses the Rubicon', as a truth of fact, is contingent, where 'crossing the Rubicon' is *existentially* predicated of 'Caesar'.
4. Those truths which concern possible determination of abstract entities and possible individuals are truths of reason and are all necessary; their truth principle is the principle of contradiction. A truth of reason makes an 'essential predication' – attribution of a predicate to a subject whose actuality or pure possibility is out of concern. 'Square is rectangular' and 'Caesar crosses the Rubicon' are truths of reason, where 'rectangular' and 'crosses the Rubicon' are respectively attributed *sub ratione possibilitatis* to 'square' and 'Caesar'. Indeed, existential predication of 'rectangular' to 'square' is impossible, for 'square' denotes an abstract entity which is out of the question of actualization.
5. Therefore, that which converts the necessary truth of reason 'Caesar crosses the Rubicon' to its contingent, truth of fact correlate is the addition of 'Caesar exists', which is equivalent to 'This world exists' and to any proposition of the form 'X exists' where *X* is an individual and a member of this world. This shows that Leibniz's real problem is to account for *contingent existence*, to which his infinite analysis theory is directed, and from which all other contingencies flow.

To make the point, we can think of the essential and existential readings of 'Caesar crosses the Rubicon', as examples of necessary and contingent truths. The possible-world view of necessary truth seems to be applicable to 'Caesar crosses the Rubicon'

in its essential reading: the relation between 'Caesar' and 'crossing the Rubicon' – that is, containment of the latter in the former – is the same in all possible worlds, and hence, the proposition is necessarily true, for the "complete concept of a particular individual substance…contains the same component concepts in every possible world, whether or not the complete concept is exemplified in that world."[203] It might be asked whether Caesar's crossing the Rubicon in a possible world where there is no Caesar makes any sense, especially in light of the fact that 'Caesar' is logically equivalent to the whole possible world – the set of the complete concepts of all possible individuals which are compossible with the possible Caesar – in which it is contained *sub ratione possibilitatis*. In general, then, we may ask whether the notion of 'truth in world' has any bearing on Leibniz's account. That it does not have any becomes clearer in the case of contingency. Now, the idea of contingency in possible-world semantics is captured by the idea of "truth in actual world"; a proposition *p* is contingently true if and only if;

1. Syntactically: $p \wedge \Diamond \sim p$;
2. Semantically: the truth value of the proposition *p* in *w** is *True*, while it is *False* in at least one possible world *w*, where *w** is the actual world, and *w* is some possible world other than w*. Otherwise said, *p* is true in the actual world, but false at least in one non-actual possible world.

There are two problems concerning the applicability of this idea to Leibniz; one is the general, and the other is an instance of it:

1. *Indexing*. The idea of 'truth in a world', that is, indexing of propositions with possible worlds, does not fit to Leibniz's conception of the relation between predicates (as expressing events or possible facts), individuals and 'possible series', as he calls them. An individual is logically (complete concept) and phenomenally (windowless monad) intertwined with the series of individuals of which it is a member. However, it can simply be proposed that in Leibniz's case, individuals are

[203] Fried, D., "Necessity and Contingency in Leibniz", *The Philosophical Review,* Vol. 87, No. 4 (Oct., 1987), pp. 575-584, p. 583.

world-bound – referring to a term present in possible-worlds talk – that is, an individual *a* subsists only in one possible world, and hence truths or falsities concerning *a* are truths or falsities restricted to the possible world in which *a* subsists. But this would not resolve the problem, for, first of all, in Leibniz's system, it is not only that the individuals are world-bound, but also possible worlds are *individual-bound*, in the sense that a certain possible world cannot cease to involve any of the individuals it actually involves, as any change in the set of individuals would bring out a *corresponding* change in the whole possible world itself, in light of the notion of complete concept and monadological perspectivism; thus, the idea of fixing an individual with a possible world, in a certain sense, is redundant. Secondly and connectedly, among those truths concerning an individual, there is the one which cannot be grasped by the 'truth in world' conception of modalities, namely, that that individual exists or is actual. According to the world-bound individuality notion, this truth will also relate us to the possible world with which the individual under question is bound; and this is a disaster, for then we are driven to state that *a* exists in the actual world, that is, that *a* is actual in the actual world – an ambiguity similar to one which I have referred to in the preceding chapter (actual and purely possible actualities).

2. *Actuality of actual world*. Leibniz's point is to trace all contingencies to the contingency of the actualization or existence of the actual world, that is, to contingent existence. Thus, according to Leibniz's terminology, existence of an individual is equivalent with the existence of the possible world in which it subsists (not *exists*, as Rescher pointed out), and that an individual possesses a property contingently means that the predicate which denotes that property is contained in the complete concept of the individual in a necessary fashion, yet the individual exists contingently. It is this last contingency, which enables any factual event to remain contingent; otherwise there would be a pure fatalism, stemming from the necessitistic character of possible (eternal) determination – determination *sub ratione possibilitatis* of possible individuals. In brief, Leibniz's problem is to account for the contingent actuality of the actual world, or contingent existence of the existent; whereas actuality of the actual world in possible-world semantics is only a matter of

terminology: a possible world is determined as actual, and contingent truth is defined as 'truth in actual world and falsity at least in one other possible world', which, by the way, cannot account for the contingent truth of a purely (non-Leibnizian) existential proposition. In its existential reading, 'Caesar crosses the Rubicon' implies 'Caesar exists', and then we would have to say, according to the possible-world view of modalities, that Caesar exists in the actual world, but does not exist in at least one possible world. In Leibniz's account, however, this determination – determination of one possible world as actual – is the very root of contingency; and this is why he calls contingent truths 'propositions of existence' or 'existential truths' – propositions which transcend the realm of conceptual containment and possible determination.

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