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Contributi/5

Why Deleuze is a Leibnizian

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Are the main topics in the works of Gilles Deleuze (1925-1995) significantly influenced by his study of the philosophy of Leibniz (1646-1716)? I shall approach this question by looking at some central concepts in the philosophy of Deleuze and will demonstrate how these themes go back to Leibniz. Deleuze characterized himself as a pure metaphysician. I compare Leibniz's art of invention with Deleuze's creation of concepts. In the opinion of Deleuze, Leibniz yielded to the most insane creation of concepts that we have ever witnessed in philosophy and Deleuze used and transformed many of these concepts to establish his own philosophy. Many of the concepts that Deleuze develops in *Difference and Repetition* regarding thinking and representation – the differential relation, singularities, multiplicities, the virtual, the problematic – are derived from the history of calculus. Differential calculus is a symbolism for the exploration of existence. Here Deleuze meets Leibniz.

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Prelude: God's Game

Imagine that in the mind of God there are all possibilities that can exist or not exist. You can look at the divine mind as a contingent multiverse where you can group possibilities. It is a kind of pre-logical or pre-metaphysical space that is filled with propositions. The propositions have the form of a subject with a predicate that stands for a description or expression of a subject that has attributes.

It is contingent because every possibility can have its negation but only one of them can come into existence. God, the great combinatory mind[1], can pre-create worlds with the rule of the 'maximum of possibilities with the greatest possible order'.

For God there is the possibility of creating a world where 'Adam sinned', but there is also the possibility that 'Adam did not sin'. God puts all possibilities

[1] L = *Philosophical Papers and Letters*: a selection, ed. by L. E. Loemker, second edition, Dordrecht-Boston-London 1989 p. 146. 'For God wills the things which he understands to be best and most harmonious and selects them, as it were, from an infinite number of all possibilities.'

in a (the) cloud (he just sits on it) and before he goes reasoning he asks himself a first question: Shall I create beings or shall I let it like this, only possibilities, virtual worlds and nothing actual, nothing that exists? The second question is: Shall I create this or that or something else?

These are big questions that are difficult to answer. In his mind there arises the idea of an infinite task or could he take a dice[2]?

1. Introduction

Are the main topics in the works of Gilles Deleuze (1925-1995) significantly influenced by his study of the philosophy of Leibniz (1646-1716)?

I shall approach this question by looking at some central concepts in the philosophy of Deleuze and will demonstrate how these themes go back to Leibniz. Deleuze wrote a book on *Leibniz: The Fold: Leibniz and the Baroque*[3], and gave seminars on *Leibniz and the Creation of Concepts* in 1980 and on *Leibniz and the Baroque* in 1986/1987[4]. Also, in his other works he develops concepts referring to ways of thinking about Leibniz.

I will begin by focusing on the art of invention of Leibniz and putting it alongside Deleuze's own creation of concepts. The earliest recorded lectures of Deleuze *What is Grounding?*[5] were held in 1957 at the Lycée Louis le Grand, where he taught philosophy before becoming assistant professor at the Sorbonne later that year. Deleuze's lectures where already 'must-see-events'. He plays the part of a detective walking around in the world of philosophers and concepts. Leibniz, for Deleuze, adopts the role of master of many solutions. In *What is Grounding?* Deleuze analyses the Kantian enterprise, working through the premises of Kantian, post-Kantian and Heideggerian approaches to self-grounding in philosophy.

For Deleuze, Leibniz produces to the most insane creation of concepts that we have ever witnessed in philosophy and Deleuze will use and transform many of these concepts to establish his own philosophy. This will be illustrated with a play of principles (of Leibniz) and the way in which Deleuze tells a story about them.

According to Leibniz, small or minute perceptions do not indicate the presence of an infinite understanding in us but rather the presence of an unconscious within finite thought, a differential unconscious. We will see how this idea of Leibniz plays a role for Deleuze.

[2] DR = G. Deleuze, *Difference and Repetition*, trans. P. Patton, New York 1984, p. 198. 'It is no longer a question of a game after the manner of Leibniz, where the moral imperative of predetermined rules combines with the condition of a given space which must be filled *ex hypothesi*. It is rather a question of a throw of the dice, of the whole sky as open space and of throwing as the only rule.'

[3] G. Deleuze, *The Fold: Leibniz and the Baroque*, tr. T. Conley, Minneapolis 1993.

[4] You can find the lectures of Deleuze at https://deleuze.cla.purdue.edu/.

[5] https://deleuze.cla.purdue.edu/index.php/seminars/what-grounding/lecture-01.

Many of the concepts that Deleuze develops in *Difference and Repetition* to define the conditions of the real – the differential relation, singularities, multiplicities or manifolds, the virtual and the problematic – are derived from the history of calculus. Difference here becomes constitutive of identity: that is, it becomes productive and genetic. Calculus is a symbolism for the exploration of existence.

Out of Leibniz's thinking arises Deleuze's philosophy.

2. Art of Invention and the Creation of Concepts

For Leibniz knowledge has to be taken more generally, so that it is involved in ideas and terms before we come to propositions and truth. So, seeing pictures of animals, diagrams of machines and floorplans of houses, or even reading imaginative novels or listening to strange stories, can give you more knowledge even when there is no truth to them. That is:

> Because the practice he has in portraying in his mind a great many actual, explicit conceptions and ideas makes him better able to conceive what is put to him[6].

And in the *Discourse on Metaphysics* Leibniz writes:

> Thus, those expressions which are in our soul, whether they are conceived or not, can be called ideas, but those which are conceived or formed can be called notions, concepts. But in whatever manner it is taken, it is always false to say that all our notions come from the senses which are called external, for the one I have of myself and of my thoughts, and consequently of being, substance, action, identity, and many others, come from an internal experience.

This is how you can learn to distinguish the real from the imaginary, the existent from the possible.

Topics or *places of invention* are as relevant to the explication and detailed description of an incomplex theme, i.e. a thing or idea as to the proof of a complex theme i.e. a thesis, proposition or truth. There are indeed 'themes' which can be said to be midway between an idea and a proposition, namely *questions*[7].

For Deleuze,

> sense is constituted in the complex theme, but the complex theme is that set of problems and questions in relation to which the propositions serve as elements of response and cases of solution[8].

[6] RB = G. W. Leibniz, *New Essays on Human Understanding*, trans. P. Remnant and J. Bennett, Cambridge 1981 p. 355.
[7] *RB* p. 356.
[8] *DR* p. 157.

Sense is defined as the condition of the true, but also allows the possibility of error. A false proposition remains a proposition that can make sense. So, we can distinguish two dimensions to a proposition, *expression* and *designation*. A proposition expresses an idea or (part of) a concept, and designates the objects to which the expression applies. Expression is the dimension of sense; designation is the domain of truth and falsity. Sense is a broader place than truth, yet the false also has a power of its own in relation to sense.

For Deleuze the power of the false is a power of metamorphosis: that is, a power of creation.

> For me philosophy is an art of creation, much like music or painting. Philosophy creates concepts, which are neither generalities nor truths. They are more along the lines of the Singular, the Important, the New[9].

The power of the false is creative of truth; this is precisely a new concept of truth. Truth is no longer a timeless universal to be discovered, but a singularity to be created.

Both Leibniz and Deleuze dream of an art of invention, a combinatory or calculus of problems or questions and put this against a logic where questions and problems can be neutralized when they are translated in corresponding propositions. The failure is to see that the sense or the problem is extra-propositional, that it differs in kind from every proposition. It leads us to what is the essential: the genesis of the act of thought, the operation of the faculties. Dialectic is the art of problems and questions, the combinatory or calculus of problems.

Leibniz at first considered the art or logic of invention to be a combinatorial art. In his earliest work on *The Art of Combinations*[10], written in 1666, he describes a method to get new knowledge by a method of variation and combination. All notions are composed of simpler ones, ultimately of the simplest terms that form the human alphabet of thought.

In the next step, Leibniz expands the combinatorics for a universal characteristic. The primary concepts, from whose combination the rest are made, are either distinct or confused. A *nominal* definition consists of signs or elements sufficient to distinguish the thing defined from everything else. If we seek the elements of the elements, we shall come at last to primitive concepts which have no elements at all, or none which we can explain to a sufficient degree.

Later still, Leibniz will become convinced that it is an infinite task that cannot come to an end. This is the art of dealing with distinct concepts. The art of dealing with confused concepts, must involve discovering the distinct concepts which accompany the confused ones, whether these distinct concepts can be understood through themselves or can at least be resolved into such

[9] G. Deleuze, *Two Regimes of Madness: Texts and Interviews 1975-1995*, tr. by A. Hodges and M. Taormina New York p. 238.
[10] L *The Art of Combination* p. 73.

as are understood. With their help we can sometimes arrive at some cause or resolution of the confused notion. One must be especially careful, in setting up *real* definitions, to establish their possibility; that is, to show that the concepts from which they are formed are compatible with each other.

The methodically pursued increase of knowledge, the art of invention, was based on the correct choice of characters or signs, such as those invented by the universal characteristic. Meanwhile, the art of combinations provided the rules according to which the characters created would be manipulated to create new knowledge. For Leibniz it was a general science, which teaches a mere syntactic manipulation of signs. The universal characteristic is an essential part of Leibniz's epistemology: the *characteristica universalis* must serve the *ars inveniendi*, the art of invention. It should make evident hidden structures, properties and relations, among others[11].

Leibniz notes that the *ars inveniendi* is «the direction of thought to ascertain any kind of unknown truth»[12]**.** The method should consist in a *cogitandi filum*, in an Ariadne thread of thought, namely in a «rule of the transition from one thought content to another»[13]**.** Leibniz spent his whole life trying to perfect the *ars combinatoria*, *characteristica universalis* and the *ars inveniendi*.

When you have difficult problems, then they are to be broken down into independent sub-problems in order to arrive at solutions in the form of theorems that are put together in a synthesis. Analytics and synthesis are the two steps that are more difficult than in the previous combinatorics. In this way, the rules are made more clearly separated from the art of combinations, whereby the problem analysis and the resulting synthesis that leads to new things remain the main methodological terms. And Leibniz puts it in *On Universal Synthesis and Analysis*:

> Synthesis begins with principles and runs through truths in good order. Thus, you discover certain progressions and you can sometimes make general formulas, in which the answers to emerging questions can later be discovered. Analysis goes back to the principles in order to solve the given problems[14].

The more important achievement is the synthesis, since its work is permanent, whereas we often have already done work on the analysis of certain individual problems.

[11] E. Knobloch, Leibniz between ars characteristica and ars inveniendi, in *Philosophical Aspects of Symbolic Reasoning in Early Modern Mathematics*, ed. by A. Heeffer and M. van Dyck, London 2010, p. 289-302. Knobloch describes how Leibniz solves a number-theory problem of prime numbers to show how there is a relation between hidden intellectual structures and their representations.
[12] *A* VI 4,345.
[13] *A* VI 4, 323.
[14] L *On Universal Synthesis an Analysis*, p. 232.

By comparison, Deleuze would say that true thinking is to respond to problems in new ways, to re-invigorate life and thought through the problems that give rise to them:

> What is essential is that there occurs at the heart of problems a genesis of truth, a production of the true in thought. Problems are the differential elements in thought, the genetic elements in the true[15].

3. Grounding

The lecture series *What is grounding?* lays out the key concepts developed in Deleuze's later work. To understand *Difference and Repetition*, which for many people is a highly esoteric, albeit interesting book, you first have to read a transcript of his first lectures[16]. It helps to make sense of Deleuze's context and aims, the methodology and the concepts behind his later writings, and it specially helps one to understand Leibniz's place in the philosophy of Deleuze.

After an introduction about the road from mythology to philosophy, *What is Grounding?* starts with the problem of sufficient reason in the formulations of Heidegger. It is Heidegger who tries to discover the reason of reason, or in other words asks what is the essential being of ground or reason, for the ground itself must be grounded. For Heidegger freedom is the 'ground of the ground'[17].

With Heidegger bringing up the theme of grounding, Deleuze begins a non-linear historical investigation. I say non-linear because he moves through history from Descartes' 'cogito' and Hume's 'habit' (grounding can only be a subjective principle), to Kant's discussion of the transcendental subject, from Hegel to Heidegger, and then back to Leibniz. I will focus here on the roles of Heidegger, Kant and the post-Kantian Maimon in relation to Leibniz.

Heidegger starts his *Introduction to metaphysics* with the Leibnizian question of why there are beings at all instead of nothing[18]. For him, this is the first, broadest, deepest and most original question you can ask. What is put into question comes into relation with the ground.

> But because we are questioning, it remains an open question whether the ground is a truly grounding, foundation-effecting, originary ground [*Urgrund*][19]; whether the ground [*Grund*] refuses to provide a foundation, and so is an abyss [*Abgrund*]; or the ground of the ground is a necessary illusion of a foundation and is thus an unground [*Ungrund*]. This question presses us in the domains that lie at the ground[20] even pressing into the ultimate, to the limit[21].

[15] *DR*, p. 162.
[16] https://deleuze.cla.purdue.edu/seminars/what-grounding/lecture-01.
[17] M. Heidegger, *Wegmarken*, Band 9, Frankfurt am Main 1976, p. 174: 'The ground that springs forth in transcending folds back upon freedom itself, and freedom as origin itself becomes ground. Freedom is the ground of ground'.
[18] L *The radical origination of things*, p. 486.
[19] I also use the German terms to illustrate the cohesion between the different terms.
[20] ‚Zu Grunde gehen' = 'to be ruined'.
[21] M. Heidegger, *Introduction to metaphysics*, tr. by G. Fried and R. Polt, London 2014, p. 12.

Here for Deleuze arises the cry for[22], or a kind of call of philosophy. A philosopher is not someone who sings, but someone who screams.

The jump [*Sprung*] of this questioning attains its own ground by jumping, performs it in jumping [*er-springt*, *springend erwirkt*]. According to the genuine meaning of the word, we call such a jump that attains itself as ground by jumping an 'originary' jump [*Ur-sprung*]: an attaining-the-ground jump. Because the question 'Why are there beings at all instead of nothing?' attains the ground for all genuine questioning by jumping and is thus an originary jump, we must recognize it as the most originary [*ur-sprünglichste*] of questions.

To philosophize is to ask questions beyond the usual. With this questioning we arrive at the moment between looking into the abyss and making the originary jump. At that point Heidegger becomes aware of the *physis* [φυσις], or the event of standing forth, arising from the concealed and thus enabling the concealed to take a stand for the first time. *Physis* is both becoming as well as being in the narrower sense of fixed continuity. Deleuze describes *Difference and Repetition* in its entirety as an inquiry into sufficient reason, but with this additional caveat: in following the path of sufficient reason, Deleuze argues, one always reaches a 'bend' or 'twist' in sufficient reason, which relates what it grounds to that which is truly groundless, the unconditioned[23].

For Kant the ground is a condition. Kant gives a reformulation of Leibniz's principle of sufficient reason as the principle of determining ground. The condition is that which renders knowledge possible. Kant will make a ground based on the conditions of possibility. Kant says that the condition of experience is at the same time the condition of the objects of experience. The Kantian phenomenon is not at all the appearance. The phenomenon is not an appearance which would hide the being, but it is the being insofar as it appears. The *noumenon* is pure thought and it does not distinguish itself from the phenomenon as appearance and reality, but as being which appears and being purely thought. What renders cognition possible is not given in experience. This is why these conditions are transcendental. The ground limits. It imposes a limit on knowledge.

With Kant and Heidegger, the relation between the grounder and the ground, must be in the idea of grounding itself. The ground reveals a question. It's like a sphinx who formulates another riddle after each question you ask. Whoever appeals to the ground receives a question about the ground. Perhaps at the philosophical level the answer is contained in the question, which might make us think of Leibniz and the question: why is there something rather than nothing? Why is there this rather than that? Henceforth everything is reversed, the ground teaches us a question and only the question can elucidate the problem.

Now Deleuze has three hypotheses about grounding, based on the following:

[22] https://deleuze.cla.purdue.edu/seminars/leibniz-philosophy-and-creation-concepts/lecture-01.
[23] *DR*, p. 154.

1. Kierkegaard as a philosopher who creates a philosophy of paradox. There is no answer to the question of being, God or the unthinkable. It ends in faith, or in the domain of the absurd. It also belongs to the fundamental category of existence that appears to Kierkegaard as repetition. In *What is Grounding?* Deleuze's concept of repetition is based on Kierkegaard's treatment of repetition.

2. The question is such that it contains the rule of all possible answers within itself. It tells us the principles to be used in the solution of all problems. Four principles: Identity, Sufficient reason, Indiscernibility, and Continuity can help to lead to the science of all the solutions to possible problems, according to a universal principle. This hypothesis focuses mainly on Leibniz's metaphysics of counterfactual contingency and his calculus of compossibilities.

3. Kant: the ground would have a critical conception and so distinguish between true and false problems.

I intend to focus on the second hypothesis because there Deleuze puts forward Leibniz as the philosopher who can solve all philosophical problems. The heading of this part of Deleuze's lecture is indeed called: «The question which yields a principle to solve all problems: Leibniz»[24].

According to Deleuze, Kant tried to demarcate not simply the domain of the *logical* possible, but the domain of possible experience. The transcendental conditions for demarcating possible experience are found in the categories. This transcendental logic allowed Kant to distinguish between what was immanent within and transcendent to this domain of experience. The object of empirical concepts is immanent to experience and hence testable by hypothesis and experiment, whereas the object of transcendent concepts, or the ideas go beyond any possible experience. Questions outside the domain of *possible* experience are not soluble. Deleuze makes instead an attempt to determine the conditions of *real* experience.

Salomon Maimon (1753-1800), in a critique on Kant's transcendental project can give a possible answer. He not only asks for the conditions of possible experience but also for the conditions of real experience. For Maimon you need a method of genesis that has to replace the simple method of conditioning. The genetic method would require the positing of a principle of difference. Identity may be the condition of possibility of thought in general, Maimon claimed, but it is difference that constitutes the genetic condition of the real.

Here we see the appearance of the principle of difference, which is so important in *Difference and repetition*, and which has everything to do with Leibniz. Maimon in his critique of Kant goes back to Leibniz. In *What is Grounding?* Deleuze already points at Maimon while in *Difference and Repetition* he uses the Leibnizian differential calculus for the concept of difference.

[24] G. Deleuze, *What is Grounding*, p. 86.

Maimon finds himself to be a Leibnizian. Leibniz had discovered the infinitesimal analysis, and Maimon uses the notion of the differential. A quantity smaller than any given quantity allows him to appeal to a mathematical tool and also a metaphysical concept: the theory of little perceptions. He calls his theory the 'differential of consciousness', in which the genesis is interpreted as a differential one. There are differential elements of consciousness which are the ultimate generic elements of consciousness itself, which at the same time are not given to consciousness. Maimon presents his system as a synthesis of Kant and Leibniz. He replaces the exterior duality for the distinction, within the 'I' itself, between finite consciousness and its infinitely small generic element. The discovery of the infinitesimal with Leibniz created a possibility. He discovers the mathematical tool capable of measuring the infinitely small, which then becomes the genetic principle of the finite. The finite takes on a constituent power for the infinitesimal.

Deleuze develops many of the concepts in *Difference and Repetition* to define the conditions of the real. The most important are the differential relation, singularities, multiplicities or manifolds, the virtual and the problematic, among others. They are all derived from mathematical considerations, especially from the history of the calculus.

In *What is Grounding?* Leibniz already appears as a person who solves all problems. Let us look now to Deleuze for the development of some central concepts that go back to Leibniz. In particular, we find an interesting story of principles in Deleuze's 1980 lectures about *Leibniz and the Creation of Concepts.*

4. Leibniz's Play with Principles

Leibniz wrote in Latin, French and some German and stood at the forefront of German philosophy as one of the most important thinkers in Europe (in the line of Leibniz-Kant-Hegel-Nietzsche-Heidegger). For Deleuze Leibniz is a philosopher who can give us a possible answer to the question of what philosophy is and what philosophy does.

Thought or reasoning is only capable of thinking the possible, according to Deleuze. In this sphere two statements such as A = B and A = non-B contradict each other, but they are both possible. This is how you can define contingency. Contingent is that which could also be otherwise.

For Deleuze, Leibniz's thought flow[25] begins with the principle of identity. The principle is certain, it is clear… but it is empty. 'Blue is blue', 'God is God', and 'a triangle is a triangle' are presented in the form of a reciprocal proposition. This comprises subject A, the verb 'to be', and an attribute or predicate. An

[25] https://deleuze.cla.purdue.edu/seminars/leibniz-philosophy-and-creation-concepts/lecture-01.

identical proposition is a proposition whereby the attribute or the predicate is the same as the subject.

We can now see that 'the triangle has three sides' is not the same as 'the triangle has three angles. 'The triangle has three(tri) angles' is identical and reciprocal, but this is not the case with the tree sides. We cannot imagine a triangle that does not have three sides, but we know something new in knowing that the triangle also has three sides. The three sides are included in the triangle, not as a reciprocal proposition but as a proposition of inclusion. There are propositions where the subject and the predicate are identical (triangle has three angles) and there are propositions where the predicate is included in the subject (three sides in triangle). Here Deleuze would say, Leibniz emerges.

If any analytical proposition is true then we can invert this and say that every true proposition is analytical. The identity principle gives a model of truth. If any true proposition is necessarily analytical then you get the principle of sufficient reason. Why? If you see the coherence of events then you see the reasons why something happened. Everything that happens to a subject must already be contained in the notion of the subject. Reason equals the notion of the subject insofar as the notion contains everything said with truth about this subject. Leibniz formulates this as the following:

> § 9. That each singular substance expresses the whole universe in its own manner, and that in its notion all its events are contained with all their circumstances and the whole sequence of external things[26].

Here Leibniz creates some hallucinatory concepts, and you can feel a kind of conceptual madness in Leibniz's universe. Look at Leibniz's own examples, e.g. 'Caesar crossing the Rubicon'; in this instance it is necessary for 'crossing the Rubicon' to be an attribute or a predicate of the subject Caesar; this attribute must indeed, if the proposition is true -and it is true- be contained in the notion of Caesar, not in Caesar himself.

For Deleuze, Leibniz understands the rationalist's scream. The rationalist is not someone seeking an ideal. He is not an idealist. There is only one thing that a man who believes in reason screams or cries. No matter what happens or what he observes, it has to be for a reason. But whatever you attribute with truth to any subject in the world, whether this be Caesar or any other subject, then you notice with fright that, from that moment on, you are forced to cram into the notion of the subject not only the thing that you attribute to it with truth, but the totality of the world. As Leibniz attests:

> § 13. Since the individual notion of each person includes once and for all what will ever happen to him, one sees in it the proofs a priori or reasons of the truth of each event, or why one has happened rather than the other; but these truths, although

[26] L *Discourse on Metaphysics,* § 9 p. 308.

certain, are nevertheless contingent, being grounded in the free will of God or of the creatures, whose choice has always its reasons that incline without necessitating[27].

You have first to distinguish between sufficient reason and cause. Sufficient reason expresses the relation of the thing with its own notion whereas cause expresses the relations of the thing with something else. The sufficient reason is nothing else than the thing itself. The cause of a thing is always something else. 'Everything has a cause' means that A is caused by B, B is caused by C and so on, a series of cause and effect that stretches to infinity.

Then you understand that the world is passing in each notion of the subject. In fact, crossing the Rubicon has a cause; this cause itself has multiple causes, each of which in turn has a cause. It is the whole series of the world that passes there. And moreover, crossing the Rubicon has its own effects, for roughly speaking Caesar was the beginning of the Roman Empire. The Roman Empire in its turn has its effects. We are directly answerable to these effects, those of us who are children of the Roman Empire.

From cause to cause and effect to effect, you cannot say that a particular event is encompassed in the notion of a particular subject without saying that, henceforth, the entire world is encompassed in the notion of a particular subject. So, you can say that Caesar's 'crossing of the Rubicon' extends to infinity backwards and forwards by the double interplay of causes and effects. Now we can say that not only is 'crossing the Rubicon' is included in the notion of Caesar but so too are the causes and effects of this event.

If each individual notion, if each notion of the subject expresses the totality of the world, that could mean that there is only a single subject that is a universal subject like a universal mind. And here you can see the birth of a new concept, which is also implicit in Spinoza, the concept of expression[28]. The notion of the subject expresses the totality of the world. Each of us expresses or contains the totality of the world; here the concept of the 'monad' appears, an individual substance, as an active unity spontaneously produced by its own predicates.

For Deleuze, Leibniz is creating here also a new conception of the concept, such that the concept and the individual finally becoming adequate to one another. A concept is defined by the order of generality, for a concept in its representation is applied to several things. But never had the concept been identified with the individual. Previously, an order of the concept that that referred to a generality had been distinguished from an order of the individual that referred to a singularity.

For example, 'human being' is a universal, you can define what it means; it is referring to a generality. 'Leibniz' or 'Caesar' are individual notions, individuals. Leibniz is the first to say that concepts are proper names, that concepts are individual notions. This is a result of thinking through the implications the

[27] L *Discourse on Metaphysics*, § 13 p. 310.
[28] G. Deleuze, *Spinoza: Expressionism in Philosophy*, trans. M. Joughin New York 1990.

principle of identity and the principle of sufficient reason. A further consequence is that, for Leibniz the subject, the individual notion refers to an individual substance. Therefore another new concept is needed.

Leibniz remains fixed on the individual, the single subject and to avoid that he has to pose only one subject, one substance (as in Spinoza), he makes the subject individual and singular by saying that each subject contains the totality of the world, *but from a certain point of view*. Leibniz does not mean that everything is relative, that the subject has a point of view. Indeed, he means the opposite. The point of view has a subject, the point of view constitutes the subject. Points of view are the sufficient reason for the subject. The individual notion is the point of view through which the individual expresses the world. In other words, it is not my point of view, but a point of view that is me. It is the point of view that explains the subject and not the reverse. Here begins a philosophy of 'perspectivism'.

Analysis of the point of view in projective geometry also indicates that a point of view is not subjective, but says something about mathematical truth. It says something of the objectivity of the subject. Objectivity is the point of view.

Mathematics and metaphysics are interwoven for both Leibniz and for Deleuze. It is Deleuze who reads in Leibniz that the reasons behind Leibniz's metaphysics are linked to his mathematical discoveries and inventions. We have mentioned this in the context of projective geometry, but we will see more in the mathematics of series, in differential calculus, in arithmetic and in algebra.

Leibniz's play with principles does not end here. He goes further on his way of constructing concepts that are the consequences of his first thinking of truth and sufficient reason. Each of us expresses the totality of the world, but we express most of the world *in an obscure and confused manner*.

Everything is in the individual, everything is working in the individual in the form of minute perceptions. And here comes the next connection, the next analogy to mathematics. Leibniz is one of the inventors of differential calculus, and you can see the influence of mathematical notions in his metaphysics. Infinitely minute perceptions, or unconscious perceptions are 'in me'. The totality of the world is in me in the form of unconscious perceptions. Leibniz frequently uses the metaphor of the waterdrops in the waves as little perceptions that create the sound of the waves[29]. The minute perceptions of the unconscious are like differentials of consciousness. For conscious perception, Leibniz uses the word 'apperception'.

As a result, in fact, Leibniz thus can say quite forcefully that there are not two identical individual substances, because there are no two individual substances that have the same point of view or exactly the same clear and distinct zone of expression. Here at last, Leibniz's genius completes this conception of the point of view. I express the totality of the world, but I only express clearly

[29] L *Discourse of Metaphysics* § 33 p. 325.

and distinctly a reduced portion of it, a finite portion. What I express clearly and distinctly is what relates to my body, concerns my body and affects my body.

When we look back at the universe of the possible, Adam the sinner and Adam the non-sinner are opposites, but they are not impossible or inherently contradictory in themselves. The problem is that they cannot be true in the same world. Propositions of existence (facts) are contingent, and are no necessary truth. Between the two worlds there exists a relation other than one of contradiction. Leibniz gives this relation the name 'incompossibilty': something that is not together possible.

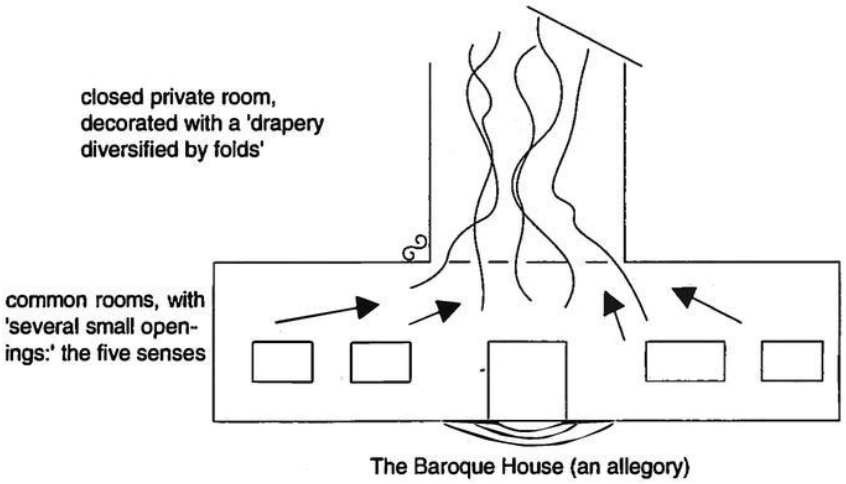
The play of the world has several aspects: it emits singularities; it puts forward infinite series that go from one singularity to another; and it invents rules of convergence and divergence according to which these series of possibilities are organized in infinite totalities (each totality being compossible, but two totalities together being incompossible with each other). It also allots the singularities of each world in one way or another in the nucleus of monads or individuals that express this world. God does not merely choose the best of all worlds – that is, the richest compossible totality in possible reality – but he also chooses the best allotment of singularities in possible individuals (whereby other allotments of singularities and other demarcations of individuals could be conceived for the same world).

The principle of indiscernibles is about essences, understood as individual complete notions. These complete notions of an individual (possible or real) expresses the totality of the world, but it expresses it precisely under a certain differential relation and around certain distinctive points which correspond to this relation[30]. Every complete notion is different from another complete notion. Discernibility says that in analyzing complete notions there will at some point be a difference between two complete notions. There is no such thing as two individuals that are indiscernible from each other; there is only one thing per concept[31]. According to Leibniz, it is very important that the comprehension of the concept of an individual or monad is actually infinite. Leibniz clearly affirms this in *On Freedom*[32]. Finite difference is determined in a monad as that part of the world that is clearly expressed, while infinitely small difference is the confused ground which underpins that clarity. In these two ways, orgiastic[33]

[30] *DR*, p. 47.
[31] L *The controversy between Leibniz and Clarke,* p. 687. 4th letter to Clarke is about indiscernibles 'An ingenious gentleman of my acquaintance, discoursing with me in the presence of Her Electoral Highness, the Princess Sophia, in the garden of Herrenhausen, thought he could find two leaves perfectly alike. The princess defied him to do it, and he ran all over the garden a long time to look for some; but it was to no purpose. Two drops of water or milk, viewed with a microscope, will appear distinguishable from each other. This is an argument against atoms, which are confuted, as well as a vacuum, by the principles of true metaphysics.
[32] L *On Freedom* p. 265, 'Only God being able to see, not the end of the analysis indeed, since there is no end'.
[33] *DR* p. 42 'When representation discovers the infinite within itself, it no longer appears as organic representation but as orgiastic representation: it discovers within itself the limits of the organized; tumult, restlessness and passion underneath apparent calm.'

representation mediates determination and makes it a concept of difference by assigning it a reason. This gives Deleuze a reason to put difference before identity.

5. The Fold



The Baroque House (an allegory)

For Deleuze, Leibniz is a philosopher of the Baroque. But Leibniz is also contemporary in the sense that the ensemble of his research on metaphysics, logic, mathematics and science can help to explain or provide insight into what we know of the world now. Leibniz, you might say, develops a philosophy that bridges the pre-Socratic philosophers, Aristotle, the Stoics and the neo-Einsteinian thinkers, and it is Deleuze who walks in his footsteps.

Leibniz has always been a powerful force in Deleuze's writing and with *The Fold* he came up with an inspiring book that aids our understanding of Leibniz's philosophy. Starting with a diagram of the monad, the book opens:

> The baroque differentiates its folds in two ways by moving along two infinities, as if infinity were composed of two stages or floors: the pleats of matter and the folds of the soul[34].

And here Deleuze is echoing what Leibniz is saying in § 61 in the *Monadology*:

> But a soul can read within itself only what it represents distinctly; it cannot all at once develop all that is enfolded within it, for this reaches to infinity[35].

[34] G. Deleuze, *The Fold: Leibniz and the Baroque*, trans. T. Conley, Minneapolis 1993.
[35] L *Monadology* p. 649.

When looking in Leibniz's *New Essays on Human Understanding*, you find the description of the diagram above. Deleuze gives a visualization of a scenario of Leibniz in *The Fold*.

The *New essays* takes the form of conversation between Philalethes, who states the views of Locke's *Essay Concerning Human Understanding* and Theophilus, who gives Leibniz's remarks:

> PHIL: The understanding is not much unlike a room wholly shut of light with only some little openings left, to let the images of the external visible things coming into such a dark room and stay there, lie so orderly as to be found upon occasion, it would very much resemble the understanding of a man.
>
> THEO: To increase the resemblance we should have to postulate that there is a screen in this dark room to receive sensitive appearances of things and that it is not uniform but is diversified by folds representing items of innate knowledge; and, what is more, that this screen or membrane being under tension, has a kind of elasticity or active force, and indeed that it acts (or reacts) in ways which are adapted both to past folds and to new ones coming from impressions of the sensitive appearances of things. This action would consist in certain vibrations or oscillations, like those we see when a cord under tension is plucked and gives off of a musical sound. For not only do we receive images and traces in the brain, but we form new ones from them when we bring 'complex ideas' to mind; and so the screen which represents our brain must be active and elastic. This analogy would explain reasonably well what goes on in the brain. As for the soul, which is a simple substance or monad: without being extended it represents these various extended masses and has perceptions of them[36]

The two levels appear in the sketch as a lower room with the five senses representing the level of matter and an upper room decorated with hanging draperies (folds) representing the level of the soul. Between the two levels there is a membrane that resonates. There are two labyrinths of the human mind, one concerning the composition of the continuum (the lower level), and the other concerning the nature of freedom (upper level), and they arise from the same source, infinity[37].

Christian Huygens developed a mathematical physics that had curvature as its subject, and as a teacher to Leibniz, he had great influence on Leibniz's mathematical development. The object of physical research are not the straight lines, but the curves. And curves are the domain of calculus. The differential calculus addressed the problematic of tangents (how to determine the tangent lines to a given curve), while the integral calculus addressed the problematic of quadrature (how to determine the area within a given curve).

[36] *RB* p. 144/45.
[37] See L *On Freedom* p. 263.

6. Leibniz and Descartes

We saw earlier the play of principles that solved an extraordinary construction of problems (Identity, sufficient reason, complete notion, point of view, body and soul).

Leibniz discovers the principle of sufficient reason in metaphysics and the concept of force in physics and curiously these two results will support each other.

Leibniz argues that it is mass times velocity squared (mv^2) which is conserved, not mass times velocity (mv) as Descartes asserted[38]. For Leibniz, it suffices to confirm that extension is not substance. He reproaches Descartes for having confused what is relative for what is absolute. What is conserved, he says, is relative speed:

> For considering only what it means narrowly and formally, that is, a change of place, motion is not something entirely real; when a number of bodies change their position with respect to each other, it is impossible, merely from a consideration of these changes, to determine to which bodies motion ought to be ascribed and which should be regarded as at rest, as I could show geometrical[39].

Extension is composed, but it is infinitely divisible. We will never find a simple thing when remaining on its level. This is the critic of atomism, which has claimed to find the simple on the level of the composed. Of course, there are simple elements, but these are dynamic unities, not material ones. Force is the real reason of extension. The metaphysical search had confirmed this, because Leibniz had found the principle of sufficient reason, which had to express itself.

There was a reduction of physics to geometry. For Descartes there is no difference between this body when immobile and when moving. Thus, the result 'mass times velocity' can only be found when the problem of movement is posed as Descartes posed it. For Leibniz, 'mass times velocity squared' means that there is force beyond extension. The moving body is different at different moments, because it contains the power of going further as the reason of its future moments.

Leibniz could only arrive at the formulation of 'mass times velocity squared' thanks to infinitesimal calculus. Rest is but an infinitely small speed, and there is a difference between the two bodies. Rest is a particular case of movement. Thus, the relation between force and future states is a differential, an integral.

In Leibniz's work a grand theory of the phenomenon is founded, though one that is very different from Kant's. What does 'beyond extension' signify? It is not as though there are forces on the one hand and extension on the other. This is necessarily posed, because force demands extension. Leibniz gives a status to symbolization and extension becomes then the expression of force. Everything

[38] L *Discourse of metaphysics* § 17 p. 314.
[39] L *Discourse of metaphysics* § 18 p. 315.

happens by mechanism, but it does not have its reason in itself. Leibniz is in the process of determining a new nature of the ground, and this is the reason. The reason for something is what expresses itself, manifests itself, and therefore we have to seek being beyond what manifests. There is the being of what manifests itself.

According to Leibniz, this world does not exist outside the monads expressing it. Each monad represents the totality of the world. Hence the monad is the law of a series. It can be described in mathematical form, in mathematical series such as '1+1/2+1/4+1/8 etc.' or the Leibnizian formula for π: 1-1/3+1/5-1/7+1/9-…= π/4.

A part of Leibniz's mathematical writings concerns all kind of sequences and series[40]. The study of series is a major part of calculus and its generalization: series can have finite structures, such as in combinatorics, or they can be infinite. For Deleuze, the mathematics of sequences and series is used to describe curves or better folds[41].

7. The Unconscious

Because Leibniz believes that there are many perceptions in any human mind that pass unnoticed, he is often credited with introducing the notion of the unconscious. In the preface of the *New Essays* we read:

> Besides, there are hundreds of indications leading us to conclude that at every moment there is in us an infinity of perceptions, unaccompanied by awareness or reflection; that is, of alterations in the soul itself, of which we are unaware because these impressions are either too minute and too numerous, or else too unvarying, so that they are not sufficiently distinctive on their own. But when they are combined with others they do nevertheless have their effect and make themselves felt, at least confusedly, within the whole[42].

As an example, he describes the roaring noise of the sea which impresses itself on us when we are standing on the shore. All the little noises of the waterdrops make themselves known only when combined confusedly with all the others in the sound of the waves. The minute or insensible perceptions are vivid in the aggregate, but confused in their parts. Those impressions, made on us by the bodies around us, involve the infinite, the connection that each body has with all the rest of the universe. These tiny perceptions make the present potent with the future and burdened with the past. An individual as singular is constituted by those insensible perceptions. The individual is characterized by the traces or expressions which the perceptions preserve from the individual's former states,

[40] *A* VII 3 is about difference, sequences and series.
[41] G. Deleuze, *The Fold: Leibniz and the Baroque*, tr. T. Conley, Minneapolis 1993, especially chapter 2, *The folds of the Soul* and chapter 4, *Sufficient Reason*.
[42] *RB*, *Preface* p. 54.

and connect with the present state. A superior mind could recognize these traces, even if the individual has no explicit memory.

Every moment there is in us an infinity of perceptions, unaccompanied by apperception or reflection. The apperception only comes from a warning after whatever interval, however small it might be. For Leibniz our conscious perceptions are always global. We perceive a whole and what we grasp through conscious perceptions are relative totalities, something compounded. There are parts that exist in a whole.

Leibniz thinks from the whole to the part. Because there are wholes, there must be parts, but the parts in the end are in the form of simple things. In this way we can understand § 2 in the *Monadology*: 'There must be simple substances, since there are compounds, for the compounded is but a collection or an aggregate of simples'[43]. Here we touch infinity because what are these parts as simples. He means that there is no indefinite, everything has to be distinguishable (principle of discernible) so the simple is a kind of actual infinity.

Leibniz understands the principle of causality in the same way. What we perceive is always an effect, so there have to be causes. These causes have to be perceived, so looking at the waterdrops and the noise of the waves you cannot say that the drops as parts make the noise of waves as a whole. The drops intervene as causes that produce an effect. In interpreting Leibniz, Deleuze will say that the cause-effect relationship and the part-whole relationship describe how our conscious perceptions bath in a flow of unconscious tiny perceptions[44].

According to Leibniz the soul has two fundamental faculties: conscious apperception that is composed of little perceptions; and appetition (appetite, desire)[45] in the form of gross appetites that are made of 'minute' appetitions. Little appetitions are vectors corresponding to tiny perceptions, and that becomes a very strange unconscious.

In the *New Essays* Leibniz describes another role that the little perceptions and minute appetites can have in a theory of motivation. What does cause us to act? Leibniz borrows a term from Locke 'uneasiness', and he compares it with the pendulum of a clock[46]. A pendulum spends no moment in rest, is always going from one side to the other. These are also the conditions or inclinations in the soul where little perceptions and minute appetitions are struggling for attention. From here you can make the move to differentials, because differentials are infinitely small, just as the little perceptions are for Leibniz. Little, minute, tiny, unsensible means for Leibniz that it moves to the infinite.

[43] L *Monadology* § 2 p. 643.
[44] https://deleuze.cla.purdue.edu/seminars/leibniz-philosophy-and-creation-concepts/lecture-03.
[45] L *Monadology* § 15 p. 644. The action of the internal principle which brings about change or the passage from one perception to another can be called appetition. It is true that appetite need not always fully attain the whole perception to which it tends, but it always attains some of it and reaches new perceptions.
[46] *RB* p. 166.

In this manner, you form a picture of a genesis of psychic life starting from the differentials of consciousness[47]. The unconscious has many links to the infinitesimal analyses. Just as there are differentials for a curve, there are differentials for consciousness. With the unconscious there opens a psycho-mathematical domain where you have to think in terms of the calculus to understand the psychic processes.

For Deleuze this is the beginning of thinking about *Anti-Oedipus*[48] a book that is a critique of Freud's 'libidinal economy' and opposes the notion of unconscious. In Deleuze's opinion there is a differential unconscious instead of a psychoanalytical unconscious.

8. Difference

Difference and Repetition is a critique on thought as representation. Deleuze published it when he was 43 and it is his magnum opus. You can read it as both an inversion and a completion of Kant's critical philosophy[49]. Deleuze reads Kant with the eyes of Heidegger, especially his text *Kant and the problem of metaphysics*. In the middle stands Leibniz with his delirium of concepts. It is in Leibniz, who in Heidegger's history is the founder of modern metaphysics, that Deleuze finds the tools for his own project of metaphysics, for his 'story'[50] of difference and repetition.

Looking at the definition of the continuum: it is the act of a difference in so far as the difference tends to disappear; continuity is a disappearing or vanishing difference. In continuity you see the differential relation. The differential relation is thus not only a relation that is external to its terms, but a relation that in a certain sense constitutes its terms. That is the meaning of *dx/dy*. It is a vanishing value of x and y, whereas a relation between x and y still exists:

> by saying that *dx* approaches to zero in relation to x, as *dy* approaches to zero in relation to *y*, but that *dy/dx* is the internal qualitative relation, expressing the universal of a function independently of its particular numerical values[51].

It gives Deleuze a mathematical model for thinking of 'difference-in-itself' and he applies this to what constitutes an idea:

[47] G. Deleuze, *The Fold: Leibniz and the Baroque*, trans. T. Conley, Minneapolis 1993, p 97.
[48] G. Deleuze *Anti-Oedipus, Capitalism and Schizophrenia*, Minneapolis 2000.
[49] D. Smith, *Essays on Deleuze*, Edinburgh 2012, p. 188. Smith focuses on this aspect of Deleuze as a kind of post-Kantian.
[50] Preface of *DR*: "A book of philosophy should be in part a very particular species of detective novel, in part a kind of science fiction."
[51] See *DR* p. 46. This is also explained in a text of Leibniz's: L *Justification of the Infinitesimal Calculus by That of Ordinary Algebra* p 545/46.

If Ideas are the differentials of thought, there is a differential calculus corresponding to each Idea, an alphabet of what it means to think. Differential calculus is not the unimaginative calculus of the utilitarian, the crude arithmetic calculus which subordinates thought to other things or to other ends, but the algebra of pure thought, the superior irony of problems themselves – the only calculus beyond good and evil[52].

Leibniz discovers in the clear, finite idea the restlessness of the infinitely small. This procedure of the infinitely small, which maintains the distinction between essences, is quite different to contradiction. You have to see this in relation to the 'complete notion' of Leibniz. A definition or the way in which Leibniz determines an individual through all the attributes it has. The individual, the monad, is for Leibniz a singularity. This determination is infinite. Deleuze gives the procedure of the infinitely small the name of 'vice-diction', to contrast it with Hegel's contra-diction. Deleuze uses even more Nietzscheans terminology to characterize Leibniz when he writes:

His conception of the Idea as an ensemble of differential relations and singular points, the manner in which he begins with the inessential and constructs essences in the form of centres of envelopment around singularities, his presentiment of divergences, his procedure of vice-diction, his approximation to an inverse ratio between the distinct and the clear, all show why the ground rumbles with greater power in the case of Leibniz, why the intoxication and giddiness are less feigned in his case, why obscurity is better understood and the Dionysian shores are closer[53].

Leibniz has encountered Dionysus at the seashore, where you hear the waves in the waterdrops or when someone who lives near a water-mill is unaware of the noise it makes.

Infinitesimals are the quantities that are closer to zero than any standard real number, but are not zero. Infinitesimals are for both Deleuze and Leibniz paradoxical means through which the finite understanding is capable of probing into the infinite. In this way, infinitesimals constitute the distinct but obscure grounds enveloped by clear but confused effects. Infinitesimals are not distinct but obscure because there is no end to the way in which you can put an infinity of points between two points. They are not empirical objects but objects of thought.

We as humans can undertake an infinite analysis thanks to the symbolism of the differential calculus. In calculus, the differential relation can be said to be a pure relation; it is a relation that persists even when its terms disappear, and it thus provides Deleuze, following Leibniz's lead, with an example of what he calls the concept of difference-in-itself. Deleuze sees in Leibniz the attempt to extent representation to infinity. The main goal of *Difference and Repetition* is to describe difference not as a relation of two identities, but the other way around, so first there is difference. For repetition it is the same. 'Repetition is

[52] *DR* pp. 182, 235.
[53] *DR* p. 264.

not generality'[54] is the first mysterious sentence to the introduction of *Difference and Repetition.* But that would be another story to tell.

9. Epilogue

In Horst Bredekamp's book *Die Fenster der Monade, Gottfried Wilhelm Leibniz' Theater der Natur und Kunst*, the author opens with an illustration by Leibniz, a drawing of a garter, with the text:

The garter belt with three folds, tying with two lobes at the top, gives a nice example of confused and distinct knowledge, as well as the action determined from confused and distinct memory[55].

You can describe how you know and how you act, but you can also give an illustration so it will be distinct at a glance. This is an example with folds, whereby he uses one of his central notions from his philosophy. Leibniz cannot look at the world without interpreting it in terms of its folds.

Bredekamp posits that Leibniz worked on the idea of a Theatre of Nature and Art, and no project moved him more in his last years of life. It was his idée force. It was not just an addition, but a new framework for his philosophy. The theatre is intended as a practice place of intuition. Leibniz envisaged the creation of a «Theatrum naturae et artis or a Kunstkammer, rarities and anatomy […] for easier learning of all things»

In '*Drôle de penser*[56] *Leibniz gives his imagination a free flight*:

The performances could be, for example, the magic lantern (so one could start), as well as flights, artificial meteorites, all kinds of optical Miracle, a representation of the sky and the stars. Comets. A globe like the one in Gottorf or Jena; fireworks, water features, unusually shaped Ships, mandrakes and other rare plants. Unusual and rare animals. The royal horse racing machine. Etc. etc.

This would be a kind of theatre! For Deleuze cinema is a collection of signs and images. The concepts of *The Movement-Image*[57] and *The Time-Image* are based on the theory of subjectivity developed in texts like *Difference and Repetition* and *The Logic of Sense*. Cinema is the place where the pleats of matter (of the body) and the folds of the soul are brought together. Cinema is always

[54] *DR* p. 1. 'Repetition and generality must be distinguished' in several ways. Every formula which implies their confusion is regrettable: for example, when we say that two things are as alike as two drops of water; or when we identify 'there is only a science of the general' with 'there is only a science of that which is repeated'. Repetition and resemblance are different in kind – extremely so**.**
[55] *AA* VI 4 B, Nr. 241, p. 1230.
[56] *AA* IV 1, Nr. 49, p. 562-568.
[57] G. Deleuze, *The Movement-Image*, tr. H. Tomlinson and R. Goleta, Minneapolis 1989.

a point of view, from *there* you see what is distinct and confused, clear and obscure. What is on the screen and what is out of the borders of the screen. You are not in the screen, but in the world of the film.

> Cinema considered as *spiritual* automaton, is reflected in its own content, its themes, situations and characters. The automaton has always had two coexistent, complementary senses, even when they were in conflict. On one hand, the great spiritual automaton indicates the highest exercise of thought, the way in which thought thinks and thinks itself in the fantastic effort of an autonomy; But, on the other hand, the automaton is also the *psychological* automaton because he is dispossessed of his own thought […] and obeys an internal impression which develops solely in visions or rudimentary actions (from the dreamer to the somnambulist, and conversely through the intermediary of hypnosis, suggestion, hallucination, obsession, etc.)[58]

What an interesting idea[59] it would be to put the imaginative forces and the multifaceted minds of Leibniz and Deleuze together to develop a philosophy of cinema that develops Deleuze's cinema theory further. To make an introduction into the world of cinema you might think of a film of Charlie Kaufman. His 'Synecdoche, New York'[60] is a sublime example of trying to make theatre in a Leibnizian way (monadological), or consider his last film, 'I'm Thinking of Ending Things'[61] with actors who can walk, like Alice (from Wonderland), out of the book on the *Logic of Sense* by Deleuze.

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[58] G. Deleuze, *The Time-Image*, tr. H. Tomlinson and R. Goleta, Minneapolis 1989 p. 263.
[59] G. W. Leibniz, De Summa Rerum, tr. G. Parkinson, Yale University, p. 105. Leibniz formulates an idea about a dialogue between Pythagoras and Descartes, who have met in the Elysian field. An idea for a work he didn't write.
[60] https://www.imdb.com/title/tt0383028/.
[61] https://www.imdb.com/title/tt7939766/?ref_=nm_flmg_wr_2.