Gilles Deleuze

Seminar on Spinoza: The Velocities of Thought

Lecture 10, 10 February 1981

Transcription (for Paris 8): Part 1, Yann Girard, Parts 2-3-4, Jean-Charles Jarrell; augmented transcription by Charles J. Stivale

Translation by Charles J. Stivale (duration: 2:21:22)

Part 1

... He deeply admires Rimbaud.[1] But philosophers, we tell ourselves [that] their activities consist in fleeing, that the activity of ... I don't know ... And yet, everything belies it because every time we open a great philosopher's work, we realize that the authors, first of all, speak very little about authors first, and then those of whom he speaks, it's not entirely certain that he's read them; it is not his problem.

So, if you think about it, there is nothing more comical! In the end, this idea is preposterous, that one might borrow ideas from a book. Obviously, that's what creates the subject of theses. Otherwise, there would be no theses. A thesis is showing -- at the extreme, not always -- but basically, it consists in showing from which book a particular author borrowed ideas. That's great! For example, the idea of life in Bergson's works will become, for example, "Did Bergson borrow his idea of life from Schelling or someone else?" So, as soon as we get started on this aspect, it gets strange. We are entering an aspect that is completely inconsistent. You know, I believe that books are useful for everything except, precisely, for borrowing ideas from them. I don't know what that's for. But it surely serves a purpose. You can borrow anything you want from a book, including borrowing the book itself, but you can't borrow the slightest idea. That's just not okay. A book's relation to "the idea" is something entirely different.

So, in Spinoza's case, we can always find a tradition in the philosophy of the book, oh yes, well, "it continues and goes through Spinoza", all that. But, in a sense, he didn't borrow anything, nothing, nothing, nothing. Fine, for "idea in Bergson", there is a philosopher, he has an intuition, and lets himself be taken in, trying to express it, although... This is also true of music. [*Long pause*] All this is meant to tell you that you really must read, otherwise… -- I suddenly have a dreadful suspicion, if you don't read... [*Pause*]

I did not distribute a bibliography, obviously, because I don't believe that it's absolutely necessary, but if there is someone who has a good intentions and reads the *Ethics*, and feels a little lost in book I, you can always do this -- I don't think it's good, but if you feel it's necessary, you're the one who's right -- there is a classic book, called *Spinozism*, by a historian of philosophy named Victor Delbos, which is like a sort of very rigorous statement, a summary, a detailed summary on the *Ethics*.[2] Obviously it's annoying [consulting this], I think, but if you feel the need, that's what is best to use. [*Pause*]

Our essential point will be to try to draw conclusions concerning the relationships between an ethics and an ontology. This point that we are reaching is precisely the need from an ethical point of view to analyze the conception, in Spinozism, of the individual and of individuation. And you can see the point we've reached, [*Deleuze moves a sheet of notes*] where we are now: all that we said previously leads us to distinguish something like three layers (*épaisseurs*), three layers of life, as if the individual is developed, formed upon three dimensions.

A first dimension: [the individual] has a very large number of "parts".[3] We don't know anything more! An individual has a very large number of parts. What are these parts? There, these parts don't present many problems. However, Spinoza reserves a name for them: he calls them the simplest bodies. An individual is therefore made up of a large number of parts called the simplest bodies, *corpora simplicissima*. An immediate question: but then, these simplest bodies, each considered one by one, are they individuals or not? If an individual includes a very large number of very simple body parts, are simple bodies either individuals or are they not? We'll leave that aside. So, it seems to me -- here I'm taking... -- it seems to me that, for Spinoza, a simple body, a very simple body, is not strictly speaking an individual. But an individual, however small it may be, always has a very large number of very simple bodies that make up its parts. Fine, we'll see! We'll indeed see if that's how it is for Spinoza.

In the case of bodies, and even in all cases, these parts, therefore, are really extensive parts. What are extensive parts? These are parts subject to the law -- again to speak Latin -- *partes extra partes*, that is, parts external to each other. You will tell me: "That does not apply to the body and extension". Yes and no. You may remember that extension is an attribute of substance. The attribute of substance is not divisible; extension is indivisible. Just like the other attributes: thought is indivisible.

But what's divisible are modes. The attribute is indivisible, but modes of the attribute are divisible. So, a body that is a mode of extension, the extension is not divisible. But a body that is a mode of extension is divisible. It is divisible into a very large number of parts. Any body is divisible into a very large number of parts. So, we will say the same thing about the soul: the soul is divisible into a very large number of parts. So, it's not specific to extension. Thought is indivisible, but extension also was indivisible. The soul, which is the mode of thought, is divisible into a very large number of parts, just like the body, which is the mode of extension. Fine. Here we have our first dimension of the individual, made up of a very large number of extensive parts, external to each other.

The second dimension of the individual, which answers the question: "How do the extensive parts belong to an individual?" In fact, the question arises because [if] you take any body whatsoever, you can always -- [*noise of Deleuze knocking on his table*] for example, a table -- you can take a part off if it and put back another one, of the same dimension and the same shape (*figure*). For example, a table, you can remove one leg and then put back another leg. Is it the same? To what extent is it the same and to what extent would it not be the same? If you insert taller leg, it's not the same. If you insert a leg of the same length and different color, is it the same? What does this question mean? It means: according to what reasons do any parts whatsoever belong to a given body?

This is the second dimension of the individual. The individual not only has a very large number of parts, but these parts must belong to him according to a reason. If the reason is missing, this is not among his parts; if the reason remains, these are his parts even if they change. It's that simple. Spinoza's answer: it's according to a certain relation of movement and rest, speed and slowness, that parts belong to an individual.[4] Fine, you see: the second dimension of the individual, the relation of movement and rest, the relation of speed and slowness, which characterizes this body in its difference from any other body. So, it's not the parts that define a body. It's the relation by which the parts belong to it. What does it mean, a relation of movement and rest, a relation of speed and slowness, which would characterize a body? So, each body would have a relation. A body? What is that? This is the second dimension.

Finally, the third dimension: the mode itself, the individual himself "is" a part. In fact, Spinoza says it all the time: "the essence of mode is a part of divine power (*puissance*), of the power of substance." This is curious since the power of the substance is indivisible, oh yes, but insofar as being the power of substance. But the mode is divisible. And henceforth, mode is part of the indivisible power. See, what is divided is always the mode. It's not substance. This does not prevent the mode, precisely to the extent that it is divided, from being a part of divine power. At that point, this third level, within this third dimension, I no longer say: mode has a very large number of parts. I say: a mode is "a" part. A part of what? Notice that the word "part" is obviously used in two senses: in sense 1, to have a very large number of parts; in sense 3, to be a part.[5] For in the end, I specified when I said a mode has a very large number of parts, it was indeed a matter of extensive parts, external to each other. When I say mode is a part, "part" obviously has a completely different meaning. In fact, it is a part of power. Part of "power" is not the same as an extensive part. What is a part of power exactly? An intensity. So, the third level consists in telling us: the essence of the individual is an intensity.

In what way is this interesting? No doubt, [it's] because this already eliminates two positions that had to be maintained in the history of thought, namely, it is an intensive conception of the individual which, from then on, is distinguished, on one hand, of an extensive conception, which would seek individuality in any extension whatsoever. And that is also opposed to a qualitative conception which would seek individuality, the secret of individuality, in a quality. Individuation for Spinoza is neither qualitative nor quantitative, in the sense of extensive quantity. It is intensive.

So if I try to group together the three dimensions of individuality within the same formulation, I would say: An individual is an intensive part, that is, a degree of power (*puissance*), point a; point b, insofar as this degree of power is expressed in a relation of movement and rest, speed and slowness; point c, a very large number of parts belonging to this individual, according to this relation, a very large number of extensive parts belonging to this individual, according to this relation.

Fine, you see, you, for example, each one of you, you are made up of a very large number of extensive mobile parts, in movement or in rest, for example, at a particular speed and a particular slowness, etc. What characterizes you is a set of relations of speed or rest... an aggregate of relations of movement and rest, speed and slowness, according to which these parts belong to you. Henceforth, they can change. So long as they still realize the same speed and slowness, they still belong to you. And finally, in your essence, you are an intensity. Good, this is an interesting vision.

Only, from there on, what can we say? Well, we already have a problem. I mean: every individual is composed of a very large number of parts, which are the simplest bodies. So there, immediately, we are invited to distinguish between composed bodies and simple bodies. Each body is a composed body. Okay, fine. Each body is a composed body. And from composition to composition – this is still Spinoza's idea that there is a composition of relations to infinity -- from composition to composition, we will arrive at the whole of nature. The whole of nature is an individual. The whole nature is even an individual. The whole of nature is the body composed of all bodies, themselves composed, to infinity. In fact, the whole of nature is the aggregate of all relations, of movement and rest, of speed and slowness. So, there is indeed an individual of individuals, or which is the body composed of all composed bodies.

And in fact, one can conceive of a composition step by step. If I take the Spinoza's example, the chyle and the lymph, each in their own relation, each according to its own relation composes blood. Blood, in turn, enters into composition with something else to form a larger whole. The larger whole enters into composition with something else to form an even larger whole, etc., all the way to infinity, the unity of all nature, the harmony of all nature, which is composed of all relations. Notice, then, I can go toward a body composed to infinity, a body composed of all composed bodies.

But what if I descend? What are the simplest bodies? And it's here that – to get a handle on this question, so what we must do today is almost a test (*épreuve*) -- so here in order to vary, I would like that... and of course, you have every right to leave if you find... But today, I would like us to have an extremely... a very, very technical, a very technical session today, because there is a problem here. I'd almost like to make this into a practical exercise. There is a problem that reignited things for me. But I have to take certain precautions for a thousand reasons that you will understand. And that's to say this is going to be very technical. So, if you have enough, just leave... There we are.

Things became reignited because -- I haven't talked about him yet -- but euh... a very great historian of philosophy, I believe, very... one of the greatest historians of philosophy, named Martial Gueroult, wrote a commentary, a very, very detailed commentary on the *Ethics*, published by Aubier.[6] There are three large volumes, only two of which appeared, and euh... because, in the meantime, Martial Gueroult died. So uh ... well, then, Martial Gueroult was greatly important in the history of French philosophy, I already showed you that, since he started with studies on German philosophy, on post-Kantian philosophers, that completely renewed – notably, on Fichte -- that completely renewed the state of studies of German philosophy in

France. And then he turned to the Cartesians -- to Descartes, Malebranche -- and finally Spinoza, always by applying his same method, which was a structuralist method, even before structuralism was successful. He creates a philosophy uh ... a very, very curious history of structural philosophy starting from a very simple idea: it's that, for him, "philosophical systems" were structures, strictly speaking. But once again, he did all this well before the burst of linguistic structuralism.

However, in this book, *Spinoza*, he attaches great importance, necessarily, to the Spinozist conception of the individual. And he tries, in an area that commentators had hitherto rather left aside -- they had not much considered this question of the individual in Spinoza -- he tries to introduce rigor, a very great rigor, into this consideration. There we have the exact situation; I'll develop this so that you'll understand it when I then want to take precautions.

Well, I both have extreme admiration, especially for the Gueroult's work that seems to me a very important thing. But here we are, regarding this precise point, what he says about the individual in Spinoza, there is no proposition in his commentary, however very, very precise, which seems to me to be false. And so then, something bothers me enormously, because Gueroult's knowledge (*savoir*), his erudition is an enormous thing; his thoroughness of commentary seems immense to me, all that. And at the extreme, I don't understand why I have the impression that ... that something is missing. This is not at all right. I've told you all this so that when... What I am calling a technical session, it's really in things at the level of almost physical laws, invoked by Gueroult, invoked perhaps by Spinoza himself, or those that I will invoke, mathematical and physical models that are invoked, such that if I allow myself to say all the time, for more rapidity, that Gueroult is wrong, you'll correct this yourself. That means that I'm getting confused (*je ne m'y reconnais pas*), I had another idea, a completely different idea. All that... for those who are really Spinozists, you'll consult Gueroult on this. [There is] no reason to take my word for it. You'll consult Gueroult's books, and then it will be up to you, or even to find other solutions. So, that was a precautionary warning to state what I'm able to.

There is a point on which Gueroult is obviously right, I mean, to give you a foretaste of the kind of technique I'm hoping for. Most commentators have always said -- the vast majority, almost all to my knowledge – they say that there was not so much of a problem with Spinozist physics, that it was completely Cartesian physics. Everyone recognizes that Leibniz completely challenged the principles of Cartesian physics, but it is agreed that Spinoza supposedly remained Cartesian. And this is frightening. So here, then, Gueroult is absolutely right. Gueroult is nonetheless the first -- that means something about the state of studies in the history of philosophy, when you don't pay very close attention -- Gueroult is the first to clarify a small, specific point.

Namely, it is well known that Descartes places great emphasis on the idea that something is preserved in nature, and in particular, something concerning "movement". So, considering the problems of communication of movement in the shock of bodies -- when bodies encounter each other -- Descartes insists -- and this is going to be the basis, or one of the bases of his physics -- on this: something is preserved in the communication of movement. And what is preserved in the communication of the movement? Descartes tells us: it's "mv", that is, what he calls the "quantity of movement". And the "quantity of movement" is the product of mass [multiplied] by speed -- mv, small m, small v. In his theory of bodies in book II of the *Ethics*, Spinoza tells us, "what is preserved is a certain relation of movement and rest, speed and slowness."[7] A speedy reader will say: this is another way of expressing the amount of movement "mv". In fact, "m", mass, even for Descartes, implies a resting force, "v" implies a force in movement.

So, it seems that the passage flows quite naturally from the idea that "the quantity of movement is preserved" in the shock of the bodies, and that we pass quite naturally to the idea that "the relation of movement and rest is preserved". I mean, Gueroult's strength is nonetheless in being the first to say: but after all, do people read the texts or not? Because it's obvious that this is not the same thing at all. In what way is this not at all the same thing? If I develop the Cartesian formulation, what is preserved in the shock of bodies is "mv". How is the formulation developed? I am calling two bodies that meet, a and b. -- You have to follow me closely; I'd put it on the board, but well, I don't have the strength to write it there – so, let's go on, I have my two bodies. I am calling "m", the mass of the first body; "m prime", the mass of the second body; "small v", the speed of the first body before the shock; "small v prime", the speed of the second body before the shock. I am calling "capital V", the speed of the first body after the shock; "capital V prime", the speed of the second body after the shock. Okay?

I would say the formulation, "what is preserved, it is mv", for Descartes yields the following development: mv + m prime v prime = mV + m prime V prime. You see, what is preserved between pre-shock and after-shock is "mv". In other words, what is preserved is a sum. In fact, Descartes will say it explicitly, what is preserved is a sum. And here, one doesn't have to be knowledgeable (*fort*) when you deal with these questions to see that Leibniz's criticism of Descartes, the way Leibniz will undermine, will blow up Cartesian physics, is precisely on this point. It's well known, it's renowned that Leibniz will "substitute" -- as they say in the textbooks -- for the Cartesian formula another formula, namely, he will say: No, what is preserved, it is not "mv", it is "mv^2". Only when we've said that, we've said absolutely nothing, because the interesting operation is Leibniz's need to square "v". What does that mean, to consider the power, raised to the square ["v^2"]? It's simple! It's not because of an experiment; an experience isn't... physics doesn't work like that. It's not an experiment that forces him... We don't discover v^2 in an experiment. That doesn't mean anything. In fact, he changes the nature of the quantities. For a simple reason, v^2 is always positive, already. In other words, we cannot get to v^2 if we have not substituted so-called "algebraic" quantities for so-called "scalar" quantities. So, this is a change in the register, in the quantitative coordinates themselves. This is a change of coordinates. Fine, we'll stop with this.

I'm just saying... because it's Spinoza that interests me. Spinoza tells us: "what is preserved is a certain relation of movement and rest". Fine, admire this because it's still... What can it even mean that Spinoza remains Cartesian? That's idiotic. Once again, Descartes -- here, I'm not transforming and with all the more reason, here, I'm saying something; Gueroult, this is even the only point that seems absolutely convincing in Gueroult's commentary -- that means that if I develop everything when I have just tried to develop the Cartesian formulation, by saying: [in] the Cartesian formulation, what is preserved is mv, that comes down to saying that the formula of conservation is mv + m prime v prime = mV + m prime V prime, [and] it is therefore a sum which is preserved. When someone tells me, on the contrary, "what is preserved is a relation of movement and rest", in what form can I develop it? That isn't difficult: mv / m prime v prime = mV / m prime V prime. You follow me? If you need to copy this, I don't mind; if it's not clear, I could go to the board. Would you like... wait! [*Pause*]

[*Deleuze is heard moving*] Ah ... Ah la la! ... there's no [chalk]! Damn! Nobody has a piece of chalk? Does anyone happen to have a piece of chalk in your pocket? [*Inaudible words; Deleuze has moved away from the microphone. Apparently, Georges Comtesse writes on the board, and Deleuze gives him details to enter the formulas*] No, no, no, it's before the shock, Georges… So mv + m prime v prime = mV + m prime V prime, that is, the quantity of movement before the shock = the quantity of movement after the shock. See, it's a sum. The Spinoza formulation, what is preserved, is a relation; it will be mv over m prime v prime.[8] [*Pause*] There you go. Thank you very much.

Well, there's no need to have done a lot of math to understand that you don't go from one formula to another. It's not the same! It's not the same! In other words, when Descartes says: "What is preserved is the quantity of movement", and when Spinoza says: "What is preserved is a certain relation of movement and rest", well, these are two formulas that… You will ask me: but then, where does the ambiguity come from? And the ambiguity would not be difficult to demonstrate. It's that in certain cases -- here I don't have time to develop everything -- in some special cases, you have equivalence, that is, you can switch from one [formula] to the other for certain cases, for certain exceptional cases.

Okay! At the extreme, let's admit this, just as Leibniz himself recognized that, in exceptional cases, $mv^2 = mv$. Okay, fine. And that's how Leibniz explained what he called "Descartes's errors". Descartes had chosen exceptional situations. It had prevented him from seeing v^2. In fact, that was not what prevented him from seeing v^2; it was that Descartes did not want to take algebraic quantities into account.

So, and Spinoza, it's also new! He is certainly not a great physicist that... euh, but he is absolutely not Cartesian! So there, I think that is one of the points in which Gueroult is obviously right to say: no, we never... we have never even... we've understood nothing about what he tells us about the individual, because we haven't read him, ok? We don't read. This is a good example of not reading. You will say to me: "It does not matter; this does not change anything for the comprehension of Spinozism in general." Well, just see if it doesn't change anything. But when, in fact, when you read so quickly that you don't see the difference between quantity of movement and relation of movement and rest, it can be annoying in the end when you do that frequently. There, it becomes very, very unfortunate. Fine.

This is to say that there are really problems here, that this story of the relation of movement and rest to define the individual is already a master stroke compared to Descartes since Descartes, in fact, defined the individual by mv, namely, he defined it by the mass. And understand that there, on the contrary, what is he going to do? This is very important to us since mass, a mass, even abstractly, it's a certain substantial determination when you define a body by a mass. What is a mass? A mass, in the 17th century, is very precise -- in Descartes, it is very precise – it's the permanence of a volume under various shapes, that is, the possibility that the volume remains constant for variant shapes. So, the whole Cartesian conception of bodies relies on mass. And in the formula mv, it is precisely mass that is the fundamental factor, namely, movement will account for what? For the variety of shapes. But mass is supposed to account for the identity of the volume through the variation of the shapes. In other words, it is the substantial conception of the body, and bodies are substances, bodily substance defined by the permanence of mass.

And that's why -- so we are moving forward a little – upon reflection, Spinoza could not accept such a conception, of the massive individual. He could not do so precisely because, for him, bodies are not substances. So, it was as if required, he was therefore going to be forced to define individuals by relations, not as substance. He will define an individual in the order of the relation or the relation, and not in the order of substance. So, when he tells us: "what defines an individual is a certain relation of movement and rest", we must not stop there. If you stay on the surface of things, you will say to yourself in both cases, for Descartes as for Spinoza, [that] it is still mv. But that doesn't mean anything, "it's still mv". Of course, it's still mv, mass-speed. But that’s never what defines the individual. What matters is the status of m and the status of v. And I can say that for Descartes, this is an additive status, not at all because of m + v, which would make no sense, but, moreover, because mv + m prime v prime, is a sum. The masses enter into additive relationships.

In Spinoza, individuals are relations, not substances. Henceforth, there will be no addition! There will be no sums! There will be composition of relations, or decomposition of relations. You will have mv over... And mv does not exist independently. Mv is the term, it is a "term" of a relation. A term of a relation does not exist independently of the relation. In other words, I can say that already in Leibniz -- or rather, as much as in Leibniz, in Spinoza as much as in Leibniz -- there is obviously an abandonment of scalar quantities. It's simply not going to be in the same way for Spinoza and Leibniz. There are as many criticisms of Descartes in Spinoza as in Leibniz, hence a very bizarre history. Because what is this history of Leibniz's somewhat mysterious visit to see Spinoza?

Now it happens that Spinoza, who went out very little, right, received Leibniz’s visit. It’s not clear what they said to each other. Their interview lasted… -- after all, this is as important as the meeting between two politicians; it’s even more important for thought. -- What did Leibniz say to Spinoza? Well, I ask that because, realistically, I imagine [being] faced with Spinoza... He must not have spoken a lot. Someone would come to see him, he had to wait, careful as he was. He always said, "I better not get myself into this awful situation!" Leibniz, he wasn’t all that reassuring with his mania of writing everywhere, so... [*Laughter*]

Imagine, you can imagine. There he enters Spinoza’s shop, he sits down. Spinoza is very polite; he’s very polite, Spinoza, "what does he want with me, this guy?". And Leibniz recounts his visit by saying..., he gave several versions; he was a huge liar, Leibniz, a hypocrite, right? [*Laughter*] A great philosopher, but very hypocritical, but always involved in some kind of scheme, he was always scheming. So, and then [his account] varied: when Spinoza... when there weren't too many political reactions, Leibniz said: "Ah, that Spinoza, he’s good!". And when it was going badly for Spinoza, Leibniz said: "Did I see him? You’re saying that I saw him? Oh, maybe, we crossed paths, by chance. [Don't] know him, no. You know that guy is an atheist!". It wasn't good to have Leibniz as a friend. Philosophers are like everyone else!

So, what could they have said to each other? In one of Leibniz's versions, Leibniz says: Well, I showed him that Descartes's laws concerning movement were false. Oh, there's one thing for certain: that Leibniz is indeed a much greater physicist than Spinoza. There is something else for certain as well: that before Leibniz's visit, there is no text by Spinoza that completely challenges Cartesian laws. It's also certain that, after Leibniz's visit, in a letter, Spinoza said: "All of Descartes's laws are false." He never said that before. He never said that before, in any case, with such violence. Before, he took issue with this or that law, saying: "It doesn't work, we have to correct it". He never said before, "They're all wrong." So, there is a problem.

I would rather think that... Yes, we could choose a temperate solution because, being much less a specialist on certain physics questions, in particular concerning movement, Spinoza was nevertheless very struck by the legitimate attack against Cartesianism, Leibniz's legitimate attack (*l'attaque en règle*), and that then gave him a reason to return to his conception of the relation. [*Pause*] On the relation, in what way is there something in common? [For] both, that implies speed multiplied by itself. It also involves relations/ratios. To get [speed] squared, you must have relations. It's the relation that opens you to multiplication. So, Spinoza ultimately is much closer than he himself knows to Leibniz's kind of physics.

Okay, let's assume all of that. So, it's from this point on that I would really like to comment, starting with the simplest. So then, if it is true, if it is nonetheless relatively important things concerning the status of the bodies which occur at this level, if we must not speak nonsense, or go very fast, if we must, on the contrary, go very slowly, even if it bothers you on this point, well, we have to start all over again because we may be making discoveries as important, relatively important as... for the difference, Descartes, euh... Once again, that comes down to simple discoveries: "a relation" is not the same thing as "sum". And you must think about this when you read a text.

Now we have to start from scratch: what is a simple body? A body has a very large number of bodies, euh, of parts. A body has a very large number of parts which are called simple bodies. These simple bodies belong to the composed body, according to a certain relation. This is absolutely not Cartesian. Fine, we can now move on (*on peut s'en tirer*), and from this point, I can no longer follow, really, I can no longer follow Gueroult's commentary in the slightest. But once again, it seems very curious to me. I mean, it's almost up to you to [read it]. This is what I would like to tell you today. Why? Well, these simple bodies, in book II, Spinoza defines them, and he says this: "They are distinguished by movement and rest, by speed and slowness"; "These very simple bodies are distinguished by movement and rest, by speed and slowness".[9] Implied here is, "and even they are distinguished only in that way." The simplest bodies don't have between them ... [*Interruption of the session*] [46:43]

Part 2

... [the simplest bodies]. Spinoza tells us more, but that doesn't change anything. The distinction between simple bodies between them is: speed and slowness, movement and rest, full stop, that's it. It’s even in this way that they are very simple. For how do you recognize composed bodies? It’s that they are distinguished by and through other aspects. What are these other aspects? To start with the simplest aspects, they are distinguished by shape (*figure*) and by magnitude (*grandeur*). The simplest bodies are distinguished only by movement and rest, slowness and speed. This is what I would like for us to reflect on. Because I am presenting -- there, it would perhaps be necessary to study cases; I would like to give you all the elements -- I am presenting Gueroult's comment.

Gueroult tells us, in volume II of his *Spinoza*, which is therefore literally a commentary on the *Ethics*, he tells us: "no doubt, they are only distinguished by movement and rest" -- there, he agrees since it is the letter of the text --, "that does not prevent them from having different shapes and magnitude". [*Pause*] Fine. Why does he say that? Because Spinoza doesn't say it; he does not say the opposite. Gueroult means, be careful, these very simple bodies are only distinguished by movement and rest, but that does not mean that they have the same shape and the same magnitude. This means at most that their differences in shape and magnitude are not useful, are not operative at the level of very simple bodies. They will only gain importance in relation to composed bodies. But they cannot, says Gueroult, they cannot have the same shape and the same magnitude.

And why, according to Gueroult, can they not have the same shape and the same magnitude? Here Gueroult’s argument is very strange, because he tells us -- I am giving you Gueroult’s reasoning before telling you everything that he already finds in this --, he tells us in fact, if they didn't have the same shape and same ... if they didn't ... -- no, sorry, uh -- if they didn't have different shapes and magnitudes, necessarily they would then have the same magnitude and even shape. If they did not have distinct shapes and magnitudes, they would therefore have the same shape and same magnitude, says Gueroult. You understand? Right away, something jumps in my head; I say to myself: but why does he say that? Isn't there a third possibility? If bodies are not distinguished by shape and magnitude, does that mean that they have the same shape and same magnitude from then on, or does that mean that they have neither l neither shape nor magnitude? Why eliminate this possibility? Why pretend that this possibility is impossible? For an obvious reason! Someone will tell me: a body which has neither shape nor magnitude is not a body. I really don’t know.

Let’s hold on. I’m just saying: there is a third possibility that Gueroult moves past completely, it seems to me. He considers, he believes completely certain – here, he is anticipating something in Spinoza -- that any body, whatever it is, whether simple or composed, necessarily has a shape and a magnitude, and at that point, in fact, if a body, whatever it is, even a simple body, has shape and magnitude, well, at that point, if it does not have shapes and magnitude distinct from the other, this is because all have the same magnitude and same shape. I am saying: no, that doesn’t work, because so long as I haven’t been shown that it’s contradictory for a body to be without shape and without magnitude, there is another possibility, namely: that simple bodies, and only simple bodies, have neither magnitude nor shape. At that point, we must take literally the Spinozist idea "simple bodies are distinguished only by movement and rest, speed and slowness"; they are distinguished only in that way for a simple reason: that they have neither magnitude nor shape. But there's a difficulty for my side, if you will, specifically: what would bodies without magnitude or shape possibly be?

But finally, I seem to be treating Gueroult in my turn very badly, that is, as if he had not read the texts, because why does Gueroult tell us: "although the simplest bodies are not distinguished in that way, they nevertheless have distinct magnitude and shapes"? Well, he tells us this by invoking a Spinoza text. And you will see that, at this level, I am presenting this in detail because it is -- even if it takes time, but that does not matter -- it is... Here is the text: "Definition": -- I am reading slowly -- "When some bodies of the same magnitude or different magnitudes ... When some bodies of the same magnitude or different magnitudes are under pressure from other bodies which keeps them applied to each other," etc., etc., "When some bodies of the same magnitude or different magnitudes are under pressure from other bodies which keeps them applied to each other". Next axiom: "The larger or smaller are the surfaces, the areas according to which the parts of an individual or of a composed body are applied to each other..." See what Spinoza is telling us, I am holding onto this: the parts of a composed body apply to each other according to larger or smaller surfaces. And the parts of a composed body are simple bodies. So, simple bodies are applied to each other according to larger or smaller surfaces. I tell myself, this seems, in fact, to support Descartes, sorry, to support Gueroult. See, the parts of a composed body – [Spinoza] has said nothing; first, he dealt with simple bodies. He said, "they are distinguished only by speed and slowness, movement and rest." Fine.

Then, he studies composed bodies, and he tells us "the parts of composed bodies" -- that is, simple bodies -- "apply themselves to one another through larger or smaller surfaces", "The larger or smaller are the areas according to which the parts of an individual or of a composed body are applied [to each other]..." So how? [It's] at [this] point that there is a commentator, another commentator than Gueroult, who says that there is a small… -- he's English, so he uses an expression, one that's very pretty -- a little inconsistency, a little inconsistency in Spinoza. Gueroult answers: not at all, [no] inconsistency; [while] undoubtedly simple bodies are distinguished only by movement and rest, they have nonetheless distinct magnitudes and shapes, simply these separate magnitudes and shapes will develop their effect only at the level of composed bodies. You understand? Here we are, it's very odd that... So, we have the choice, how to get out of this? Or else to say: no, we must respect the letter of the text, [that] simple bodies are distinguished only by movement and rest, that is, they have neither shape nor magnitude; and there would be a little inconsistency, as the other [commentator] said. Or else we must say, like Gueroult, "Ah well yes, simple bodies indeed have a distinct shape and magnitude, but ..."

Well, that's very weird. It's all the more bizarre since... Okay then, so, it seems to me that this is what we must be looking for. What is this? This status... Simple bodies... My question is exactly this: I bet that this [matter] must be taken literally, but that, furthermore, there is no inconsistency. That is, what I would like to show is how we must, at the same time, maintain that the simplest bodies have neither magnitude nor shape and that, nevertheless, they apply themselves onto each other, or to one another, through larger or smaller areas. Which means that these are obviously not their own areas; they don't have any. So, what would this be?

So then, I am almost going back to the starting point, when Spinoza tells us: a body has a very large number of parts, a composed body has a very large number of parts, "*plurime partes*"; what does "a very large number" mean? I'll tell you my idea right away because it's childish in a way, but it seems to me that it changes everything. For me, if we take literally "*plurime partes*", "a very large number of parts", that already means that there is a formulation that is nonsensical. The nonsensical one is each simple body, each simple body, I mean, "a very large number of parts," that means, in fact, that any assignable number is exceeded. This is the meaning of "*plurime*", "*plurime partes*". A very large number, in fact, means: "which exceeds any assignable number". By what right do I say that, without forcing [the text]? Because this is common in the seventeenth century. Namely, the seventeenth century is full of thinking about what? Magnitudes which cannot be expressed by numbers, namely, geometric magnitudes, geometric magnitudes which cannot be expressed by numbers.

Okay, what does that mean? I am saying, in other words, I am saying [that] simple bodies proceed by infinities. It's very simple; what I mean really is a very, very simple thing. Simple bodies proceed by infinities. But if that's true, think about the formulation... It seems to me that this will provide us with a solution. Simple bodies will ... -- [*Deleuze speaks a student*] You can ask this later, because if I lose my... -- Simple bodies proceed by infinities, that means: you cannot speak about "a simple body", except by abstraction, an abstraction devoid of all reason. The expression "a simple body" is meaningless. And it's by assuming the legitimacy of the expression "a simple body" that Gueroult concludes: if we can speak of a simple body, the simple body must indeed have shape and magnitude. "Simple bodies proceed by infinities" means sufficiently that we cannot speak of a simple body. You can never speak of anything but an infinity of simple bodies. As a result, what is shape and magnitude? It is not a particular simple body; it's a particular infinity of simple bodies. Yes, here, yes, okay. A particular infinity of simple bodies has a shape and a magnitude, [but] careful: more or less large... What does that mean? An infinity of simple bodies has a more or less large shape, what does that mean? But then, how is it more or less large? If it's still an infinity of simple bodies... But infinity is greater than any quantity, so how does this ... [*Deleuze does not finish*]

Well here we are, it's very simple: suddenly, we are in the process of, yes, making progress. Okay, an infinity is always greater than any number, but, Spinoza says, and it is undoubtedly the point in geometry to which he is most attached, it's geometry that teaches us that there are double infinities, triples infinities, etc., many, many others. In other words, it's geometry which imposes on us the idea of relation, of quantitative relation between infinities, to the point that we can speak of a double infinity of another, and of half an infinity of another. Any infinity is irreducible to numbers, that Spinoza will always maintain, [as] he is a geometrist. What does that mean? [It means] that for him, the reality of mathematics is within geometry, that arithmetic and algebra are only auxiliaries, [are] only means of expression, and indeed, these are extremely ambiguous means of expression.

In the history of mathematics, there has always been a geometrist current, against arithmetist currents, against algebrist currents. Furthermore, the whole history of mathematics is like philosophy: mathematics is very, very complicated in this history. There is as at the origin of mathematics, as far back as one can go, if one creates, when one creates the history of mathematics, one sees two currents very clearly. We see a current that we call, roughly, the Greek current, and the Greek current has always been, so far as they go, however, into the development of the study of the number -- and you will see why they go quite far -- so far as the Greeks went in the development of the number, their conception of mathematics is fundamentally geometrist, specifically: the number is subordinate. The number is subordinate to magnitude, and magnitude is geometric. And all Greek mathematics is based on this.

Far from stifling the number, this is very important; it directs the number towards what? What is the subordination of the number to geometric magnitude? This opens up a kind of fantastic horizon for mathematics, which is what? That numbers have no value in themselves; they have value in relation to one or another domain of magnitude. Finally, the domains of magnitude need, they are expressed through number systems, but there is no independence of the number system. It's not the number that determines magnitude; it is magnitude that determines the number. In other words, numbers are always local numbers. Numbers, number systems are always assigned to one or another type of magnitude. [This is] the primacy of magnitude over number. If you want to understand something, for example, in the problems of infinity in mathematics, you have to start from very, very simple things like that. The primacy of magnitude over number, henceforth the local character of the number -- I call "local character" the dependence of the number compared to a particular domain of magnitude -- is fundamental.

And in fact, think about what one can say, for example, about numbers in this regard -- I'm trying to inflate this thesis a little. Numbers... How do numbers develop? It's very interesting when you look at the history of numbers, and the multiplication, proliferation of number systems. When you look at this -- oh, not up close, eh? --, you see what? That the number has always grown in order to respond to problems posed to it -- not "always", I take back my "always" – [that] the number has often grown to respond to problems posed to it by heterogeneous magnitudes, to numbers. For example, how did the domain of fractional numbers manage to be formed, which is a domain of numbers? How did another number system manage to get developed, the system of irrationals, of irrational numbers? [It's] not complicated. Each time, we could say, that would be the geometrist law of the number, each time that geometry presented us, imposed on us a magnitude which could not be expressed in the previous number system.

And what are the last extraordinarily complex numbers of mathematics that are formed at the end of the 19th and the beginning of the 20th century? It is when mathematics collides with something very bizarre that belongs to the line, namely, what they will call, what mathematicians will call the power of the continuous. If you will, I mean a very simple thing so you might then understand: a fraction, what is it? It's not a number, a fraction; it's absurd, it's not a number. You write 1/3, a fraction; it's not a number, by definition. It will become a number when you have fractions. You put yourself in front of your series, there, of whole numbers, natural numbers, whatever you want, and you see a mathematician writing 1/3. It's ineptitude, it's a bit of nonsense, 1/3. 1/3 is not a number, and why? Well, in your head, write 1/3 = x. There is no number, there is no x which multiplied by 3 equals 1. 1/3 would be a number if you could write 1/3 = x. You cannot write 1/3 = x since there is no x, there is no number which multiplied by 3 equals 1. Do you follow me? So a fraction is obviously not a number; it's a complex of numbers that you arbitrarily decide to treat as a number, that is, to which you arbitrarily decide to apply laws -- of associativity, etc. etc. -- of the number. It’s not a number.

An irrational number is not a number either. So, I would say, all the developments of the number, and the number, would never have been developed except, I would say -- from a certain point of view --, I would say, that numbers and the number systems are never only symbolic treatments, symbolic ways of dealing, of dealing with what? Of dealing with magnitudes irreducible to numbers. So there, you are constructing number complexes, but you see that number complexes -- or complex numbers, it comes down to the same thing -- number complexes are eminently relative to the types of magnitudes irreducible to numbers that geometry imposes on you. So, the primacy of magnitude over number is a fundamental element. In the 20th century, a great mathematician logician named [Louis] Couturat, in a book titled *De l'Infini mathématique* (1896), further developed this thesis, which he would come back to a few years later, because Couturat’s story is very curious. And Couturat, in his book *De l'Infini mathématique,* based his entire thesis on precisely the primacy of magnitude over number. And, therefore, the infinite seemed to us geometric reality itself, and number is always subject to the discovery not only of magnitude, but of the infinite in magnitude. Fine. But there is another mathematical tradition.

Georges Comtesse: In Greek mathematics, on the point that you raise, perhaps in Greek mathematics, there was this problem of the subordination of the number to geometric magnitude which causes crises, for example, the impossibility of an exact measure of the diagonal of a perfect square [Deleuze: yes], the crisis caused by Philolaus in Pythagoras’s school, for example. So there, at the level of mathematics, of mathematicians, there is effectively this subordination of the number to geometric magnitude and the crises that this can cause, the mutations that it can cause from there. Only, in Plato's philosophy, for example, there is a reversal of this position of the number which is subordinate to geometric magnitude, because Plato, when he says that... finally, when there is a crisis, there must necessarily be a square, and for there to be a square, there must necessarily be straight lines, and for there to be straight lines, there must be points, and how does one define a point except by the intersection of two lines, but how does one say that a point is the intersection of two lines if we do not already have the number 1? So, arithmetic must be first in relation to any geometric magnitude. This is a problem from Plato, and Plato adds another one concerning the language of mathematicians: why do you say 1, finally? Why 1, before saying a, a point; it goes even further. So, this is where he introduces the problem of the hypothetical, and the anhypothetical... [Deleuze: I'll tell you ...] Then, if it is true that in Greek mathematical discourse, there is this subordination, and again, we would have to ask the question about the curious number theory in Pythagoras, it’s a very mysterious theory... Then, if there is, in Greek mathematics in any case, a subordination of arithmetic to geometrical magnitude, perhaps there is an aporia of Greek mathematics in Plato's philosophy at the level, precisely, not only of the reversal of this perspective, but the very aporia of thought that there would be a first number in a series, which will then be said to be natural, and which would be 1.

Deleuze: Yeah... It's related. [*Deleuze recognizes another student*] What do you have to say? Then go ahead…

Another student: [*Inaudible*]

Deleuze: Yes, that's absolutely right, that Spinoza is deeply Euclidean, and that we can define Euclid -- then here, Comtesse himself would agree, taking into account what he just said --, that Euclid could be defined by a subordination, not generally of number to magnitude once again, but of number systems -- for there are never only number systems from this point of view, number systems -- in the domains of magnitudes, where Spinoza has kept this absolute geometrism. So, in order to respond somewhat to these two remarks, I would say that, yes ... what's going on? In fact, when Comtesse says "be careful, there's Plato..." But Plato, you understand...

The same student: [*Inaudible*]

Deleuze: Yeah, yeah... I may have something else... But, in fact, what you said that's important, it seems to me, is that this refers to one of Euclid's points, not generally in Euclid, but what all Greek mathematicians have nonetheless considered to be Euclid's high point, namely the theory of ratios (*relations*) and proportions. And it's at the level of a geometric theory of proportions and ratios that this subordination of number is asserted. There, this would be a completely Spinozist point.

As for the question, then, of the infinite, we place it... We should first look at this very special status of the theory of ratios in Euclid. What I mean, here for the moment, concerns what Comtesse just said: "careful, there's Plato; it's much more complicated in Greek history". It's much more complicated, why? Because, as far as we can understand, I would say... This is a pole of geometry, and it was really the great tradition of Greek geometry, and I believe that... the Greeks won't budge from this tradition.

But there is another tradition. To have only short-distance communications, but also at very long distances, they didn't have to wait on our era for there to be such communications. There is a tradition that is called, in the end, that historians of mathematics call, at the other pole of the Greek tradition, the Hindu-Arab tradition. And this Hindu-Arab tradition is no less fundamental. And it consists, which is its power move (*coup de force*) after its creation, not a power move, but that's how they did their work... Everything happens as if, if you will, there was this kind of differentiation: well, yes, in Greece, it moves this way; in India, it moves that way! On the contrary, it is the independence and the legislative character of the number in relation to magnitude. And the birth certificate of algebra, which precisely is like the expression of this conception of the number independent of the magnitude, in such a way that's what will determine and regulate and dictate to the relation of magnitude, this will explain practically, for example, the role of Arab thought in the formation of algebra, and there you have an entire arithmetical-algebraic current.

And very quickly, in Greece itself, the so-called "oriental" currents, the so-called "Indian", "Hindu" currents, and the Greek geometric current confront each other. And precisely, and in this way, Comtesse's comments are quite correct. Pythagorism, with its extremely mysterious character for us, -- because it's quite complicated, and many texts are missing --, Pythagorism indeed seems to be the kind of fundamental first encounter between an Indian conception and a Greek conception of mathematics. So here, then, a story plays out, a very, very lively story plays out which, nonetheless, I would say… I don't know, here, what you think about it, Comtesse, but I would still be more cautious that you, because what the Pythagoreans call number, even when it's reduced to a system of points, they call it number, and what is the exact relation between number and shape is something that's very... Or number and magnitude in Pythagoras, this would be, it seems to me... Then there... certainly, in any case, that really is way beyond me.

I am just pointing out that when, in the latter, in what is called the later philosophy by Plato, we are sure that, at the end of his life, Plato developed a theory that we know by the name, roughly, "ideal number theory". What are ideal numbers in Plato? We have no direct text. We know that this became increasingly important in the Platonic dialectic. There is no direct text on these ideal numbers, no text from Plato. We know this later theory by Plato through Aristotle. And for Plato, these ideal numbers are, according to Aristotle's testimony, complementary – so, in what order? in what sense? what is this? -- ideal shapes. In some ways, these are sort of meta-arithmetic numbers, beyond arithmetic, which do not have the same law of generation as arithmetic numbers, and in correlation with meta-geometric shapes, that is, the shapes which do not have, which are not justifiable, or which do not refer to the possibility of a drawing (*tracé*) in space.

So, at this level, where really, I suppose, the two main currents meet, the algebraic current and the geometrical current, what is the place of ideal numbers, ideal shapes, etc.? How precisely here did they move away, at that level, did they move away from mathematics properly speaking, since Plato makes it the object of his dialectic, his final dialectic, his dialectic in his later philosophy? And he completely distinguishes between the mathematical movement and the dialectical movement, so these higher numbers, which come from Indian tradition, cannot be defined simply arithmetically; they are defined dialectically, independently of an arithmetic genesis, but by a kind of dialectical mode of constitution.

So I am just making it clear with regard to Comtesse's intervention that quite evidently, it seems to me [that] it's true, it's true that, at the level of Greece, it's much more complicated than a simple geometrist current, but that the geometrist current and the algebrist current coming from India encounter each other on a level which, finally, moves beyond geometry, but also moves beyond arithmetic. I think that's going to be a very, very fundamental moment in the history of... [*Deleuze doesn't finish*]

But then, let's go back to the history of Euclidean geometry. For the moment, I have only reached… It's that Spinoza, on his own behalf, here, I believe, there is no problem with his works. He only retains, for questions – go ahead, try figuring out why exactly -- but it turns out that really, he is pure geometrist.

I was talking about Couturat; it's weird, you see that even these changes are changes that must be evaluated. So, a mathematician like Couturat, in my recall of *De l'infini mathématique*, it's a book that appeared around 1905 [*in fact, 1896*], and afterwards, he wrote *Les Principes des* *mathématiques* around 1900 [*1905*], I don't know what, 1911 or 1912, I suppose, and there he changed completely. Under the influence of a... finally, an arithmetician, a logician, an algebraist, namely, under the influence of [Bertrand] Russell, he denounces his book on mathematical infinity, and he says that he renounces the principle of the primacy of magnitude over number. It's like he's going from pole to pole, and he renovates entirely his theory of mathematics. And I don't know, I'm not sure he was right; you can't necessarily say that he was right. I'm not sure that it wasn't the first book that went the furthest; we don't know, we don't know well.

In any case, what do I mean here? I mean, understand, between us, when Spinoza tells us, "Each composed body has a very large number of simple bodies as parts", I am saying: that means an infinity of parts. Why? Because simple bodies necessarily exist as infinities. Only, simple bodies, you remember, belong to a composed body only through a relation that expresses the composed body. They belong to a composed body only through a relation of movement and rest, which characterizes the composed body. Fine. Henceforth, you now possess everything. A relation of movement and rest, -- grant me this -- we do not yet understand clearly what this means, but it's not very complicated. It can be double that of another. [*Pause*] If double, or half, is the relation/ratio of movement and rest, the relation/ratio of movement and rest that characterizes the body, small a, is double the ratio of movement and rest that characterizes the body, small b, it's very simple; I can write: mv = 2 x m prime v prime. That means: the relation/ratio of movement and rest is double. Fine.

What would I say if I found myself faced with this simple case: the relation/ratio of movement and rest of one body is double that of another body? I would say: each of the two bodies has an infinity of parts, of simple bodies. But: the infinity of one is double the infinity of the other. It's very simple. In other words, it's an infinity of magnitude, not of number. It's an infinity of magnitude, not of number, what does that mean? Magnitude, however, is not infinite. The mv relation is not infinite. Hence, the importance of Spinoza's example in letter XII [to Louis Meyer].[10] You may remember, since we talked a little bit about that.

In letter XII, Spinoza considers two non-concentric circles, one inside the other and non-concentric. And he said, "Take the space between the two circles." We then take a simplified example, precisely the one that, euh, that Spinoza did not want because, given the goal he had in this letter, he needed a more complex example. But I'm just saying: take a circle and consider the diameters. There is an infinity of diameters, since from any point on the circumference, you can develop a diameter, namely the line that unites the point of the circumference, a point of any circumference, in the center. A circle therefore has an infinity of diameters. If you take a semi-circle – Spinoza's example is as simple as that --, if you take a semi-circle, it has an infinity of diameters too, since you have an infinity of possible points on the half circumference as much as on the entire circumference. Henceforth, you will indeed speak of an infinity double that of another, since you will say that in a semicircle, there is an infinity of diameters as much as in the whole circle, but that this infinity is half that of the entire circle. In other words, here you have defined an infinity which is double or half, as a function of what? As a function of the space occupied by a shape, notably, the entire circumference or the half of that circumference. You have only to transpose to the level of relations/ratios. You consider two bodies: one has a characteristic relation/ratio that is double the other, therefore both, like all bodies, all bodies have an infinity of parts. And in one case, it's an infinity which is double that of the other case. You understand what this means: "simple bodies necessarily proceed through infinities".

Henceforth, I have an answer, it seems to me, to my problem there concerning Gueroult. How can Spinoza say: "simple bodies apply themselves according to surfaces that are more or less large"? That doesn't mean at all that each surface has a magnitude since, once again, they have no magnitude. Why are simple bodies -- suddenly, now, I don't know, we're almost in a state, I hope, to understand everything --, why don't simple bodies have magnitude? Because when I was saying they proceed through infinities, what did that mean? It meant precisely: what is it that proceeds through infinity? It is not just anything that proceeds through infinity. I mean, what is it having such a nature that it can only proceed through infinity, if that exists? Well, of course, there is only one thing, that is, infinitely minute terms. Infinitely minute terms can only proceed through infinities. In other words, an infinitely minute [term], again, is a strictly meaningless formulation. [*Interruption of the recording*] [93: 38]

Part 3

It's like you say a square circle; there's a contradiction. You cannot extract an infinitely minute from the infinite set of which it is a part. In other words, and the 17th century understood that wonderfully, it seems to me, and that's where I would like to arrive; that's why I've gone through all these rather harsh detours. That's what the 17th century knew and that we -- I don't mean we're wrong -- that we don't know anymore and don't want anymore. Why do we no longer want that, we will have to ask ourselves. It's odd, but for the 17th century, all the stupidities that are spoken about their conception of infinitesimal calculus would no longer be said if people were even sensitive to this very simple thing. They are accused of having believed in the infinitely minute. They didn't believe in the infinitely minute; that idiotic, that's completely idiotic. They didn't believe in the infinitely minute any more than something else. They believed that the infinitely minute proceeded by infinite sets, by infinite collections. That's the only way I can believe in the infinitely minute: if I believe in the infinitely minute, I necessarily believe in infinite collections.

We act as if they believed that infinite collections had an end (*terme*), which was infinitely minute. They never believed that; it's even contradictory. An infinitely minute is not an end since we can't get there, since there is no end. In infinity analysis, we pretend there is an end to infinity. But this is completely grotesque. In infinity analysis, there is no end to infinity since it's infinity. There are simply infinitely minute ones proceeding by infinite collections. If I say, "Ah, but, [I] must reach the infinitely minute," not at all; [I] must not reach the infinitely minute. I must reach the infinite set of infinitely minute. And the infinite set of infinitely minute is not at all infinitely minute. You will not extract the infinitely minute from their infinite set, to the point that for someone from the 17th century, or even already from the Renaissance, there is absolutely nothing bizarre about saying, "well yes, each thing is an infinite set of infinitely minute, obviously...". This is a very odd way of thinking, I mean, "very odd", both, at the same time, which goes without saying.

Why is it very odd? I mean, here it is: Spinoza, I'm trying to seize what we can keep here for Spinoza directly. Spinoza tells us, "the simplest bodies have neither magnitude nor shape", obviously, since they are infinitely minute, and an infinitely minute has no magnitude or shape. If you give it a magnitude or a shape, you make it finite. You make it finite. An infinitely minute has neither magnitude nor shape, it goes without saying. An infinitely minute does not exist independently of the infinite collection of which it is a part. In other words, the infinitely minute are elements, they correspond to expression because it is the best, it seems to me, and the infinitely minute are non-formed elements. They have no form. These are informal elements, as we say today. They are distinguished by speed and slowness, and why? You must already be sensing this: because speed and slowness are differentials. And that can be said about the infinitely minute. But form and shape cannot be said about the infinitely minute without transforming them into something finite.

So fine, these are informal elements that proceed through infinite collections. It comes down to saying: you will not define them by shape and magnitude; you will define them by an infinite set. And good, but what infinite set? How does one define the infinite set? Here we fall back completely upon what he was saying earlier:[11] an infinite set will not be defined by ends (*termes*); it will be defined by a relation. In fact, a relation, whatever it is, is justifiable from an infinity of ends. The relation is finite; a finite relation has an infinity of ends. If you say, "larger than...", let's take the simplest example possible, if you say, "larger than...", there are endless possible ends. What cannot be "larger than..."? [Larger] than what? Well, it all depends: than what?

So, "larger than" subsumes an infinity of possible ends; it's obvious. So, an infinite set will be defined by a relation. Which relation? Spinoza's response: a relation of movement and rest, speed and slowness; this relation is itself finite, it has an infinity of ends. Final point: a relation defines an infinite set; henceforth, infinite sets can enter into quantitative relations, double, half, triple, etc. relations. In what sense? If a relation -- every relation defines an infinite set -- if a relation is the double of another relation, if I can say, "the relation twice as great as, once greater than, twice as great as" -- and I can, since the relations are finite, they correspond to infinite sets which are themselves double, halves, or more.

What does that mean, that? Oh, well, it's very simple, if you understand a little bit, it will launch us into the strangest proposition -- in my opinion, for us - of 17th century philosophy, namely: actual infinity (*l'infini actuel*) exists, actual infinity exists, and I believe that we can, we can really, yes -- I seem to be revealing something like a secret, but it seems to me, yes, it's a kind of secret because it seems to me that this is the basic proposition, the basic implication of all 17th century philosophy -- there is actual infinity. What does this seemingly strange proposition mean, actual infinity? There is infinity in action. Well, this is opposed to two things: the infinite in action is what must be distinguished both from the finite and from the indefinite. The indefinite means that there is infinity, but only in power (*puissance*). We can't stop, there is no final end (*dernier terme*). There is no final end; it's indefinite. What is finitism? There is a final end. There is a final end, and you can reach this final term, if only through thought.

And these are two relatively intelligible theses; in any case, we are used to them. Finitist theses and indefinitist theses, for us, are equally simple, one proposition as the other: there is a final end or there is no end. In one case, you will say: there is a final end, what is it? It is the position of a finite analysis; it's the point of view finite analysis. [For] there is no final end, you can go on and on, you can always split the final end you reached. So, this is the position of an infinity in power, only in power. We can always go further. This time, this is the position of an infinite synthesis. Infinite synthesis means: the power of the indefinite, pushing the analysis further and further.

And strangely, the 17th century, strangely, does not recognize itself in one point or the other. I would say that the theses of finitude are what? They are well known; these have always been what has been called atoms. You can go to the final end of the analysis. This is finite analysis. The great theorist of the atom, in Antiquity, was Epicurus, then it was Lucretius. However, Lucretius's reasoning is very strict. Lucretius says: the atom goes beyond sensitive perception (*la perception sensible*); it can only be thought. Fine. It can only be thought. But he marks as... -- not exactly by himself, but similarly -- there is a very odd reasoning from Lucretius, which consists in telling us: there is a sensible minimum (*minimum sensible*). The sensible minimum is what... You can experience it easily: you take a point of light, you focus on it, and this point of light is moved back, to the point at which it disappears from your sight. It doesn't matter whether you have good or bad eyesight, there will always be a point at which, there will always be a point when the light point disappears, can no longer be seen. Very good; let's call that the sensible minimum. It's the perceptible minimum, the sensible minimum; it may vary for everyone; for each person, there is a sensible minimum. Well, likewise, he says, to think of the atom -- since the atom is to thought what the sensible thing is to the senses --, if you think of the atom, you will come to an atom minimum. The atom minimum is the threshold beyond which you no longer think anything at all.

Just as there is a sensible threshold beyond which you no longer grasp anything, there is a thinking minimum beyond which you no longer think anything. There is therefore a thinkable minimum as much as a sensible minimum. At that point, the analysis has ended. And that's what Lucretius calls with a very, very bizarre expression, not just the atom, but "the apex of the atom". The apex of the atom is that minimum beyond which there is nothing left. This is the principle of a finite analysis. We all know what indefinite analysis is. What is indefinite analysis? Obviously, it is much more complicated than... Its formulation is very simple: as far as you go, you can always go further. That is, this is a point of view of synthesis since we call for a synthesis through which I can always continue my division, continue my analysis... This is the synthesis of the indefinite. [*Pause*] Good.

I'd like to read you a text after the 17th century, a very odd text. Listen to it carefully because you will see, I believe, that this text is very important. I'm not saying who [it's written by] yet; I would like you to guess for yourself who it is. [*Pause*] "In the concept of a circular line, in the concept of a circular line", that is, in the concept of a circle, "we think of nothing more than this, notably: that all the straight lines drawn from this circle at a single point called the center are equal to each other ”. In other words, the text tells us: in a circle, all diameters are equal, all diameters. And the text proposes to comment on what "all diameters" means. So, in a circle, all diameters are equal, okay.

The text continues: "In fact, when I say that" -- all diameters are equal -- "it is simply, it is simply a question here of a logical function of the universality of judgment". That gets complicated. -- Those who are a bit familiar will have already recognized the author; there is only one philosopher who speaks like that. -- "It is only a question" -- when I say all diameters are equal -- "it is only a question of the logical function of the universality of judgment" -- the universality of judgment: all diameters. Universal judgment: all diameters of the circle -- "This is only a question of the logical function of the universality of judgment, in which" -- in which, logical function -- "the concept of a line constitutes the subject, and means nothing more than each line, and not the entirety of lines" which can be drawn on a surface starting from a given point. It becomes very, very... All that is very odd. Feel that something is happening. It’s as if, starting from a very small example, this is a rather radical mutation of thought. It’s from this point onward that the 17th century collapses, well, if I dare say. "When I say all the diameters are equal, it is simply a logical function of the universality of the judgment, in which the concept of a line constitutes the subject" -- the subject of judgment --, "and does not mean anything more than each line, and not at all: all of the lines. Because otherwise" -- the reasoning continues --, "because otherwise, each line would be with the same right an idea of the understanding" - that is, a whole --, "because otherwise each line would be with the same right a totality insofar as containing as parts all the lines which can be thought between two points which are easily thinkable between them, and whose quantity goes precisely to infinity.” This is essential because this text is taken from a letter, a letter, alas, not translated into French; that’s bizarre because it’s a very important letter.

This is a letter from Kant, it is a letter from Kant in which Kant repudiates in advance – I’ll state the reasons, the circumstances of the letter --, repudiates in advance his disciples who try to make a kind of reconciliation between his own philosophy and the philosophy of the 17th century. Fine, this concerns us closely. And Kant says that: those who try this operation which consists in making a kind of synthesis between my critical philosophy and the philosophy of infinity of the 17th century, these people are completely mistaken and ruin everything. This is important because he has some disciples, with his first post-late Kant disciple, named [Salomon] Maimon, but then this great attempt to make a synthesis between Kant’s philosophy and the philosophy of infinity of 17th century was the business of Fichte, Schelling, Hegel. And there is some kind of curse by Kant on such an attempt, and that curse consists in saying what exactly?

I’m coming back... You have a circle; he tells you: all the diameters are equal. And I am saying: there are an infinity of diameters; a 17th century man would say that, there is an infinity of diameters, and all diameters -- the word "all" means "the infinite set", "all" commented by a 17th century man, it would be: all diameters = the infinite set of diameters traceable in the circle. It’s an infinite set, an actual infinite. -- Kant arrives, and he says: not at all, this is a misunderstanding. “All the diameters of the circle” is a proposition, again, empty of meaning.

Why? By virtue of a very simple reason: diameters do not exist before the act through which I trace them; that is, diameters do not exist before the synthesis through which I produce them. And in fact, they never exist simultaneously because the synthesis through which I produce the diameters is a successive synthesis. Understand what he means; it becomes very strong: this is a synthesis of time. He means: the 17th century never understood what the synthesis of time was, and for a very simple reason: it was concerned with the problems of space, and the discovery of time was precisely at the end of the 17th century.

In fact, "all diameters" is an empty proposition; I cannot say "all diameters of the circle". I can only say "each diameter", "each" simply referring to what function? [To a] distributive function of judgment, a distributive function of judgment, namely, each diameter insofar as I draw it here now, each diameter insofar as I draw it here now, and then it will take me time to manage to reach the trace of the other diameter, this is a synthesis of time. It's a synthesis, as Kant says, of succession within time. This is a synthesis of succession within time that goes on indefinitely, that is, it has no end, by virtue of what time is. I could, no matter how many diameters I have already drawn, I could always draw one more, and then one more, and then one more. It will never stop. This is a synthesis of the production of each diameter that I cannot confuse with an analysis. It is exactly: a synthesis of the production of each diameter in the succession of time, which I cannot confuse with an analysis of all the supposed diameters given simultaneously in the circle.

The error of the 17th century was to transform an indefinite series specific to the synthesis of time into an infinite set coexisting in extension. So, about this example, in fact, it is simply a question of something fundamental. See, Kant's power move will be to say: finally, there is no actual infinite; what you take for the actual infinite is simply... You say that there is an actual infinite because you have not seen, in fact, that the indefinite refers to a synthesis of succession in time, so when you gave yourself the indefinite in space, you have already transformed it into the actual infinite; but in fact, the indefinite is inseparable from the synthesis of succession in time, and at that point, it's indefinite, it's absolutely not the actual infinite. But what does the synthesis of succession over time refer to? It refers to an act of the self, an act of "I think"; it is insofar as "I think" that I trace a diameter of the circle, another diameter of the circle, etc.; in other words, it's the "I think" itself, and this is going to be the Kantian revolution in relation to Descartes.

What is the "I think"? It is nothing other than the act of synthesis in the series of temporal succession. In other words, the "I think", the cogito, is directly placed in relation to time, whereas for Descartes, the cogito was immediately related to the extension. So, there it is, this is my question, it's almost... It is a bit like saying that, today, mathematicians are no longer talking about infinity. The way in which mathematics has expelled the infinite -- maybe we will see this next time if we have time -- how did that happen? Everywhere, this was done in the simplest way, and almost for arithmetical reasons. Starting from the moment they said: "but, an infinitely minute quantity", it begins, if you will, from the 18th century. Starting from the 18th century, there is an absolute rejection of so-called infinitist interpretations, and the whole attempt, from the 18th century, of the mathematicians, starting with d'Alembert, and then Lagrange, and then all, all, in order to arrive at the beginning of the 20th century, where they decide that they have achieved everything, what is it? It’s to show that infinitesimal calculus has no need of the infinitely minute hypothesis in order to be established.

What is more, there is a 19th century mathematician who employs a mode of thinking, a term which, it seems to me, accounts very well for the way of thinking of modern mathematicians. He says: the infinite interpretation of infinitesimal analysis is a Gothic hypothesis; or else they call it the “pre-mathematical” stage of infinitesimal calculus. And they simply show that in infinitesimal calculation, there are not at all quantities smaller than any given quantity; there are simply quantities that are left undetermined. In other words, the whole notion of axiom comes to replace the notion of the infinitely minute. You leave a quantity undetermined to make it -- this is therefore the notion of indeterminate which replaces the idea of infinity --, you leave a quantity undetermined to make it, at the moment you want, smaller than any specific given quantity. But there is not an infinitely minute within this at all. And the great mathematician who will give to infinitesimal calculus its definitive status at the end of the 19th and at the beginning of the 20th, that is, [Karl] Weierstrass, he will have succeeded in expelling from this everything that resembles any notion of infinity whatsoever.

So then, I would say, how are we taught? Well, I would say that we oscillate between a finitist point of view and an indefinitist point of view. If you will, we oscillate between -- and we understand these two points of view very well --, I mean, we are sometimes Lucretian, and sometimes we are Kantian. I mean, we understand relatively well the idea that things are subject to an indefinite analysis, and we understand very well that this indefinite analysis, which has no end, necessarily does not reach an end since it expresses a synthesis of succession within time. So, in this sense, we understand indefinite analysis insofar as based on a synthesis of succession within time even if we have not read Kant. And we see, we are entirely familiar with such a world. We also understand the other aspect, the finitist aspect, that is, the atomist aspect in the broad sense, namely: there would be a final end, and if it’s not the atom, it will be a particle, it will be an atom minimum, or else an atom particle, anything. So, there is a final end.

What we no longer understand at all is that... unless... that there is... I would like this to have the same effect on you because, if not, that worries me. What, at first sight, we no longer understand is the kind of thought, the way in which, during the 17th century, they think of actual infinity, namely: they consider legitimate the transformation from an indefinite series to an infinite set. We no longer understand that at all.

I’m selecting a text -- and what I'm talking about are almost commonplaces of the 17th century -- I’m selecting a famous text by Leibniz, which has an admirable title: *Of the radical origin of things*. It’s a little pamphlet. He begins with the exposition made a thousand times; it’s not new for him, and he does not present it as new, the exposition of the so-called cosmological proof of the existence of God. And the so-called "cosmological proof" of the existence of God is very simple; it tells us this. It consists in telling us: Well, you see, a thing has a cause. Fine. This cause, in turn, is an effect, it has a cause, in its turn. The cause of the cause, it has a cause, etc., etc., to infinity, to infinity. You must reach a primary cause which itself does not refer to a cause, but which would be a cause in itself. This is the proof, you see: starting from the world, you conclude that there is a cause of the world. The world is the series of causes and effects; it is the series of effects and causes. We must reach a cause that is like the cause of all causes and effects. Needless to say, this proof never convinced anyone. But still, it has always been stated as being the cosmological proof of the existence of God. It has been debated; it has been contradicted in two ways. The finitists will tell us: well no, why? In the world itself, you will not reach final causes, that is, get to final ends. And then, the indefinitists tell us, well no, you will climb back up endlessly from effect to cause, and you will never reach a first term in the series. [*Interruption of the recording*] [2: 04: 48]

Part 4

... finite to an infinite set which itself demands a cause. It's only in this form that the cosmological proof would be conclusive. If I can -- the world is an indefinite series of causes, effects and causes -- if I can legitimately conclude from the indefinite series of effects and causes to a collection, to a set of causes and effects, that I will call the world, this set of causes and effects must itself have a cause. Fine. Kant will criticize the cosmological proof, saying: but after all, this is a pure logical error, this proof, it is a pure logical error because you can never consider an indefinite series as if it were a set -- a successive indefinite series --, as if it were an infinite set of coexistence. Fine. My question, then, you understand my question: we are convinced in advance, I suppose. We say: but it is obvious that I cannot. By what right, in fact, does it... If a series is independent -- you see the valorization of the time that this implies, this discovery of the indefinite -- because if the indefinite series of causes and effects cannot be assimilated to an infinite set, it is only because the indefinite series is inseparable from the constitution of synthesis within time. It's because time is never given; it's because there is no collection of time, whereas there are spatial collections. It's because time does not create collections that the indefinite is irreducible to infinity. As a result, it is not surprising that this point of view of the indefinite, which seems very simple to us, implies, in fact, an astonishing valorization of the consciousness of time. It implies that philosophy has made this mutation that causes the whole cogito, that is, the "I think", to pass into a kind of "I think time" instead of "I think space".

And it is true that 17th century philosophy is an "I think space", and that it's in the name of space that they give themselves the right to consider that time, in the end, is very secondary and that, henceforth, I can constitute an indefinite series within time in a collection of simultaneities in space. In other words, they believe in infinite space. Henceforth, they think of the possibility of an actual infinity and, in a way, they are fighting on two fronts. You understand? They are fighting against finitism, hence all these authors, whether it is Descartes, whether it is Malebranche, whether it is Spinoza, whether it is Leibniz, will refuse here, will constantly refuse the atom hypothesis. That will be their enemy. They denounce that; there is not one of these authors who does not attack, [saying] "above all, do not believe that what I'm explaining to you is about atoms". Constantly, when Leibniz talks about the infinitely minute, he says: "the infinitely minute, [that has] nothing to do with atoms". You see why. An atom is not an infinitely minute at all. And on the other hand, if you put yourself in their place, everything gets turned upside down for them, if we put ourselves in their place. That is, I mean... For them, Kant's argument is completely backbiting. Someone would say to a 17th century man: "But come on, you have no right to convert a succession within time into a collection in space ...", well, this statement itself is empty, because it does only takes on meaning, this statement, "I have no right to convert a succession within time into a coexistence in space, into a simultaneity in space", that only makes sense if I have, once again, identified a form of time which does not make up a set, an immediately and irreducibly serial form of time, a serial consciousness of time, such that the aggregate of time would be a meaningless notion. If I have identified a serial and irreducibly serial reality of time within a consciousness of time, then, in fact, I am in conditions such that I can no longer convert temporal series into aggregates or spatial sets.

Fine, isn't it the same thing, I mean, don't we find... – with that, we will be able to finish for today – I was saying, there are two branches of mathematics, the magnitudes greater than the numbers, and on the contrary, the independent number compared to the magnitudes, roughly, what I called the Greek theme and then the Indian theme, and there, now, I would say, on the side tending toward the number being deeper than magnitude and, finally, controlling magnitude. Ultimately, this independence of number can only be based on a consciousness of time, because in fact, what is that the act of temporal synthesis or, even more, the act of the synthesis of time through which I produce an indefinite series? The act of the synthesis of time through which I produce an indefinite series is the number. This is the number with the simplest possibility -- it gets complicated hereafter -- but with the possibility of always adding a number to the previous number. It is the number which henceforth expresses the "I think" in a pure state, namely, the act of synthesis through which I produce the indefinite series within time.

On the other hand, the other branch is no doubt the most acute consciousness of space. This is undoubtedly the most acute consciousness of space that makes me say or that makes me live insofar as being a man existing in space, the one who is in space. At that point, -- and time strictly is only an auxiliary, as they all said at that time, an auxiliary for the measurement of space -- so there, that there was a mutation in thought, when thought was confronted no longer by its direct relationship with space, but with its direct relationship with time... And I mean that sometimes there are texts which seem to sit astride, but understand, in fact, this is very strange, these texts which seem to be straddling, because this depends a bit on our soul's nuances, whether a modern soul or not. I would point out to you that everything is currently changing because, in a way, I wonder if we haven't returned to a kind of 17th century, but via detours. I would almost say that if I then tried to situate [this], but really by undertaking a huge overview, the huge overview would be what? That was a period in which the main problem, how to say, putting aside every urgent matter, finally, putting aside the urgent matter, which what? It was my relation with time, and it's that which defined modern thought for a very long time, the discovery of time, that is, the discovery of the independence of time, that I was a temporal being and not just a spatial being. It's certain for the 17th century, I do not believe that I am basically a temporal being.

That implies choices; that implies, I don't know, all kinds of things, but, when I say that starting from the 18th century, what causes the break, what causes the reaction against classical philosophy, that's it. This is the discovery: I am a master... [*Very brief side discussion, someone offers something to Deleuze, who thanks him*] You understand, this is where there are actions as important as what is happening in art, because the same thing is occurring in art. 17th century literature, even among the so-called memorialist authors, for example, I think of Saint-Simon, it's obviously not the problems of time that concern them. It's in the 18th, 19th century in which they confront time.

Take a famous text from Pascal, on the two infinities. Pascal explains that man is trapped between two infinities; this text seems very typical to me, because it passes for an extremely modern text, in a sense, like Pascal's first great existentialist text. Not at all. It does not strike us with this impact of very modern text – it's brilliant, this text, that is…, I don't want to say that it's not brilliant… -- but it only strikes us as a modern text because the reading is completely decentered. We spend our time -- and there's often nothing wrong here; we draw from a text the resonances it has with our own time --, but in fact, Pascal's is not at all a modern text, it is a pure 17th century text, with its brilliance added on. In fact, it is a text which tells us: man is spatially wedged between two infinities, the infinitely large, which you can represent vaguely by the sky, and the infinitely minute, which you can represent vaguely as soon as you are looking through a microscope. And he tells us: these are two actual infinities. This is a text signed 17th in a pure state, I would say: what is the representative text of the 17th [century]? Pascal's text on the two infinities.

And, as we say, there is a tragedy side of the text, but it's in the manner [of] how to orient yourself in all this? That is, this is a space problem. What will be the space of man between these two spatial infinities? And there is everything you want, despair, faith, creeping in there, but not at all modern. What would a modern text be? It would be a temporal text. It would be how to orient yourself in time. And how to orient yourself in time, that's the basis for all of Romanticism. And if Kant has something to do with the foundation of German Romanticism, it is because Kant was the first in philosophy to make this very, very strong kind of change in reference points, namely: making us pass from the space pole to the time pole, on the level of thought -- since it was a question of philosophy -- on the level of thought: the "I think" is no longer related to space, it is related to time. Fine.

And at that point, you can find despair, hope, for man, all the existential tones you want; it's not the same depending on whether they are spatial tones or temporal tones. I believe that if a Classic and a Romantic do not understand each other or cannot understand each other, it is obviously because the problems undergo an absolute mutation when you make this change of reference point, when you are situated onto the time pole and not on the space pole. And I am saying: it's the same in literature, in music, all that. Romanticism, was the discovery of time; at each time, it was the discovery of time as a force of art, or as a form of thought in the case of Kant, as a form of thought.

In music, whether it's already, I don't know... the first great one in order would be Beethoven, but then all Romanticism dealt with this kind of problem: how to make time sonorous. Time is not sonorous, so then, how does one make time sonorous? You cannot understand symphonic questions, you cannot even understand the question of melody in that way that Romanticism will reinterpret it, because melody, before, way back, was not at all about this problem of time. The melody in what we call a *lied*, for example, there you have the temporal problem in a pure state. And the spatial problem is closely subordinate to it, that is, it's time for travel. I'm leaving, I'm leaving my homeland, etc., and it's not at all thought of in terms of space; it's thought of in terms of time, and the melodic line is the line of time. Okay, but... [*Deleuze does not finish*]

And that's what literature will be -- the novel, the novel, you understand, the act of the novel starting from the 18th century onwards, the novel that one perceives is temporal. And to create a novel is precisely, not to recount something about time, but to situate everything, and it is art that situates things as a function of time. There is no other novel than that of time. A very good critic, a very good critic of 20th century literature, whom we unfortunately no longer read, but I strongly advise you to read him if you find second-hand books at the secondhand booksellers, named Albert Thibaudet, said this very well -- he was a disciple of Bergson, and he's very, very wonderful, he was a very great critic -- he says: well, yes, a novel, how should we define a novel? This isn't difficult; it's a novel from the moment something endures, as soon as there is duration, that something endures. A tragedy does not endure. He said a very simple thing: a tragedy is... But he said better than anyone [that] a tragedy always consists of peaks, critical moments, either as a basis or out front, etc. But the art of duration, of something that endures and, at the extreme, that unravels, a duration that unravels; that's a novel. It's a novel as soon as you describe a duration that unravels. Finally, the author who above all creates a manifesto of the time linked to his work is Proust. Fine, that whole era... When I say, we would have to see if we don't have re-engagement with the 17th century...

Claire Parnet: I have a good example. There is an example in Debussy's preludes, where he wrote at the very beginning: "Rhythm has the sound value of a sad and snowy landscape". There, really, it's an ethos. It's a place that...

Deleuze: Yes, yes, this is very general, the return to space, but, then, obviously which will not be a return to the 17th century.

But if you will, in every domain, the rediscovery, I believe -- I am using, I am saying that to connect things with what we will be doing later concerning painting [12]--, the birth of a new…, in art at the end of the 19th [century] and from the beginning of the 20th, the return to a kind of colorism, to extremely, then entirely new, formulations of colorism, but which break precisely, break with what had been explored for a rather long time concerning a painting of light. It seems to me that it's through color that, in painting, space has returned to painting. In the painting of light, there is always an odd phenomenon that is as if they were capturing time pictorially. Notice, it's no more difficult than capturing it musically. Time is not sonorous by itself; it is not visible either. In a certain way, the painting of light gives us as a pictorial equivalent of time, but the painting of color is something quite different, what we call colorism. What's called colorism, that is, when the volumes are no longer created in chiaroscuro, but are made by color, that is, by pure relations of tonality between colors, there is a kind of reconquest of a space, of a direct pictorial space.

Oh, I also believe that all the... all the movements known as "informal" and even abstract, these are a reconquest precisely of a pure pictorial space. Well, suppose, but think of, for example, the importance to us... I would say: who are the key [figures]? A guy like [Maurice] Blanchot... I think [that] one of the important things about Blanchot was to recreate a kind of conversion to space. Blanchot is very striking in that he thinks very little in terms of time. His problem is really a problem of thought in relation to space. Think of his book *The Space of Literature* [1955]. *The Space of Literature* is like a manifesto that is opposed to literary time. In music, in painting, all that, it seems to me that there is a return, precisely, a kind of... [*Deleuze does not finish*]

Just like in mathematics, a theory called "set theory" has been reconstituted, and at the level of set theory, they have rejected -- and this is what seems to me very, very striking --, the people who had succeeded in expelling infinity from everywhere in mathematics, it was at the level of the theory called "set theory" that they found an aporia, a difficulty relative to infinity. The infinite was reintroduced into mathematics through the angle (*biais*) -- in a very special sense -- through the angle of set theory. This is very, very curious. And there is also, in all disciplines, a kind of return to sets of coexistence, to sets of simultaneity.

So, I mean, these would perhaps be good conditions for us to feel precisely more familiar with this 17th century thought. These are people who think very spontaneously in terms of actual infinities. When they are presented with a finite thing, well, they immediately think that a finite thing is wedged between two actual infinities: the actual infinity of the infinitely large, and the actual infinity of the infinitely minute, and that a thing is only a bridge between these two infinities, if you will, a micro-infinity and a macro-infinity, and that the finite is precisely like the communication of these two infinities. Fine… And they think very spontaneously, I mean very naturally, such that objections like those of Kant, let’s understand what they mean: they cannot even conceive of them given that Kant's objection only truly takes on meaning if all these coordinates of the 17th century world have already collapsed.

All that to make you feel that an objection, you cannot... You understand, an objection, in a sense, always comes from outside. Because people, they are not idiots; otherwise they would have already made the objections to themselves. They always come from a point of view irreducible to the system of coordinates in which you exist. So, in fact, it’s from an external point of view, namely the point of view of time, that Kant can say: "Ah no! Your actual infinity, not in the least..." But I cannot say that progress proves Kant right; it would have absolutely no idea. Once again, the idea of infinite collections returns to us, not in the manner of the 17th century, but via immense detours. There we have the idea of infinite sets -- infinite sets endowed with variable powers, with one power or another -- returns to us all the more.

So, if we had to define the philosophers of the 17th century, I would say a very simple thing: these are people, these are men who think naturally, spontaneously, naturally, in the philosophical sense, in terms of actual infinity, that is, neither finitude, nor indefinite.

Well, well, we've had enough. There we are! So next time, anyway, [we will] have to... We'll see what emerges from this for Spinoza's theory of the individual. [*Noises in the room; we hear Deleuze say to someone*: Thank you, thank you, thank you very much ...] [*End of the session*] [2:28: 04]

Notes

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[1] Even from the context of what follows, it is unclear to whom this initial reference is.
[2] Victor Delbos, *Spinozism: course taught at the Sorbonne in 1912-1913*, (1916); Vrin (2005). However, in *Spinoza: Practical Philosophy*, Deleuze states that Delbos's *Le Problème moral dans la philosophie de Spinoza et dans l'histoire du spinozisme* (Paris: Alcan, 1893) "is a much more important book than the academic work by the same author, *Le Spinozisme*", i.e. the title provided in this session.
[3] On the individual, see *Spinoza: Practical Philosophy*, pp. 76-78.
[4] In concert with the translation in *Spinoza: Practical Philosophy* by Robert Hurley, I have chosen to translate Deleuze's "rapport" as *relation*, since Deleuze is gradually developing an argument, from one lecture to the next, of the importance of differential relations in both philosophical and mathematical terms.
[5] This apparent slip, from sense 1 to sense 3, while inexplicable, has been verified on the recording.
[6] Martial Gueroult, *Spinoza, Dieu (Ethique, I),* and *Spinoza, L'Âme (Éthique, II*) (Paris : Aubier, 1968).
[7] This reference is supplied by the Paris 8 transcriber, Yann Girard, not by Deleuze: "L. II, Prop. XIII, Ax.I, II, Lem. I".
[8] For consistency, I continue to translate "rapport" as relation, but in the mathematical context, this could also be read as ratio.
[9] See note 4.
[10] On this letter, see the session on Spinoza of 20 Jan 1981; see also *Spinoza: Practical Philosophy*, pp. 78-79.
[11] It's not entirely clear to whom Deleuze refers here, perhaps to Comtesse or to the second interlocutor.
[12] The spring 1981 seminar continues, from 31 March onward, on the topic of painting and the question of concepts.