Gilles Deleuze

Seminar on Leibniz and the Baroque — Leibniz as Baroque Philosopher

Lecture 05, 6 January 1987: Fragment -- Preformation and Epigenesis, and the Monad, the Souls, and God

Translation and Transcription, Charles J. Stivale (duration: 1:21:57)

[*The fragment starts within what Deleuze calls a "parenthesis", mid-way through the session*] [1]

Part 1

... The two words will take on an entirely unexpected meaning… [*Inaudible words*] They will undergo development in such conditions that it would have been better for another word to be employed, and one was located. [*Pause*] The other word is epigenesis [*Pause*] since epigenesis is at least opposed to preformation. Epigenesis is the development of an organism through the appearance of new characteristics, that is, characteristics that were not contained previously in any form whatsoever. [*Pause*] In the development of an organism, the principle of epigenesis is this: the development of an organism does not consist in developing previously extant parts, however small these might be, but in causing entirely new characteristics to emerge. This idea, in fact, does not come from Darwin; it's the achievement of a biologist named [Kaspar Friedrich] Wolff who is the creator of this notion of an epigenesis.[2] Going forward, evolution is the creation of these new forms; we are developed through the creation of new forms not previously existing.

As a result, everything that I would like to show in this parenthesis is that development and evolution in the seventeenth century have a meaning strictly opposed to the meaning they will take on after Wolff and Darwin, that is, in the eighteenth and nineteenth centuries, the end of the eighteenth and into the nineteenth century. That's how things often occurs for scientific notions, a complete reversal of the notion, so much so that you can constantly find the term "evolution" in the seventeenth century regarding the organism [*coughing, words barely audible*] without it taking on an evolutionist sense because evolution always consists in the development of pre-formed parts, of infinitely small parts [*coughing, words inaudible*] [*Pause*]

So I come back to Leibniz. You see, the organism contains an infinity of infinitely small organisms, that is, folded onto themselves in a thousand ways, all of this to infinity, such that Leibniz can say, but an organism never dies. It pleats its own parts to infinity; but an organism, necessarily, survives in its ashes. Why did he get mixed up in all that? You will say that it's not scientific at all. You see immediately his interest in preformation. It's because he judged that natural history could only become a science if it broke with the idea of spontaneous generation. So this is the idea that an organism can only be born from an organism. And in fact, it's the great argument of the Preformists: if there were no preformation of seeds at that point, nothing would prevent spontaneous generation. Good.

And so, here we have matter constituted through this infinity. Organic matter is constituted by this infinity of infinitely small organisms folded into themselves in every manner possible. And development comes when -- and there is no doubt a word to evoke it -- God's decrees in the world's creation – as it is quite normal -- God set in place a moment in which each seed will be called to unfold its own parts and a moment in which it will return to the folded and enveloped state. [*Pause*] Yes? It's a lovely vision. [*Pause*]

And so, we see well that, for Leibniz, a soul is always connected to an organism. Moreover, a soul never loses its body. A soul is always connected to a body. What does death mean? [*A few inaudible words*] We've see this before,[3] but clearly, we need to repeat this. At death, [Leibniz] says, it's not at all the soul is separated from the body; in the end, the soul is inseparable from the body. [*Pause*] So what happens at death? When I die, that means my organism has finished its time, that is, its time of development. All that is organic folds back to infinity, folds back to infinity. Although I might have myself cremated, the soul subsists in the ashes. So my soul hasn't left its body. It's simply that instead of being in a rapport with a developed body, it's in relation with a body infinitely pleated and enveloped onto itself. See what Leibniz had in mind that we hardly ever have in mind anymore: it's about justifying resurrection, the resurrection of bodies. For the hour will come in which, for the second time, God will call us toward the development of our organic parts, and that will be the resurrection of bodies. Leibniz tells us that this is very poorly expressed, the resurrection of bodies, since it's nothing other than the way in which God calls back our implicated organism, our enveloped organism, to a second and final development. This is a beautiful idea, but the Catholics didn't like this, [*Laughter*] they greatly criticized Leibniz, saying you're rather materialist since you thought up this tale.

But that's not all. So I would say [that] there are souls enveloped and developed, organic souls. There are souls that have been developed everywhere on the lower floor. They are infinitely disseminated in the folds of matter. See, when I die, that means that my organic soul folds itself infinitely into the pleats of matter. I fold myself infinitely into the pleats of the ashes, and there I wait, I wait calmly for God, as Leibniz says, to recall me into the great theatre. The great theatre of what? [It's] the [upper] floor above, not that all souls are called to the upper floor. All the souls, simply animal and sensitive, stay on the lower floor, either infinitely folded into the pleats of matter, or unfolded according to their infinite dream of development. Good. This is the lower floor. These are the souls that Leibniz calls sensitive souls.

But certain souls have been predestined as reasonable by God from the start of creation, endowed with reason. An infinity of souls have been created by God as reasonable souls. What does that mean? Reasonable souls are special souls. They are inseparable from an organism, and one that is folded. They too haunt the lower floor; they too haunt the lower floor. You see, there are no other words than "haunting the lower floor". But when the moment arrives, foreseen by God's decrees, when that moment comes, then their parts are not satisfied with developing themselves into a unified [*inaudible word;* ? becoming] that corresponds to the perpetuation of the species, so they climb to the upper floor.

The word that Leibniz uses having a sense then that seems to me to be taken literally, the souls predestined to be reasonable *experience an elevation*. We have to take this literally in our schema. They go from the lower floor where they existed insofar as they are folded on themselves, and they reach the upper floor toward the region of their destination. These are veritable souls that fully deserve the word *monad*, and only they truly deserve the word monad. The others are only designated as sub-monads, or inferior monads. And then, in the developed reasonable soul, for the reasonable soul and only it, to develop is to rise above, climb, to pass from one floor to the other. And so, for that reason, when you encounter the word "elevation", we almost have to take it in a kind of unique sense, and at that moment, it's those monads, reasonable souls that, as such, include the folds that link to innate notions, to innate ideas, of pre-correspondence to the upper floor. They have climbed from the lower floor to the upper floor, and to the farthest limit, it is they that constitute the upper floor. In fact, the upper floor is [*inaudible word*] since the upper floor is uniquely of monads without doors or windows, that is, of reasonable monads. [*Pause*]

And I'd like for you to sense how through this kind of natural slippage, there are also perpetually references of what we've seen concerning the mathematical side and all that. Since I am returning to my topic, what has this topic been? In the end, it has been to emphasize the inflection-inclusion relation, how to go... [*Deleuze draws on the board*] I believe that we aren't speaking about Leibniz if we don't talk about inflection. That's all I wanted to say, and it's where we will pick up the next time. We have to start off from inflection and from the basic mathematical givens, from there, downstairs, to inclusion, that is, to the discovery of the monad. That was the first important point, and it presupposes and refers to a conception, I don't know how to say it, a mathematico-logical conception of infinity. If you haven't understood during the first third of the course the necessity of the passage from inflection to inclusion, I believe that this cannot become clearer than what Leibniz says. And the second point, this time, if we don't directly take account of the infinite, this kind of face-off or expression of reversed figures of God and the monad, that is, of God and the individual notion, of God and the individual. I was telling you [that] the expression...

A student: [*Inaudible question; Deleuze's response concerns the drawing on the board which he continues to develop while answering. Thus, what he says is both lost in terms of sound quality and rather vague as regards the precise reference*.]

Deleuze: I cannot reference that here. It's outside this drawing. There is much more in the inflection-inclusion relationship than this drawing allows to be expressed. There is no reason for having a drawing that would include totally everything. You'll see that there are all sorts of drawing. For me, some drawings are ok; the other kind, well, in one sense it's not what's obvious because it's a matter of having a little intuition, you know...

If I say, what is this? Because the question is ... Henceforth if add, here I have the monad, I have the monad in referring to it in bulk, but in all that, I haven't yet seen God, and yet it is everywhere because we talk about it all the time; we constantly have to refer to God. Where will we situate it? So I'm not saying it's encompassed in the drawing provided that this would be for other constructions. We can immediately sense, for example, that this, on the upper floor, one finds a single monad, with neither doors nor windows, with its internal tapestry, and containing and including the world; it sustains an infinity of monads. You recall what includes the world, each with its own point of view. So, I believe that from one monad to the next, the folds are not the same, they are not in the same order. So in fact, the little construction upstairs is doubled infinitely.

Good, I am saying [that] the lower floor and the upper floor communicate, but all the upper floors, that is, all the monads, how would they communicate? They have neither doors, nor windows, and in their level, it remains absolutely true that there are neither doors, nor windows. But then the whole problem arises in Leibniz; problems don't stop arising. If they don't communicate, what is going to cause them to communicate? You sense this immediately: communication is going to be musical; it can only be musical. Each one sings a tune that is in harmony with the other's tune, but without knowing the other's tune. There's a splendid metaphor that he really loves to situate [things]. What he adores is a grand orchestra in which the parts would be dreamlike, each one performing its tune, Leibniz says. And in what conditions would there be a harmony between the tunes? Each monad brings forth its song. Or if you prefer, technically we could say, each monad is a melodic line.

So there is a polyphony of monads, but that would not be enough because each monad already has an infinity of melodic lines. Folds, inflections are melodic lines, and this not a metaphor. A melodic line is a sound inflection that we would define, you'll see, when we are on the topic of harmony in Leibniz. Perhaps we will understand that as a definition of a melodic line, a sound inflection. Fine. So I can already say that there is an infinity of melodies in each monad. I can almost say that a monad has a melodic characteristic, or rather, each one has some. So you see quite well, one has its little tune. What guarantees the accord of melodic lines is called *harmony*.

If I define the melodic line as sound inflection, I define harmony as the accord between melodic lines. What can guarantee the accord of melodic lines since they are unaware of each other since monad is without doors or windows? This is the problem of harmony. Where does harmony between monads come from, that is, how is it that each one referring to, including the world, they all nonetheless refer to a single and same monad and compose a single and same monad? It's obvious that the answer is to be sought on God's side, but I immediately remind you that Leibniz doesn't say, "well, it's thanks to God that [*inaudible*]". He explains how God acts; God's operations in Leibniz are solely complicated. It's certain that God is a prodigious mathematician in Leibniz, fully aware of the most modern discoveries, and Leibniz's own as well. So clearly God is a person like Leibniz.

But where does this come from? Yet again, and this is one more thing acquired for you to hold on to for next time, so what is the expression? Inclusion-inflection, the rapport between each other, you can understand already that in causing a theory of infinity to intervene. If you place yourself inside this theory of infinity, you have two situations: so a first infinity is God, but what does that mean, God? Is this infinity simply? No. It's infinity, insofar as it's supposed to constitute a unitary Being (*être Un*). Because, if I say I believe in infinity, that doesn't mean I am saying that I believe in God. When do you believe in God? You must know when you believe in God. You have to know what you believe in. You don't at all believe in God when you believe in infinity. You believe in God when you believe that infinity creates One, that is, that infinity creates a being. [*Pause*]

As a result, this is what Leibniz says quite well: the ontological proof, the proof of God's existence doesn't work if we haven't shown the condition in which infinity is likely to form a being. For if infinity doesn't form a being, infinity doesn't prove anything at all. You see, there are two levels, even of discussion: is there an infinity -- perhaps there isn't one -- and then, a second question, even assuming that there's an infinity, in order to speak of God, this infinity has to constitute a being. Under what condition? This is what Leibniz holds against Descartes, that Descartes moves much too quickly because he concludes for God's infinity, but he didn't show the condition under which infinity was able to create a being. Thus, infinity constitutes a being, a single unitary Being. In fact, I am saying that there cannot be two of them. This is the magic expression of God: infinity over 1. Therefore, I cannot say that infinity equals God, but I can say infinity over 1 equals God, if the expression has any sense.

Now, let's come to the monad, thus moving upward. It is unity. We saw its point of view, its individuality. It is the individual itself. It is the individual notion, and it envelops infinity. It's a story of inflections. It includes all the folds to infinity. Thus its expression [is] one over infinity equals the individual notion, the monad. Between the two, you recall, there is the exact rapport that in arithmetic we call the relation of a number and its inverse, a number always able to be written in the fractional form in which the denominator is equal to a multiple, 2 equals 2 over 1, 3 equals 3 over 1, etc. The resulting number is what you obtain by exchanging the numerator and denominator, that is, the inverse number of 3, that is, 1 over 3. The inverse number of God is one over infinity, meaning I can say that the monad in fact is the inverse of God.

That sometimes doesn't prevent Leibniz, in other texts, from telling us, God is *monas monadum*, that is, the monad of monads; he means the superior monad of all. In other texts, he'll suggest that God is not a point of view although it passes through all points of view. You see, there's a variance, it's not entirely the same thing. We must always choose an aggregate of texts as a scale of rigor, and I think that the most rigorous texts would be the ones in which Leibniz tries to tell us that God and the monad are in harmony, in an inverse relation, properly speaking, that is, the monad is the inverse of God. [*Pause*]

So this is some of what I wanted to tell you, [*Deleuze sits back down*] and on the importance… although this text… But here we are, it's nearly my turn to ask you certain things.[4] First, if I may dare, but you tell me sincerely if this bothers you or not, if you return another time, then I would obviously desire an intervention by you, but to come at a time we agree upon.[5] I will be fully engaged in considering the conception of singularities in Leibniz, and you sense why I am saying this, singularities, because inflection, an inflection can only be defined through a singularity that mathematicians precisely call an intrinsic singularity. I mean, if you take, let's say, a singularity, what is it? This is very important because here I am dealing with things not so good from a mathematical point of view, but he's [*Maarek*] there to correct me.

It's not difficult; a singularity: it's when, in mathematics, something happens, whatever it might be, happening to something, when an event occurs. As soon as there is an event, there's a singularity. So a singularity is the imprint of an event on a mathematical being, let's assume. And the richness of this notion of singularity, [it's] that if philosophy doesn't reach – and I don't believe that it has done so yet -- a healthy conception of singularities, healthy and rigorous, then it will increasingly lose all possible contact with mathematical work, and for this, there is a kind of common task. And fortunately, the department of mathematics at Vincennes, perhaps due to the privileged relations it has always had between philosophy and mathematics, at Saint Denis, I believe that you are greatly involved with singularities.

And what I mean is, you see, inflection, [*Deleuze again gets up and speaks at the board*] there's a singularity, and the intrinsic singularity is the point of inflection, at the point where the tangent crosses the curve. It's an intrinsic singularity. Why? Because, it is called intrinsic because it's independent from any axis of coordinates. It refers to no axis of coordinates. There is no beginning, and no *extremum*; there are no highs or lows, etc. There is no weight. There is no extrinsic determination. I'd say [that] the point of inflection is located also where, par excellence, the point of singularity is found. Good. You understand [*several inaudible words*] because then, you can have some renowned singularities that, as we've said, are *extrema*. For example, a square has four singularities; [*some inaudible words*] the four singularities, the other points, any point whatever, there creates an ordinary [point], and not a singularity, and at its four singularities, there corresponds something taking place, an event. Singularity is the name of the mathematical event. And the event is inflection; the event passes through the inflection. But there, finally, you have some singularities, but no doubt secondary singularities that imply axes of coordinates, that imply *extrema*, the determination of *extrema*, the extremities of as segment, etc.[6]

So you have all sorts of singularities. [*Deleuze retakes his seat*] The idea as departure point that I would like to adopt is that inflection presents the basic intrinsic singularity, but as we move forward, we will realize that Leibniz accedes to a theory of singularities, and especially you are already prepared to avoid confusing "singular" and "individual". The notion of "individual" is the monad; it excludes the world, so at the outside, the entire series of possible inflections. Thus we must say singularity is pre-individual. We must not confuse "singular" and "individual". "Singularity" designates the adventure or the event. The notion "individual" refers, designates the subject that provokes and undergoes the event.

What will the rapport between singularity and individual be? What is the singularity-individual rapport? This will be an essential problem for us. Nothing can be achieved other than through development of the mathematical theory of singularities. Will this have been required of Leibniz? Yes and no. Why? Because Leibniz, I believe, is the first mathematical theoretician of singularities. And on this, [*Deleuze addresses Maarek directly*] you can speak infinitely better than I. You all know that, in mathematics, there is no theory of functions without being at the same time a theory of singularities. So the theory of functions is the basis for modern mathematics. Understand that what we call a function in mathematics cannot be defined independent from singularities. So here we come to the heart of mathematics.

So almost unless... What I am asking, [*Deleuze again talks directly to Maarek*] would it be a bother for you when I reach that point... I will alert you the week before, and you can let me know... And are you familiar with Leibniz's texts? Have you seen them?

Marcel Maarek: [*He responds briefly, inaudibly*]

Deleuze: You've seen some of them? Well, then, this will be extremely valuable. So this won't bother you? In principle, I will call you the week before. Fine, there won't be any problem. Because speaking about the future course organization, I've asked [this] of someone else, someone I admire greatly as well, someone extremely competent, Isabelle Stengers -- I'm talking about her because she isn't here. I am struck by the enormous importance of a philosopher, I am not sure, perhaps American, [*NB: in fact, British*] who is no longer known today because he was eliminated by the Wittgenstein gang, someone who is one of the greatest geniuses of the twentieth century, named [Alfred North] Whitehead, who is at once a great logician, a great mathematician, a great physicist, and moreover a great philosopher. In my view, he's the last one who brings together this encyclopedic stature that comes down from Leibniz. And I'm struck both by Whitehead's absolute originality, and -- without at all suggesting he's a disciple -- by his constant interaction with Leibniz. And I even think that it's thanks to Whitehead that perhaps we can understand some things in Leibniz that, without Whitehead, might remain much more obscure for us, and that Whitehead allows us a reading of Leibniz not particularly modern -- that wouldn't be good -- but that the developments mattering to him will illuminate some... [*Deleuze does not complete the thought*] So I've asked her to come to help me on this point since she knows Whitehead quite well.

Third point: I've asked two of you, without excluding anyone else, to study the theme of harmony for the following reason that I am summing up so that everyone will understand the scope of the problem.[7] In Leibniz, harmony is a word that appears all the time; all of Leibniz's commentators take note and comment on harmony. But to my knowledge -- and I insist, only to my knowledge -- no one has undertaken the task, and this would be both an easy and difficult task, and that nonetheless seems infinitely necessary. It's that harmony has extremely different senses. For example, in mathematics, in arithmetic, there's a history of means or averages (*moyennes*) called harmonic that are distinguished from means or averages called arithmetic. And I just note that the means called "harmonic" are distinguished from the means called "arithmetic" because they [arithmetic means] essentially take into account not only numbers but also the inverse of these numbers. You see? The inverse is in the rigorous arithmetic sense, that is, transformation of numerator and denominator. So here you have the arithmetic domain.

A second domain is acoustics, when we speak of the harmonics of a sound. In this case, the harmonics of a sound refers to an arithmetic notion itself, that of primary numbers. Leibniz was obsessed with reflection on primary numbers. Why? Because he thinks it's the only way to define numbers. His idea, one we'll return to at the next meeting, is unique and fundamental for him, that a number can only be defined by the primary numbers that include it. In other words, it's decomposing, it's decomposing -- and he even gets a logical theorem out of this -- if you will, in decomposing something, analyzing something, one must find, in this something's domain, something that is the equivalent of primary numbers. This is the characteristic's purpose.

For example, if you have 6, not a primary number, if you want the definition of 6, you decompose its into primary numbers. So that would give you what? A definition of 6 – you know what a primary number is? Look it up in the *Larousse* [dictionary]. I mean, it's on purpose; you have do a bit of work sometimes, you know? I will tell you, the only definition… This is somewhat a response to Plato; if you will, Plato told us, what is 6? 6 is very odd. It's 3 + 3, but it's also 2 + 5, but it's also 5 + 1. So what is 6 ?

From this the idea of 6 comes, [that] you can decompose in multiple ways. Leibniz says, maybe; we can always decompose things in all sorts of ways, but there is only one good [way], and this is also opposed to Descartes. He's [*Leibniz*] very, very clever; he says, of course, you can do what do you want. It's always about what you want, but there is only one good way. There aren't several of them, and the only good [*way*] is decomposition into primary numbers, such that for all things, you have to find the equivalents in primary factors. So it's when you've decomposed something into primary factors that you are at least sure that the primary numbers can no longer be decomposed since they are, by definition, primary numbers, that is, only divisible by itself, not divisible by another number. Thus, whatever the number might be, you see how you are going to define it. If you can define it, well then, the primary numbers themselves cannot be defined [since] there is no point in defining primary numbers. In their domain, the domain of numbers, these are primitive elements.

So that creates for us a new definition of the domain of harmony, harmonics and primary numbers. I was talking earlier about means or averages and inverted numbers, the primary domain of harmony. The second domain of harmony [is] sounds and primary numbers. The third domain, a musical [domain], [there are] melodic lines and harmony. What is harmony's situation in relation to melodic lines? I believe that there's no point or that it's too easy to comment on harmony in Leibniz if, after saying that he uses the word in all sorts of way, to the point that in one text, in a note on a few pages, he proposes a splendid expression. He says, to exist is to harmonize. [*Interruption of the recording*] [46:27]

Part 2

… submitting any harmony whatever, being the prey of a harmony. And well, these are the three points, and in fact, in our research on Leibniz and the Baroque, these will suddenly be linked to what is a Baroque music, and especially to what is the relation of Baroque music and harmony. The emergence of harmony in the fate of music, are there correspondences with the emergence of Leibniz's philosophy, in philosophy generally?

Richard Pinhas:[8] [*Intervention about recent developments of harmony in music and in electronic technology, notably, the harmonizer*]

Deleuze: You spoke to me about this; you even explained this to me two years ago, or I don't know when; you'll take a look at this? … Moreover, this will be a Combinatory (*une combinatoire*).

Pinhas: Entirely, because even technologically, there is…

Deleuze: It's a device…

Pinhas: [Pierre] Boulez uses that in "Répons".[9]

Deleuze: Ah, the famous device, it's a harmonizer. Is that what you think?

Pinhas: Oh, yes, yes… [*Discussion of Boulez's use of the harmonizer*]

Deleuze: Nothing other than the harmonizer?

Pinhas: A harmonizer qui also has "delay" positions and pre-established chords. Not only…

Deleuze: Ah, pre-established?

Pinhas: No, rather the accords are pre-selected.

Deleuze: I understand that, but pre-established! That Boulez, he always thought that he was God. [*Laughter*] I need a diagram; you have to find a diagram for that. You will show me the diagrams. Do you have them? You haven't lost them?

Pinhas: Yes, indeed, no problem there.

Deleuze: Here's our task: the first topic will be to discuss singularities, and I will give you a call [*no doubt addressed to Maarek*]. Next week I will know a bit more in what… So, we will see. I mean, I hope we'll have time, if there aren't too many "events" … Yes?

A student: [*Inaudible question about Deleuze's earlier discussion regarding evolution and what the student understood to be "reincarnation" in Leibniz*]

Deleuze: His what?

The student (*and other who repeat the word*): Reincarnation.

Deleuze: Reincarnation? No, so you have not understood me because… What emerged from what I said was that there couldn't be any reincarnation since we never lose our organism. [Leibniz] has an admirable, adorable text where he says: the whole Orient was wrong because there is no metempsychosis; there is a meta-schematics. And meta-schematics means the stages of envelopment and development. There cannot be any metempsychosis because there cannot be a soul passing from one body to another; there cannot be a soul without a body, and there cannot be a soul passing from one body to another. You are condemned to your body; simply your body might be big and voluminous and give you all kinds of satisfactions, or your body might be so folded into itself that it lies in ashes, in the folds of matter. So then, you are completely deadened since you yourself are without any reason.

Following [Leibniz's] splendid idea, in this state of the organism completely folded in on itself, the organism grasps things, continues to perceive, but everything is a rumbling (*rumeur*); it's the state of rumbling. When your organic parts are completely folded, you are exactly in the same state in which the single thing that could give you a vague idea of your developed state; it's when you received a whack on the head, and you fall unconscious. There is no death; there are unconscious states in this person, which is marvelous. I faint, you see, I am going to faint, and this is how I am, as if I had been whacked on the head. Since, if you wait a while, it's the vampire's death. I get smaller, I get smaller, and then you no longer can see me, but I am still attached to my body, and it's really my body that is folded into itself. So there are never any reincarnations because there is no basis for reincarnations. There is no metempsychosis. I cannot move myself from one body to another, not at all. You will never be haunted by someone else's soul. That's not possible. Each one of us keeps his or her body, simply in such a state in which it will be rediscovered for a glorious moment of the bodies' return.

But you see, the bodies' return is not the same thing as the elevation. Elevation is a lay concept. It's when the souls called upon to be reasonable unfold their own parts and are henceforth called to the upper floor, on condition that they come back down when they refold their parts after having completed their lives. It's beautiful. [*A question from the same student about a text, the reference to which is inaudible*] Between the two currents? Metempsychosis and this kind of doctrine? Listen, it's not that… Listen, I would say that it's not a question for the history of philosophy because if you desire this kind of debate, it's one that, I believe, the Christians led in their opposition to transmigration, to metempsychosis. And on the other hand, it was already fashionable in the seventeenth century, greatly so, the discussion between a Christian philosopher and a Chinese philosopher. There's a treatise by Malebranche that isn't bad, precisely called *Dialogue between a Christian Philosopher and a Chinese Philosopher*. This is entirely satisfactory, for the Christian philosopher in any case. [*Laughter*] On the other hand, Leibniz had an idea; yes, Leibniz really liked these discussions between the Chinese philosophers. If he had an idea: that the Chinese were stronger than the Europeans, but that the Europeans were nonetheless weaker than Leibniz. So, [*Laughter*] the idea is that… I was telling you earlier that to undertake decompositions – but do I have time to discuss all this? I was thinking that I'd let you speak, and then… But here we are, these are good things since this will make Leibniz more familiar to you. -- He said, in order to undertake decomposition, one must not think that everything is possible; moreover, one must find a good symbolic system. Very often, you cannot decompose something because you don't possess the symbolic system.

And taking… Let's come back to the problem of numbers. Leibniz tells us something very, very unusual for the seventeenth century, that stands out for him, and that only the mathematicians of his era understood completely. But he fears so much the exchange of philosophical-mathematical ideas in the seventeenth century, it's quite funny what he says. He says, you understand, if you remain in the decimal system, our current system, there will be some very difficult things to demonstrate about numbers. For example, to demonstrate that 3 times 3 equal 9 is not easy. He adored this kind of demonstration; in the next class, we will see how he shows that 2 times 2 equals 4. He thought, in his attempt at logics and Combinatories (*combinatoires*) and characteristics, he thought that this was quite necessary, and he was correct. It's in this way that he was so modern. But he said, if you hold on to the decimal system, it's not easy.

On the other hand, in some ways, he says, the binary system, which admits only two terms, admits only two digits, 0 and 1 – it's the binary system in which you write all numbers with 0 and 1, you see? I am reminding you for those who don't recall it… You learned [this] in school, I hope. [*Deleuze returns to the board*] 0 is 0, that works fine; 1, you write 01, that is, you write 1, that still works; let's say, to connect this, you write 01. 2 in the binary system is 10. 3, you write [11]. [*Deleuze writes while speaking*] There, you remember everything. 4, you write… [*Students complete his answers*] There you are, you pass on to three terms because you've exhausted the two-term combinations. 4, you write 100; 5, you write [101]. There you are, etc., etc. You obtain the binary system. If you multiply 3 times 3, you have 11 by 11. [*Pause; Deleuze continues writing on the board while showing multiplications in the binary system*] There, with kind of multiplication and the small effort that you exert, you're remembering everything. These are things that we studied in junior high school, it seems to me. [*He continues; students help him with the multiplications*] Here you'll have 1, no problem; then 2, but what is 2? [*Answers from students*] 10. So you write 10, and I hold onto 1… Then you get 1001. [*Deleuze sits back down*]

Leibniz says, to complete the demonstration that 3 times 3 equals 9, it's much easier, and the operations are much shorter, if we do it through the binary system than using the decimal system. Fine, he showed this. It interested him greatly because he says, in the end, what's brilliant in the binary system is that the two signs are the signs of being and nothingness. He has a very beautiful text, [saying] this is how God calculated. God obviously calculated in the binary system since there are only two things, being and nothingness. It cannot calculate by 10, God. [*Laughter*] That would be absurd.

And, he says, the Chinese – in this, it's a philological text; it doesn't have a title, it was written in particular conditions. You know, Leibniz's texts are essentially divided between philosophy, mathematics, and then a whole group of texts: there are philological texts, some texts on mines. He was interested in everything, in mines! Do you know why he was interested in mines? Well, I understand him. At least, I can explain it, that's an advantage. It's because of veins and lodes; mines are inflections, the mines, he had a great passion for them. The theme about lodes, that proved he was right about all his tales of pleats of matter. Mines are the very case of the state of matter in pleats, and as a result, in all kinds of letters, Leibniz asks specialists for details about mines, how to create a silver lode, all that. Mines are in [*inaudible; a place name*], he is going to do research over there, and what interested him is how matter pleats itself. If you are a bit familiar with Descartes, you have to feel to what extent a philosophy is a very foreign [*inaudible word*], even if it deals with apparently similar problems. Leibniz's curiosity is always evident, but it twists things; there's never anything straight. Things never cease being twisted. How does one recognize a world in which everything is twisted? Must we untwist it? Descartes untwists everything. Descartes could care less about coordinates such that… Ok… Descartes thinks of only one thing: straightening. Not Leibniz, not at all; one must follow inflections; one must see where they lead me. One must… So, mines are admirable, with inflection and inclusion. You think of all that this contains to please him: inflections within rocks. That brings everything together: inflections and the monad. He's happy; he's more than happy, he is delighted. It's the very world for Leibniz that he finds in mines.

But then, the Chinese! The Chinese, he says, possess a form of calculus that no one understood given its deep mystery. I don't recall the name of this calculus anyway. [Leibniz] provided it. I don't know; perhaps we need to ask a specialist in Chinese. Oh! We have one here! [*Deleuze laughs*] Ah, but of course!

A student: [*He reminds Deleuze of a Leibniz text on Chinese*]

Deleuze: Ah, I no longer had that in mind, but, yes, yes, yes! What little I recall of Leibniz's text, we will need to ask [*inaudible, proper name*] for an explanation… it's… He operates through two sorts of signs, those that are very full and those that are dotted [*en pointillés*]. It's a calculus… and he says that missionaries up to the present have not been able to penetrate the secret of this calculus. Fine, there is still a hope…

A student: [*Inaudible intervention*]

Deleuze: Ah, really?

Another student: [*Inaudible comment*]

Deleuze: So, it's binary… It's Leibniz… Perhaps with the help of the missionaries, he says, but it's a binary calculus. And then he says, mine, ours, the binary calculus in Leibniz's life is better because the symbols of the numbers 0 and 1, for Leibniz, are infinitely more manageable than the full and disconnected lines. Ah, I am not getting into the question of who is right or wrong, but nonetheless Leibniz doesn't forget the problems of the Christians, although he isn't Catholic, but reformed. He says that we have to let our missionaries know urgently, he writes, because this could perhaps be useful for their converting the Chinese. [*Laughter*] So, they would travel there and tell the Chinese: you understand, you're right. You have found the Christic truth. Only you don't know that it's Christic; you don't know that it's Christic truth because you are working with your two lines. You have in some ways remained Cartesians. The Chinese are too Cartesian. [*Laughter*] You kept using your lines, full lines and disconnected lines. But it's not useful; if you manage to use arithmetic symbols that are truly symbols of God, 0 and 1, being and nothingness, at once you would recognize Christ's superiority over your gods. You would convert, and we would go toward the world unity that Leibniz reveals. This story is very important… You see? That creates another task for us; in fact, one would have to [*inaudible*] and the Chinese… Fine, fine, everything is good. So, your turn, ok. Your turn.

A student: [*Inaudible content*]

Deleuze: Yes, yes, yes, you are entirely correct in that, entirely correct, except that, here we are, how will Leibniz get out of this? I suppose… Your comment is very, very precise. You are a good reader. We have to assume that this canvas or *membrum* being tensed had a kind of spring or force of action, that is, the tension refers to its physics of the spring (*ressort*), that is, of elasticity. So if we understand the text, I would understand it in the following way: this doesn't mean that this canvas or *membrum* [as] being naturally tensed, [but] it means that this canvas or *membrum* when it is tensed represents the state of a spring, that is, a distended spring. So when is it tensed? It is tensed when the solicitations through tiny openings give it a shock, I assume. If not, the text here then presents a small problem. You are completely right. But it's a kind of tension that if you release it, the fold reforms itself all alone, as the spring returns to its position, you understand? Hence [we have] the idea of active force. It's because it isn't tensed that if something coming from outside attached itself to the [*inaudible*], then that tensed the fold. But notice at the same time, I am saying that there's perhaps no point. It was… We can say what we want here, but perhaps there's no point because you are telling me [that] the stretched canvas, it makes no folds. But yes it does! That can be a stretched fold! [*Laughter*] That can be a rectilinear fold. [*Students reactions*]

A student: That presumes the intervention of something from outside.

Deleuze: Yes, it's what enters from below.

The student: But we can only fold something that is stretched/tensed… [*inaudible words*] from the exterior.

Deleuze: Agreed, hence there must be the solicitations from below. Yes, because, in fact, there is a fold that falls as rectilinear, that will be a stretched fold. There is the inflection fold and there is the rectilinear fold. For example, in a Gothic sculpture, the fold is rectilinear. In Heidegger, I have the feeling that the fold is… Oh, this is too much, no. I have to review my notes. I think that it's quite true what I am trying to tell you about Leibniz, but I have a thought in mind, that the conception of this odd word in Heidegger that returns constantly, the fold… attempting to show that, after all, it's not such a bizarre notion as it appears, that it's a notion with a very, very long philosophical history, and that the Heideggerian fold, I would almost say, is a Gothic fold, [*Laughter, Deleuze as well*] it's a stretched fold, and that there are very few varieties. It's when he still didn't know how to manage the folds; he couldn't create much inflection.

A student: [*Question on Sartre*]

Deleuze: Sartre, no, he cannot, he cannot, for a good reason, because Sartre… any reinterpretation of Sartre, who never considered commenting on Heidegger, for Sartre, the idea of the fold displeases him greatly. This is very intriguing in the anecdotic relations, because [the fold] was Merleau-Ponty's passion. But if, during the lives of Merleau-Ponty and Sartre, before Merleau-Ponty's death, you consider their conversation and the point of rupture regarding the phenomenology of perception, it's quite clear. Sartre spent his time saying: subjectivity is what creates holes. The fundamental topic for Sartre is holes, it's holes. There is a full being, and there you find what he calls little traps [*lacs*] of nothingness.

So my question is not about knowing which is good or not, you understand; there are people who criticize Sartre saying, oh he understood nothing about Heidegger. This is idiotic because it would be valid only if Sartre had proposed understanding Heidegger. I believe that Sartre proposed to consider certain points in a methodology close to Heidegger's. In this matter, he was convinced, and then he was trying to have something to say, and it's not that he was right or wrong to have something to say, but well, he said it. And what he had to say moved through this dynamic of the hole. The world is like a full being, and in the world are formed, no matter how, kinds of holes, traps of non-being, that is called the *pour-soi*, that is, subjects. But it's still the hole that Sartre invokes, and when he speaks of the other (*autrui*), he has this insolent metaphor for the other, specifically, the shithole (*trou de vidange*). [*Laughter*] The Other looks at the world and – the metaphor is lovely – an Other emerges. I am there calmly watching, and then I realize that someone is looking at something other than me. Here is where my world topples, and this world that was so well organized as a function of me begins to slip away right under my nose towards the appeal of the other, and it's absolutely as if this fluid world tipped over to the other's side in order to disappear there into a shithole. Well, that reconciled Sartre's miserable tendencies (*le misérablisme de Sartre*), he always possessed that, the force of a violent metaphor, everything went there. But there are still holes and the entire theory of nothingness (*néantisation*).

On this point, Heidegger and the Heideggerians get on their high horse. They say [that] Sartre understood nothing about my thought, as Heidegger says. Ok, but once again, that's not a fair question. What does it mean, for example, if Descartes climbed out of his grave and said, Kant understood nothing about my thought? Obviously, Kant understood nothing of Descartes's thought; he had a greater task than understanding Descartes's thought. [*Laughter*] Fine, there's no point in worrying about that.

So, on the other hand, from the start Merleau-Ponty is obsessed by… He wants nothing to do with holes. It's very strange. I mean, these are concrete things, you understand, and for that reason that there's nothing to argue about. I cannot persuade Merleau-Ponty that holes are necessary if he doesn't like holes. [*Laughter*] No, this isn't the question. The questions is: what people create, it's their work. It's not about discussing, discussing. One has to tell Merleau-Ponty, fine, you don't like holes, so do something else, something else. One has to conceive of things as axiomatics. So Sartre tosses holes into his axiomatic, holes as irreducible notions. Fine, very good. But simply put, what is he going to draw from this? If you draw nothing from it within your unity, then you might as well keep your holes for yourself. If it's good, fine, you've created a lovely axiomatic.

And it's not at all that I am indifferent to what's true. I believe that there's always enough truth there depending on the richness of what one says if something is said, fine. And there you are, there's nothing to discuss. If Merleau-Ponty doesn't want any holes, let him do something else. He creates folds, and from the start, from the end of *The Phenomenology of Spirit*, he says – he doesn't seem to have a moderate position in relation to Sartre – he says, ah, I wouldn't go so far as to say that the *pour-soi* creates nothingness (*néantise*); [rather] the *pour-soi pleats* being. It doesn't create holes; it creates folds. It folds being. In other words, Merleau-Ponty is entirely faithful to Heidegger, this is obvious, and from Heidegger he retains the idea of the fold, and he thinks that Sartre follows the wrong path because he understood nothing about the importance of the fold. And once again, it wasn't up to Sartre to understand the importance of this or that since he had something else in mind. And for Merleau-Ponty, you then find an entire conception of the fold that he is going to develop finally in a manner rather distant from Heidegger's. He will take his distance from him as well. That doesn't prevent him from being infinitely closer to Heidegger than Sartre ever was, and because of this idea of the fold, that he is going to develop in a very strange way – in the idea of a chiasmus, an optical chiasmus, you know, of a crossing of folds, there's a kind of crossing, all that.

But what I would like to bring forth this year is this miniscule point, that perhaps the whole problem that is linked too much to the Heideggerian ontology, is very, very old, and that as in sculpture, we have always had folds. I mean, one doesn't create sculpture without creating folds. Whether these are folds of flesh or folds of clothing, one could say that sculpture is the art of the fold, in a certain way, why not? But it's obvious, don't get confused, it's enough to look at the fronts of churches, don't mistake a Romanesque fold from a Gothic fold. And moreover, don't mistake a Roman fold for a Greek fold. My hypothesis is all the more strengthened, that truly the fold treated for itself, the autonomy of the fold, and this is Baroque. That's what the Baroque is. The Baroque operation is a fold going to infinity. Thus it is no longer the rectilinear Gothic fold; one would have to define the Romanesque fold, and that would be very difficult, which we could if we had a specialist in sculpture. And you know, everything is yet to be done, right? We realize that things are quite wonderful because we cannot say at the same time that people are not working. They work enormously. But everything is left to be done. It would seem obvious that in sculpture, things have been undertaken about the fold in stone. That seems to be a good topic.

So I am looking for the words in order to call up some specialists, and each time, it is painful. It's quite rare [to find] specialists who know how to answer a simple question. I ask if there is… I am sure that there are great art critics who are working on the fold in sculpture.

Pinhas: [*Suggestion to Deleuze that compares what he is doing with the fold with reference to Heidegger and what he had done with duration in Bergson*]

Deleuze: Yes, yes, yes, yes, yes. Look, what strikes me, the way that someone… What does it mean to be systematic, that is, to be a philosopher? That doesn't at all mean seeking to reduce everything into a single, set idea; it doesn't mean that at all. First, this implies having so many ideas, lots of ideas, and it's tiring having lots of ideas. But it's true that it's about discovering resemblances between absolutely disparate things; it's finding that disparate things resemble each other so strangely.

So, imagine Leibniz. He is obsessed by something, for example – and here I can end on this in order… It's almost a conclusion for this interminable first part [of the course] – the veins of marble. These veins of marble pleased him greatly. If you find in a text by Descartes or Malebranche an allusion to veins of marble, on one hand, that would astound me, and on the other hand, I bet this [reference] will be anecdotal and exterior. When it's Leibniz, understand immediately that for him it's the formulation of a thousand essential ideas, that veins of marble will become a sign of four or five ideas that arouse him. Marble has veins, so what does this mean? Well, it means that there are inflections in marble, first of all. And second, it means that inflections are included in marble, and this provides him with an entire basis for great interest. Third, it means that there are pleats in matter. Veins in marble designate the pleats of matter. And fourth, when Leibniz speaks to us about innate ideas, that is, ideas that reasonable souls discover in them and that do not come from the outside, like 2 and 2 make 4, he tells us what? He says that innate ideas are in power of action (*en puissance*) in souls as figures are in power of action in the marble worked on by the sculptor. That is, veins of marble are no longer pleats of matter, but are virtual figures that are in the soul, that is, these are folds in the soul. That is, my two kinds of fold can refer to the image of veins in marble. So this is something rather obsessive. I was telling you about mines, yes, but veins of marble are even better because they cover both floors, the upper floor and the lower floor. Veins of marble prefigure the figures that can be drawn out of the marble block. This is one case. A second case: on the level of matter, they prefigure the pleats of matter. The world is fundamentally marbled. To say that the world is fundamentally marbled means that marble is not simply something in the world. It is the figure of the world. In other words, it is already this movement from inflection to inclusion. [*End of the session*] [1:21:57]

Notes

[1] On this first Tuesday of 1987, Deleuze again meets with his seminar on Leibniz and the Baroque, and no doubt, his earlier plan had been to commence the second part of the course with the new year. However, in fall 1986, the seminar had only 3 full meetings -- 28 October, 4 November, and 18 November -- before the meeting schedule was disrupted by historical events, specifically the engagement of students, and certainly supportive faculty, in protests against proposed revisions of the education system by the conservative government of Prime Minister Jacques Chirac. Consequently, while it is unclear if Deleuze had previously planned to meet with the seminar on the final Tuesday, 16 December, before Christmas break, meet he did in a session that summarized most key points previously made and presented new points to the course development. The new content of the 16 December session is of particular interest since only the second half of the 6 January session is available from the Bibliothèque Nationale archives. So, the latter points made on 16 December might help us understand where Deleuze left off before vacation and thus where he might have continued at the start of this final session of the seminar's first segment.

The transcription of this session was thus made based on the available fragmentary recording, starting with what Deleuze calls a "parenthesis" at mid-point during the session (on the distinction between preformation and epigenesis). An additional disadvantage of this session, at least in the first half of the fragment, is the microphone placement or, more accurately, Deleuze's frequent displacements to the blackboard, hence away from the microphone, resulting in a relatively poor recording in a number of sections.

[2] On epigenesis, see *The Fold* (University of Minnesota Press, 1993), pp. 9-10; *Le Pli* (Minuit, 1988), pp. 14-15.

[3] See this topic developed in the 28 October 1986 meeting.

[4] Here Deleuze speaks directly to a colleague in mathematics who, although he remains unnamed, is Marcel Maarek, identified with a last name in the 3 February 1987 sessions. Among other courses, Maarek taught logic both in mathematics and for the philosophy department at Vincennes. See Octaviana Bibliothèque numérique for archives on Vincennes, https://octaviana.fr/items/browse?collection=633.

[5] In fact, this presentation will take place in the 27 January 1987 class.

[6] Cf. chapters 2, 5, and 7 in *The Fold* for discussions on singularities.

[7] The two students are Pascale Criton and Vincent Valls who both speak during Deleuze's final seminar, 2 June 1987.

[8] Pinhas discusses recent developments of harmony in music and in electronic technology, notably the harmonizer; Pinhas returns to this topic in the 2 June 1987 discussion.

[9] This is a composition, originally from 1981, by Pierre Boulez, for a large chamber orchestra with six percussion soloists and live electronic music, with successive versions in 1982 and 1984.