

Denis Diderot
D'Alembert's Dream
1769

D'Alembert's Dream

Speakers: D'Alembert, Mademoiselle de L'Espinasse, Doctor Bordeu, A
Servant

*[The scene is in D'Alembert's bedroom. D'Alembert is sleeping in a bed with
curtains around it. Doctor Borden and Mademoiselle de L'Espinasse are sitting near
the bed]*

BORDEU: All right, then, is there anything new? Is he ill?

MADAMOISELLE DE L'ESPINASSE: I'm afraid so. He's had a
very disturbed night.

BORDEU: Has he woken up?

MADAMOISELLE DE L'ESPINASSE: Not yet.

BORDEU: *(after going to D'Alembert's bed and feeling his pulse and skin):* It
won't be anything.

MADAMOISELLE DE L'ESPINASSE: You don't think so?

BORDEU: Believe me. The pulse is good . . . a little faint . . . the skin is
damp . . . his breathing is easy . . .

MADAMOISELLE DE L'ESPINASSE: Is there nothing we can do
for him?

BORDEU: Nothing.

MADAMOISELLE DE L'ESPINASSE: So much the better. He
hates medicines.

BORDEU: So do I. What did he eat for supper?

MADAMOISELLE DE L'ESPINASSE: He didn't want anything. I
don't know where he spent the evening, but he came back concerned
about something.

BORDEU: He has a slight fever—it won't lead to anything.

MADemoiselle de L'Espinasse: As he came in, he put on his dressing gown and his night cap and threw himself in his armchair, where he dozed off.

BORDEU: Sleep is always beneficial. But it would've been better if he'd been in bed.

MADemoiselle de L'Espinasse: He got angry with Antoine for telling him that—we had to pester him for half an hour to make him get to bed.

BORDEU: That happens to me every day, although my health is good.

MADemoiselle de L'Espinasse: When he was in bed, instead of lying peacefully the way he usually does, for he sleeps like a child, he began to turn, rolling around and waving his arms. He threw off his blankets and started to talk out loud.

BORDEU: What was he talking about? Was it geometry?

MADemoiselle de L'Espinasse: No. It all sounded delirious. At the start it was a lot of nonsense about vibrating strings and sensitive fibres. It all seemed so foolish to me but, since I'd decided not to leave him during the night and not knowing what to do, I went up to a small table at the foot of his bed and started to write down everything I could catch of his dream talk.

BORDEU: Clever thinking on your part. Can we see the result?

MADemoiselle de L'Espinasse: Of course. But I'll stake my life you'll not understand any of it.

BORDEU: Perhaps.

MADemoiselle de L'Espinasse: Are you ready?

BORDEU: Yes.

MADemoiselle de L'Espinasse: Listen—"A living point . . . No, I'm wrong. Nothing at first, then a living point . . . Another living point attaches itself to this one, and then another—and from these successive conjoinings a single living unity results, for I am certainly a unity. Of that I have no doubt. . . ." (As he was saying this, he was feeling himself all over). "But how does this unity create itself . . ." ("My friend," I said to him, "what are you doing? Go to sleep." He stopped

talking. After a moment of silence, he started up again as if he was talking to someone) . . . "All right, philosopher, I can grasp an aggregate, a tissue of small sensitive beings, but an animal . . . a totality, a unified system, on its own, with an awareness of its own unity? That I don't understand. No, I don't understand it at all. . . ." Doctor, is there something in all that you understand?

BORDEU: Yes, it makes excellent sense.

MADemoiselle de l'Espinasse: You're really lucky.
"Perhaps my difficulties come from a false notion. . . ."

BORDEU: Is this you talking now?

MADemoiselle de l'Espinasse: No, it's the dreamer.

BORDEU: Continue.

MADemoiselle de l'Espinasse: All right, I'll keep going . . . He then added, challenging himself, "My friend, D'Alembert, be careful. You're assuming there is only contiguity where there is continuity' . . . Yes . . . He is clever enough to tell me that . . . And how is this continuity formed? That will hardly create a problem for him . . . Just as a drop of mercury fuses itself with another drop of mercury, so a sensitive and living molecule fuses itself with a sensible and living molecule . . . At first there were two drops—after the contact there is only one . . . Before the assimilation there were two molecules; after the assimilation there is now only one . . . The sensibility becomes common to the common mass . . . And, indeed, why not? . . . In my thinking about the length of an animal fibre, I can distinguish as many parts as I like, but the fibre will remain a unity . . . yes . . . a unity. The contact between two homogeneous molecules, perfectly homogeneous, creates the continuity . . . and it's an example of the greatest union, cohesion, combination, and identity one could imagine . . . Yes, philosopher, if these molecules are elementary and simple . . . but what if they are aggregates, if they are compounds? . . . The combining will still take place no less than before and the resulting identity and continuity . . . and then the usual actions and reactions . . . It's certain that contact between two living molecules is something different from the contiguity of two inert masses . . . Let's move on, not bother with that . . . One could perhaps take issue with you, but I'm not worried about it . . . I never just keep going on and on. However, let's get back to the point. A wire made of pure gold—that's one comparison I remember he made to me—a homogeneous network. Between its molecules other molecules interpose themselves and perhaps form another homogeneous network, a tissue of sensitive matter, a contact which absorbs active sensibility from here and latent sensibility from there and which passes itself on

like a movement, without accounting for the fact, as he has firmly pointed out, that there must be some difference between the contact of two sensible molecules and the contact of two molecules which are not, and this difference—what could it be? . . . a customary action and reaction . . . and this action and this reaction with a unique character . . . That way everything comes together to produce a sort of unity which exists only in an animal. . . . My goodness, if this is isn't the truth, it's really close to it." You're laughing, doctor. Do you find any sense in all that?

BORDEU: Yes, a lot.

MADemoiselle de L'ESPINASSE: So he's not losing his mind?

BORDEU: Not at all.

MADemoiselle de L'ESPINASSE: After this preamble, he started to shout, "Mademoiselle de L'Espinasse! Mademoiselle de L'Espinasse!" "What do you want?" "Have you sometimes seen a swarm of bees going out of their hive? . . . The world, or the general mass of matter, is the large hive. . . . Have you seen them move out to the end of a tree branch to form a long cluster of small winged animals, all hooked to one another by their feet? . . . This cluster is a being, an individual, an animal of some sort . . . But these clusters all have to be similar to each other . . . Yes, if he allowed only one homogenous material. . . . Have you seen them?" "Yes, I've seen them." "Have you seen them?" "Yes, my friend, I tell you I have." "If one of these bees decides somehow to pinch the bee to which it is hanging, what do you think will happen? Tell me." "I have no idea." "Tell me, anyway . . . So you don't know, but the philosopher knows . . . yes, he does. If you ever see him, and you're bound to see him sometime, for he promised you would, he'll tell you that the second bee would pinch the one next to it, that in the entire cluster there would be as many sensations aroused as there are small animals, that everything will get aroused, shift itself, change position and shape, that a noise will arise, small cries, and that someone who had never seen a group like that arrange itself would be tempted to assume it was an animal with five or six hundred heads and a thousand or twelve hundred wings. . . ." Well, doctor?

BORDEU: Good. Do you know that this dream is really beautiful. You did well to write it down.

MADemoiselle de L'ESPINASSE: Are you dreaming as well?

BORDEU: So little that I'd almost commit myself to tell you what follows.

MADemoiselle de l'Espinasse: I'll challenge you on that.

BORDEU: You challenge me?

MADemoiselle de l'Espinasse: Yes.

BORDEU: And if I get it right?

MADemoiselle de l'Espinasse: If you guess right I promise you . . . I promise I'll consider you the greatest fool on earth.

BORDEU: Look at your pages and listen to me. A man who took this cluster for an animal would be wrong. But, Mademoiselle, I assume he went on talking to you. Do you wish him to judge more soundly? Do you wish to transform the cluster of bees into a single unique animal? Weaken the feet by which they hold themselves together—change them from the contiguous condition they are in so that they become continuous. Between this new state of the cluster and the earlier one there is certainly a marked difference. And what might this difference be other than that now it is a totality, a unified animal; whereas, before it was only an assembly of animals? . . . All our organs. . . .

MADemoiselle de l'Espinasse: All our organs!

BORDEU: For anyone who has practised medicine and made a few observations. . . .

MADemoiselle de l'Espinasse: What comes next!

BORDEU: What next? . . . Are only distinct animals which the law of continuity holds together in a general state of sympathy, a single unity, a single identity.

MADemoiselle de l'Espinasse: I'm amazed—that's it, and almost word for word. So now I can confirm for all the world that there is no difference between a doctor who's awake and a philosopher who's dreaming.

BORDEU: People suspect that already. It that all?

MADemoiselle de l'Espinasse: No, no. You're not there yet. After that nonsense of yours or his, he said to me, "Mademoiselle." "Yes, my friend." "Come here . . . closer . . . closer . . . I have something to ask you." "What is it?" "Take this cluster, the one there—you see it clearly over there. Let's conduct an experiment." "What?" "Take your scissors—do they cut well?" "Perfectly." "Move close to the cluster, but gently, very gently, and cut these bees apart. But be careful not to cut

them in the middle of their bodies. Cut right at the place where they are joined together by the feet. Don't worry about anything—you'll hurt them a little, but you won't kill them . . . Very good. Your actions are as deft as a fairy's . . . Do you see how they fly away, each one in a different direction? They fly off one by one, two by two, three by three. How many of them there are! If you've understood me well . . . have you understood me well?" "Really well." Now, assume . . . assume . . ." My word, doctor, I understood so little of what I was writing down. He spoke in such a low voice, and this section of my paper is so scribbled I can't read it.

BORDEU: I'll make up for that if you like.

MADemoiselle de L'ESPINASSE: If you can.

BORDEU: Nothing is easier. Assume that these bees are small, so small that the crude cutting edge of your scissors always misses their organic structures. You keep up your cutting as far as you like without killing one of them, and this totality, made up of imperceptible bees, will be a true polyp which you only destroy by crushing. The difference between the group of bees formed continuously and the group of bees formed contiguously is precisely the difference between normal animals, like us, fish, worms, and snakes, and animal polyps. Moreover, if this whole theory undergoes a few modifications . . . (*Mademoiselle de L'Espinasse abruptly jumps up and goes to pull on the bell rope*) Gently, gently, Mademoiselle, you'll wake him up, and he needs his rest.

MADemoiselle de L'ESPINASSE: I wasn't thinking of that—my mind is spinning so. (*To the servant who enters*). Which of you went to the doctor's house?

SERVANT: It was me, Mademoiselle.

MADemoiselle de L'ESPINASSE: A long time ago?

SERVANT: I came back less than an hour ago.

MADemoiselle de L'ESPINASSE: Did you take anything there?

SERVANT: Nothing.

MADemoiselle de L'ESPINASSE: No piece of paper.

SERVANT: No, none.

MADemoiselle de l'Espinasse: All right, then. You can go . . . I'm astonished. You see, doctor, I suspected one of them had told you about my scribblings.

BORDEU: I assure you there was nothing like that.

MADemoiselle de l'Espinasse: Doctor, now that I realize your talent, you'll be a great help to me in my social life. His dreaming did not stop at that point.

BORDEU: So much the better.

MADemoiselle de l'Espinasse: So you don't see anything in this to get alarmed about?

BORDEU: Not in the least.

MADemoiselle de l'Espinasse: He went on, "Well then, philosopher, so you have an idea of polyps of all kinds, even human polyps? . . . But nature doesn't show us any such things."

BORDEU: He had no knowledge of those two young women joined together at the head, shoulders, back, buttocks, and thighs who lived fused together like this until the age of twenty-two and who died within a few minutes of each other. He went on to say . . . ?

MADemoiselle de l'Espinasse: Ravings which are only heard in the lunatic asylum. He said, "That's over or it will happen. And then who knows the state of things in other planets?"

BORDEU: Perhaps we don't have to go that far.

MADemoiselle de l'Espinasse: "In Jupiter or in Saturn, human polyps! The males resolve themselves into males, females into females—that's an amusing thought . . ." (At that point he began to burst out laughing so hard I was frightened) "Man splitting himself up into an infinity of atomized men which we could keep between sheets of paper like eggs from insects which spin their cocoons, remain for a certain period in the chrysalis state, pierce through their cocoons, and escape as butterflies—a human society formed and an entire region populated by the fragments of a single individual—all that is very pleasant to imagine. . . ." (Then the bursts of laughter started again) "If there's a place where the human being divides itself into an infinity of human animalcules, people there should be less reluctant to die. It's so easy to make up for the loss of a person that death should cause little regret."

BORDEU: This extravagant assumption is almost the real history of all species of animals—those presently existing and those still to come. If man does not divide himself into an infinity of human beings, at least he does divide himself up into an infinity of animalcules, whose changes and whose future and final organic structure it's impossible to predict. Who knows if that's not the breeding ground for a second generation of beings separated from this one by an incomprehensible interval of centuries and successive developments?

MADemoiselle de l'Espinasse: What are you muttering about in such a low voice, doctor?

BORDEU: Nothing. Nothing at all. It was my turn to dream. Mademoiselle, continue reading.

MADemoiselle de l'Espinasse: "All things considered, however, I do prefer our method of reproducing," he added. . . . "Philosopher, you who know about what's going on out there or elsewhere, tell me about the splitting up of the different parts—wouldn't that produce men of different characters? The brain, heart, chest, feet, hands, testicles . . . Oh, how that simplifies morality! . . . A man born, a woman derived from . . ." (Doctor, will you allow me to overlook this part?) "A warm room, lined with small container cups, and on each of these cups a label: warriors, magistrates, philosophers, poets, cup of courtiers, cup of prostitutes, cup of kings."

BORDEU: That's all very cheerful foolery. That's what it means to dream—and a vision which leads me to some rather peculiar phenomena.

MADemoiselle de l'Espinasse: Then he began to babble something or other about seeds, scraps of flesh placed to marinate in water, different races of animals which he saw in succession as they were born and passed away. With his right hand he imitated the tube of a microscope and, with his left, I think, the opening of a vase. He looked into the vase through the tube and said, "Voltaire may make as much fun as he likes about it, but the Eel-monger [*John Needham, an English scientist*] is right—I believe my eyes, I see how many of them there are! How they come and go! How they wriggle around! . . ." The vase where he was looking at so many momentary generations he then compared to the universe. He saw in a drop of water the history of the world. This idea appeared important to him—he found it entirely compatible with good philosophic practice, which makes conclusions about large bodies by studying small ones. He said, "In Needham's drop of water, everything takes place and goes away in the blink of an eye. In the world, the same phenomenon last a little longer, but what is our length of time compared to an eternity of time? Less than the drop which I

took up on the point of a needle compared to the limitless space which surrounds me. An indefinite succession of animalcules in the fermenting atom, the same indefinite succession of animalcules in the other atom which we call the Earth. Who knows the races of animals which came before us? Who knows the races of animals which will come after ours? Everything changes, everything passes away. Only the totality remains. The world begins and ends without ceasing. At every instant it is at its beginning and at its end. It's never been anything else and never will be anything else. In this immense ocean of matter, no single molecule resembles any other, and no single molecule resembles itself for more than a moment: *Rerum novus nascitur ordo* [*a new order of things is born*]
—there's its eternal slogan." Then he sighed and added: "Oh, the vanity of our thoughts! The poverty in glory and in our works! The wretched smallness of our vision! There's nothing substantial except drinking, eating, living, loving, and sleeping Mademoiselle de L'Espinasse, where are you?" "I'm here" Then his face became flushed. I wanted to feel his pulse, but I didn't know where he had hidden his hand. It looked as though he was going through a convulsion. His mouth was half open, and his breath was forced. He gave a deep sigh, and then a fainter sigh, and then another deeper sigh. He turned his head on his pillow and went to sleep. I looked at him attentively, and I was very moved without understanding why. My heart was beating—but it wasn't fear. At the end of a few moments I saw a slight smile cross his lips. He spoke in a low voice, "In a planet where human beings reproduced themselves in the way fish do, where the spawn of a man fell upon the spawn of a woman . . . I'd have fewer regrets there . . . We mustn't lose anything of what could prove useful. Mademoiselle, if that stuff could be collected, enclosed in a flask, and sent at daybreak to Needham. . . ." Now, Doctor, don't you call all that madness?

BORDEU: In your company I certainly would.

MADAMOISELLE DE L'ESPINASSE: In my company, far away from me—it's all one thing, and you don't know what you are talking about. I'd hoped that the rest of the night would be peaceful.

BORDEU: That's what usually happens.

MADAMOISELLE DE L'ESPINASSE: Not this time. At around two o'clock in the morning, he came back to his drop of water, which he called a mi . . . a micro . . .

BORDEU: . . . a microcosm.

MADAMOISELLE DE L'ESPINASSE: That's the word he used. He was admiring the wisdom of the ancient philosophers. He was saying or conversing with his philosopher, I don't know which, "When Epicurus

claimed that the earth contained the germs of everything and that the animal species was a product of fermentation, if he had proposed to show a picture in miniature of what was created on a grand scale at the beginning of time, what could one have said in reply? . . . And you have this very image right before your eyes, but it's not telling you anything . . . Who knows if the process of fermentation and what it produces have run their course? Who knows what point we're at in the sequence of these animal generations? Who knows if this deformed biped, only four feet high, which is still called a human being in the regions of the pole but which would quickly lose this name if it grew a little more deformed, is not the image of a species which has passed away? Who knows if things are not the same with all animal species? Who knows if everything isn't tending to reduce itself to a large, inert, and immobile sediment? Who knows how long this inertia will last? Who knows what new race could result some day from such a huge heap of sensitive and living points? Why not a single animal? What was the elephant at its origin? Perhaps it was the huge animal as it appears to us, perhaps an atom, for both options are equally possible. They only depend upon the movement and various properties of matter . . . The elephant, this enormous structurally organized mass the sudden product of fermentation! Why not? The size relationship between this large quadruped and its original matrix is less than that between the mite and the particle of flour which produced it. But the mite is only a mite . . . That is, its diminutive size which conceals from you its organic structure robs it of its wonder. . . . The amazing thing is life, sensitivity—and this is no longer something amazing . . . Once I've seen inert matter passing into the sensitive state, nothing else should astonish me . . . What a comparison between a small number of fermenting elements set in the palm of my hand and that immense reservoir of different elements scattered in the bowels of the earth, on its surface, in the bosom of the seas, in the expanses of air! . . . However, since the same causes are at work, why have the effects ceased? Why don't we see the bull piercing the earth with his horn any more, his feet pushing against the soil, as he makes an effort to free his heavy body from it? . . . Let the present race of existing animals pass away, and let the large inert sediment do its work for a few million centuries. Perhaps, in order to renew species, it requires ten times longer than the period assigned for their duration. Be careful. Don't be in a rush to make judgments about the great work of nature. You have two grand phenomena—the passage of an inert state into a sensitive state and spontaneous generations—and that's enough for you. Draw justified conclusions from them and in an order where there is no large or small, no absolutely durable or temporary. Watch out for the logical fallacy of the ephemeral. . . ." Doctor, what is the logical fallacy of the ephemeral?

BORDEU: It occurs when a transitory being believes in the immortality of things.

MADemoiselle de l'Espinasse: Like Fontenelle's rose who used to say that in the memory of a rose no one had ever seen a gardener die?

BORDEU: Precisely—that's both deft and profound.

MADemoiselle de l'Espinasse: Why can't your philosophers express themselves with the grace of Fontenelle? Then we'd understand them.

BORDEU: To be frank, I don't know if such a frivolous tone is appropriate for serious subjects.

MADemoiselle de l'Espinasse: What do you call a serious subject?

BORDEU: Well, sensibility in general, the formation of a sentient being, its unity, the origin of animals, how long animal life lasts, and all questions related to these matters.

MADemoiselle de l'Espinasse: Well, I call all that so much nonsense which I'll admit people dream about when they're asleep but which a sensible man never concerns himself with when he's awake.

BORDEU: Please tell me why you think that.

MADemoiselle de l'Espinasse: Because some of them are so obvious it's useless to seek out the reason, and others are so obscure that there's nothing to see in them, and all are perfectly useless.

BORDEU: Mademoiselle, do you believe that it makes no difference whether you deny or admit there's a supreme intelligence?

MADemoiselle de l'Espinasse: No.

BORDEU: Do you think one can adopt a position on the supreme intelligence without knowing what to believe about the eternal qualities of matter and its properties, the difference between mind and matter, the nature of man, and the development of animal life?

MADemoiselle de l'Espinasse: No.

BORDEU: So these questions are not as pointless as you said.

MADemoiselle de l'Espinasse: But how can they be important to me if I don't know how to clarify them?

BORDEU: And how will you know that if you don't examine them? But could I ask you which ones you find so obvious that examining them seems superfluous to you?

MADemoiselle de L'ESPINASSE: Well, for example, the question of my unity, of my "me." My goodness, it seems to me that so much verbiage is not necessary to know that I am myself, that I've always been me, and that I'll never be someone else.

BORDEU: No doubt the fact is obvious, but the reason for the fact is not at all obvious, especially in the hypothesis of those who only allow one substance and who explain the formation of man or animals in general by the successive accumulation of several sensitive molecules. Each sensitive molecule had its identity (its "me") before the accumulation, but how did it lose that, and how, from all these lost identities, does one end up with the consciousness of a totality?

MADemoiselle de L'ESPINASSE: It seems to me that contact alone is sufficient. Here's a experiment which I've done a hundred times . . . but wait a moment . . . I have to go to see what's going on behind these curtains . . . he's sleeping . . . When I put my hand on my thigh, at first I clearly sense that my hand is not my thigh, but after a certain length of time, when the heat is the same in both of them, I don't make that distinction any more—the limits of the two parts get mixed up, and they are as one.

BORDEU: Yes, until someone pricks one or the other. Then the distinction returns. So there is something in you which knows whether it's your hand or your thigh which has been pricked, and this something, it's not your foot, not even your pricked hand. It's the hand which hurts, but it's something else that knows, something which does not itself suffer from the pain.

MADemoiselle de L'ESPINASSE: But I think that something is my head.

BORDEU: It is your entire head?

MADemoiselle de L'ESPINASSE: No. But look, Doctor, I'm going to explain myself with a comparison. Almost all the reasoning of women and poets consists of comparisons. Imagine a spider . . .

D'ALEMBERT: What's going on there? . . . Is that you, Mademoiselle de L'Espinasse?

MADemoiselle de L'ESPINASSE: Shhh . . . keep quiet.
(Mademoiselle de L'Espinasse and the doctor remain silent for some time. Then

Mademoiselle de L'Espinasse speaks in a low voice) I think he's gone back to sleep.

BORDEU: No—it seems to me I hear something.

MADemoiselle de L'ESPINASSE: You're right. Has he resumed his dreaming?

BORDEU: Let's listen.

D'ALEMBERT: Why am I the way I am? That's because it was necessary for me to be like this . . . Here, yes, but somewhere else? At the pole? Below the equator? On Saturn? . . . If a distance of a few thousand leagues changes my species, what would a distance of a few thousand earth diameters do? . . . And if everything is a universal flux, as the panorama of the universe demonstrates to me everywhere, what would the changes in a time span of a few million centuries produce here and elsewhere? . . . Who knows what a thinking, feeling being is on Saturn? . . . But is there feeling and thought on Saturn? . . . Why not? . . . Would the sentient and thinking being on Saturn have more senses than I do? . . . If that's so, ah, how unfortunate for the Saturnian! . . . The more senses, the more needs.

BORDEU: He's right. The organs produce the needs and, conversely, the needs produce the organs.

MADemoiselle de L'ESPINASSE: Doctor, are you also delirious?

BORDEU: Why not? I've seen two stumps become over time two arms.

MADemoiselle de L'ESPINASSE: You're not telling the truth.

BORDEU: No I'm not, but when the two arms were missing I've seen the two shoulder blades grow longer, move in a pincer motion, and grow into two stumps.

MADemoiselle de L'ESPINASSE: That's crazy!

BORDEU: It's a fact. Imagine a long sequence of people with no arms. Now assume a continuous effort, and you'll see the two sides of this pincer grow longer, and get longer and longer, cross over one another at the back, return to the front, and perhaps develop digits at their extremities, thus making new arms and hands. The original structure alters itself or perfects itself according to necessity or habitual functions.

We walk and work so little, and we think so much, that I wouldn't deny the possibility that man might finish up as nothing but a head.

MADemoiselle de L'Espinasse: A head! Just a head! That's not much. I was hoping that with unrestrained love-making . . . you're putting all sorts of ridiculous ideas in my head.

BORDEU: Quiet!

D'ALEMBERT: So I am the way I am because I had to be that way. Change the whole and you necessarily change me. But the totality is changing constantly . . . Man is only a common effect, a monster is only a rare effect. Both of them are equally natural, equally necessary, equally part of the universal general order . . . Is there anything astonishing in that? . . . All beings circulate through each other—thus all the species . . . everything is in a perpetual flux . . . Every animal is more or less a human being, every mineral is more or less a plante, and every plant is more or less an animal. There is nothing fixed in nature . . . The ribbon of Father Castel . . . Yes, Father Castel, it's your ribbon and nothing else. Everything is more or less something or other, more or less earth, more or less water, more or less air, more or less fire, more or less of one kingdom or another . . . so there is no essence of any particular being . . . No, there's no doubt, since there is no quality which any being does not share in . . . and because it's the greater or smaller ratio of this quality which has made us attribute it to one being to the exclusion of another . . . And you talk about individuals, you poor philosophers! Forget about your individuals. Answer me this: is there an atom in nature which is exactly similar to another atom? No . . . Don't you agree that everything in nature is linked and it's impossible that there's a gap in nature's chain? Then what do you want to say with your individuals? There are no individuals, no, there are none . . . There is only one great individual—that's the totality. In this totality, as in a machine, in some animal or other, there is a part which you'll call this or that, but when you give the name "individual" to this part of the totality, it's a conceptual error, just as if, in a bird, you gave the name "individual" to a wing, to a feather in the wing . . . And you speak of essences, your poor philosophers! Forget about your essences. Look at the general mass, or if your imagination is too narrow to take it all in, consider your first origin and your final end . . . O Architas, you who measured the globe, who are you now? A few cinders . . . What is a being? . . . The sum of a certain number of tendencies . . . Can I be anything other than a tendency? . . . No, I'm moving towards an end . . . And what about the species? . . . Species are only common tendencies towards an end appropriate to them . . . And life? . . . Life, a series of actions and reactions . . . When living, I act and react as a mass . . . when dead, I act and react as different molecules . . . So I don't die? . . . No, undoubtedly I don't die in that sense, neither I nor anything that is . . . To be born, live, and pass away—that's changing

forms . . . And what's important about one form or another? Each form has the happiness and unhappiness appropriate to it. From the elephant all the way to the aphid . . . from the aphid all the way to the sensitive and living molecule, the origin of everything, there's no point in all nature which does not undergo pain and pleasure.

MADemoiselle de l'Espinasse: He's stopped talking.

BORDEU: Yes. He made a really fine speech. Now that's lofty philosophy. At this point it's a theoretical system, but I believe that the more human understanding progresses, the more it will be confirmed.

MADemoiselle de l'Espinasse: All right, then. Where were we?

BORDEU: To tell you the truth, I don't remember any more. He reminded me of so many things while I was listening.

MADemoiselle de l'Espinasse: Wait . . . just a minute . . . I was mentioning my spider.

BORDEU: Yes, yes.

MADemoiselle de l'Espinasse: Doctor, come closer. Imagine a spider at the centre of its web. Shake a strand. You'll see the animal rush up on the alert. All right then. What if the strands which the insect pulls from its intestines and pulls back when it wishes were a sensible part of itself?

BORDEU: I understand. You are imagining in yourself some part in a corner of your head—for example, in that part we call the meninges, one or several points where all the sensations aroused along the length of strands are brought.

MADemoiselle de l'Espinasse: That's it.

BORDEU: Your idea is as good as one can make it, but don't you see that it's almost the same thing as a particular cluster of bees?

MADemoiselle de l'Espinasse: Ah yes, that's true. I've been composing prose without realizing it.

BORDEU: And very good prose, as you're going to see. Anyone who understands a human being only by the form which he shows us at birth doesn't have the least idea. His head, feet, hands, all his limbs, all his viscera, all his organs, his nose, eyes, ears, heart, lungs, intestines, muscles, bones, nerves, membranes, properly described, are only the

basic developments of a network which is formed, grows, extends itself, and throws out a multitude of imperceptible threads.

MADemoiselle de l'Espinasse: That's my web, and the central point of all these threads is my spider.

BORDEU: Exactly.

MADemoiselle de l'Espinasse: Where are the strands? Where's the spider located?

BORDEU: The strands are everywhere. There is no part on the surface of your body where they don't end up. And the spider is lodged in a part of your head—the one I mentioned to you—the meninges, which we can hardly touch without knocking the entire machine unconscious.

MADemoiselle de l'Espinasse: But if an atom sets one of the spider's strands vibrating, the spider then is alarmed and disturbed. It flees or runs up. At the centre it is informed about everything which goes on in any point of the immense dwelling it has woven. Why don't I know what's going on in mine or in the world, since I am a pack of sensitive points which all impinge on me and since I impinge on everything?

BORDEU: It's because the impressions grow weaker in proportion to the distance they travel.

MADemoiselle de l'Espinasse: If we strike the lightest blow at the end of a long girder and if I place my ear on the other end, I hear the blow. If one end of the girder was touching the earth and the other end was in Sirius, the same effect would be produced. If everything is linked, contiguous—that is, as in the real existing girder—why do I not hear what goes on in the immense space which surrounds me, above all if I really open my ears?

BORDEU: And who has told you that you do not hear it more or less? But the distance is so great, the impression so faint, the passage so confused. You are surrounded and deafened by such violent and different sounds. And also between you and Saturn there are only contiguous bodes; whereas, there would need to be continuity.

MADemoiselle de l'Espinasse: That's a great pity.

BORDEU: That's true, because you would be God. Through your identity with all natural beings you would know everything going on. Through your memory you'd know everything that has been.

MADemoiselle de l'Espinasse: And what will be?

BORDEU: You'd form plausible conjectures about the future, but subject to error. It's precisely as if you were seeking to guess what's about to happen inside you or at the end of your foot or hand.

MADemoiselle de l'Espinasse: And who told you that this world doesn't also have its meninges or that there isn't a huge or a small spider located in some corner of space with its strands extending out to everything.

BORDEU: No one, still less if it has ever existed or will exist in future.

MADemoiselle de l'Espinasse: How could a God of that sort . . .

BORDEU: The only sort which one can conceive of . . .

MADemoiselle de l'Espinasse: . . . how could He have been or come and pass away?

BORDEU: How indeed? But since He would be made up of matter in the universe, a portion of the universe, subject to change, He'd grow old and die.

MADemoiselle de l'Espinasse: But hold on—another fanciful idea has come to me.

BORDEU: I'll spare you telling me. I know what it is.

MADemoiselle de l'Espinasse: We'll see. What is it?

BORDEU: You see intelligence unified with very energetic portions of matter and the possibility of all sorts of imaginable wonders. Others have thought the way you do.

MADemoiselle de l'Espinasse: You have guessed my thoughts correctly, but I don't respect you any more for that. You must be amazingly fond of foolishness.

BORDEU: I agree. But what's frightening about that idea? There would be an epidemic of good and evil geniuses, the most constant laws of nature would be interrupted by natural agents, our understanding of general physics would become more difficult, but there would be no miracles.

MADemoiselle de l'Espinasse: In truth, we should be very cautious about what we affirm and what we deny.

BORDEU: Come now, anyone who told you about a phenomenon like that would sound like a great liar. But let's set aside these imaginary beings, including your spider with its infinite networks. Let's go back to your network and its formation.

MADemoiselle de l'Espinasse: That's fine with me.

D'ALEMBERT: Mademoiselle, you're there with someone. Who's talking out there with you?

MADemoiselle de l'Espinasse: It's the doctor.

D'ALEMBERT: Good morning, doctor. What are you doing here so early in the morning?

BORDEU: You'll find out. Go to sleep.

D'ALEMBERT: On my word, I need to. I don't think I've spent a night as disturbing as this past one. Don't leave before I get up.

BORDEU: No, I won't. Mademoiselle, I'll wager that since you believed that at twelve years old you were a woman half the size you are now, and at four years old a woman half as small again, at the foetal stage a tiny woman, and in the sex cells of your mother a very small woman, you thought that you've always been a woman with the shape you have now, so that the successive stages of growth you've been through are the only things that have made all the difference between you at your origin and you as you are now.

MADemoiselle de l'Espinasse: Yes, that's right.

BORDEU: However, nothing is more false than this idea. To begin with, you were nothing. At the start you were an imperceptible point formed of the smallest molecules, scattered in the blood and lymph of your father and mother. This point became a slender thread, then a bundle of threads. Up to that point, there wasn't the least trace of this pleasing shape you have now. Your eyes, these beautiful eyes, didn't look any more like eyes than the tip of an anemone's claw looks like an anemone. Each section of this bundle of threads was changed merely by nutrition and its structure into a particular organ, with the exception of organs in which parts of the bundle are metamorphosed and give rise to that organ. The bundle is a system of pure sensation. If it remained in this form, it would be susceptible to all impressions connected with pure sensibility, like cold, heat, softness, roughness. These successive

impressions, different from each other and of varying intensities perhaps could produce memory in it, awareness of itself, and a very limited reasoning. But this pure and simple sensibility, this sense of touch, diversifies itself in the organs developed from each of these sections of the bundle. One section forms an ear and gives rise to a type of touching which we call noise or sound. Another forms the palate, giving rise to second type of touching which we call taste. A third forms the nose and the nasal lining, giving rise to a third type of touching which we call smell. A fourth forms an eye and gives rise to a fourth type of touching which we call colour.

MADemoiselle de l'Espinasse: But if I've understood you correctly, those who deny the possibility of a sixth sense, a true hermaphrodite, are foolish. Who told them that nature could not form a bundle with a unique section which could give rise to an organ unknown to us?

BORDEU: Or with two sections characteristic of the two sexes? You're right. It's a pleasure to talk with you. You not only grasp what people say to you, but you also draw conclusions from that with a justice which astonishes me.

MADemoiselle de l'Espinasse: Doctor, you're encouraging me.

BORDEU: No, on my word, I'm telling you what I think.

MADemoiselle de l'Espinasse: I see well enough the use of some of these sections of the bundle, but what do the others become?

BORDEU: Do you think someone other than yourself has wondered about this question?

MADemoiselle de l'Espinasse: Certainly.

BORDEU: Well, you aren't conceited. The rest of the threads form as many other types of touching as there is variety between the organs and the parts of the body.

MADemoiselle de l'Espinasse: What do we call them? I've never heard people talk about that.

BORDEU: They don't have a name.

MADemoiselle de l'Espinasse: Why is that?

BORDEU: Because there are not as many differences between the sensations they arouse as there are between the sensations aroused by the other organs.

MADemoiselle de L'ESPINASSE: In all seriousness, do you think the foot, hand, thighs, stomach, chest, lungs and heart have their characteristic sensations?

BORDEU: Yes, I do. If I dared, I'd ask you if among these sensations which we have no name for . . .

MADemoiselle de L'ESPINASSE: I see what you mean. No. That is the only one of its type, and that's a pity. But what reason do you have for this multiplicity of sensations—more painful than pleasant—which it pleases you to bestow on us.

BORDEU: What reason? Well, because we perceive the majority of them. If this infinite diversity of touching did not exist, we'd know that we were experiencing pleasure or pain, but we wouldn't know what to connect them with. We'd have to have recourse to our vision. That wouldn't be a matter of sensation any more, but a matter of experience and observation.

MADemoiselle de L'ESPINASSE: So if I said I have a pain in my finger and if someone asked me why I know the pain is in my finger, I'd have to reply not that I felt it, but that I felt the pain and I saw that my finger was hurt?

BORDEU: That's it. Come let me give you a kiss.

MADemoiselle de L'ESPINASSE: With pleasure.

D'ALEMBERT: Doctor, you are kissing mademoiselle—good for you.

BORDEU: I've given the matter a great deal of thought, and it seems to me that the direction and the location of the stimulus would not be sufficient to permit so sudden a judgment of whatever it is at the centre of the bundle.

MADemoiselle de L'ESPINASSE: I have no idea about that.

BORDEU: Your doubt pleases me. It is so common to assume that natural qualities are acquired habits almost as old as we human beings.

MADemoiselle de L'ESPINASSE: And vice versa.

BORDEU: Whatever it is, you see that with a question where it's a matter of the first formation of an animal, it's too late to concentrate one's focus and thoughts on the completely developed animal—we have to go back to its first rudiments. For that you have to strip off your present organic structure and get back to a moment when you were only a substance made up of soft vermicular filaments, without a shape, more like a bulb or a root than an animal.

MADemoiselle de l'Espinasse: If our custom was to go down the street totally naked, I would not be the first or the last to conform. So do what you like with me, provided that you teach me something. You told me that each section of the bundle formed a particular organ. What proof do you have of this?

BORDEU: In your mind do what nature sometimes does—cut through one of the sections of the bundle, for example, the part which forms the eyes. What do you think will happen?

MADemoiselle de l'Espinasse: Perhaps the animal will have no eyes.

BORDEU: Or it might have only a single one placed in the middle of the forehead.

MADemoiselle de l'Espinasse: It would be a Cyclops.

BORDEU: A Cyclops.

MADemoiselle de l'Espinasse: So it could be that the Cyclops was not a creature out of fables.

BORDEU: Probably not—and I'll show you one if you like.

MADemoiselle de l'Espinasse: Who knows the cause of this change?

BORDEU: The man who dissected this monstrosity and found it had only one optic thread. Now, in your mind do what nature sometimes does. Remove another section of the bundle, the part that forms the nose—the animal will be without a nose. Remove the section which should form the ear, the animal will be without ears, or will only have one, and the anatomist in his dissection won't find either the olfactory threads or the auditory threads or will find only one of the latter. If you continue removing sections of the bundle the animal will lack a head, feet, hands—its lifespan will be short, but it will have lived.

MADemoiselle de l'Espinasse: And are there any examples of this?

BORDEU: Certainly. And that's not all. If you double some of these bundles, the animal will have two heads, four eyes, four ears, three testicles, three feet, four arms, six fingers on each hand. Mix up the threads of the bundle, and the organs will be displaced: the head will be situated in the middle of the chest, the lungs will be on the left, the heart on the right. Stick two bundles together, and the organs will be mixed together—the arms will be stuck on the body, the thighs, limbs, and feet will be fused together, and you'll have every kind of monstrosity you can imagine.

MADemoiselle de l'Espinasse: But it seems to me that a machine as complex as an animal, a machine which develops from a single point, in an agitated fluid, perhaps in two fluids mixed together randomly—for one hardly knows what one is doing at such times—a machine which develops toward perfection through an infinity of successive developments, a machine whose regular or irregular development depends upon a bundle of thin, delicate, flexible wires, a kind of tangle where the least thread cannot be broken, worn out, displaced, or missing without harmful consequences for the totality—such a machine would get all tied up and confused during its development even more than the silk on my skein winder.

BORDEU: Well, it does suffer much more than we think. There's not enough dissection done, and our ideas about its development are very far from the truth.

MADemoiselle de l'Espinasse: Do we have any noteworthy examples of these original deformities, other than hunchbacks and cripples, in whom we could attribute the misshapen form to some hereditary defect?

BORDEU: There are numberless examples. Very recently a man died of pneumonia in Charité de Paris infirmary. He was a twenty-five-year-old carpenter born at Troyes, called Jean-Bapiste Macé. The inner organs of his chest and abdomen were reversed—his heart was on the right, just as it is on the left in you; his liver was on the left, his stomach, spleen, and pancreas on the right hypochondria; the portal vein to the liver on the left side (corresponding to the position it is has when it goes to the liver on the right), the same transposition along the length of the intestinal tract; the kidneys leaning against each other by the lumbar vertebrae, making the shape of a horseshoe. And with all that people are still going to talk to us about final causes!

MADemoiselle de l'Espinasse: That's remarkable.

BORDEU: If Jean-Baptiste Macé had been married and had had children . . .

MADemoiselle de L'ESPINASSE: Yes, doctor, what about his children?

BORDEU: They'd have the usual shape, but because these irregularities make jumps, some child of their offspring, after about a hundred years, will return back to the strange organic arrangements of his ancestor.

MADemoiselle de L'ESPINASSE: Where do these jumps come from?

BORDEU: Who knows? To make a child requires two people, as you know. Perhaps one of these agents fixes the defect in the other and the defective network is not reborn until the moment when the descendant of the family with the monstrosity predominates and determines the formation of the network. The bundle of threads is the basis for the first and original difference in all animal species. The varieties in the bundle for a species create all the abnormal varieties of this species . . . [*After a long silence, Mademoiselle de L'Espinasse emerges from her reverie and draws the doctor out of his with the following comments*] . . . I've just had a ridiculous idea.

BORDEU: What's that?

MADemoiselle de L'ESPINASSE: Perhaps man is only an abnormal woman or a woman an abnormal man.

BORDEU: This idea would have come to you a lot sooner if you had known that a woman has all the parts of a man and that the only difference is between a pouch which hangs outside and a pouch that is tucked away inside, that a female foetus looks so like a male foetus that one can make a mistake about them. The part which gives rise to the error grows smaller in the female foetus as the interior pouch enlarges, but it never diminishes to the point of losing its first shape, and it keeps this shape in miniature, undergoes the same movements, and is the source of feelings of sexual pleasure. It has its glans and prepuce, and we can see at its tip a point which seems to have been the opening to a urinary canal which is closed off. And in a man, from the anus up to the scrotum, there's a space called the perineum, and from the scrotum to the tip of the penis, a seam which seems to be a repeat of a sealed up vulva. Also women who have an excessively large clitoris have beards, and eunuchs do not, but their thighs build up, their hips widen, and their knees grow rounder. As they lose the organic structure characteristic of one sex, they seem to return to the arrangements characteristic of the other. Among Arabs, those who have been castrated by constant horse riding lose their beards, acquire a thin voice, dress in women's clothes,

and sit among them on chariots. They crouch down to piss and take on the customs and habits of women. . . . But we've come a long way from our subject. Let's get back to our bundle of animated and living filaments.

D'ALEMBERT: I'm afraid you've been talking about some dirty things with Mademoiselle de L'Espinasse.

BORDEU: When one talks science, it's necessary to use technical language.

D'ALEMBERT: You're right. Then the words lose the train of associated ideas which makes them improper. Continue, doctor. So you were saying to Mademoiselle that the womb is nothing other than a scrotum tucked back from the outside to the inside, a movement in which the testicles are thrown out of the pouch which encloses them and placed on the right and the left in the body cavity, that the clitoris is a miniature male member, that this virile member in a woman gets increasing small to the extent that the womb or the reversed scrotum enlarges, and that . . .

MADemoisELLE DE L'ESPInASSE: Yes, yes. Now stay quiet, and don't interfere in our business.

BORDEU: You see, Mademoiselle, that with the question of our sensations in general, which are all only various kinds of touching, we have to leave the successive forms which the network takes on and focus our attention on the network alone.

MADemoisELLE DE L'ESPInASSE: Each strand of this sensitive network can be injured or tickled along its entire length. The pleasure or pain is here or there, in one location or another on one of the long legs of my spider, for I always come back to my spider. It's the spider which is located at the common origin of all the legs and which establishes that the pain or pleasure is at such and such a place without experiencing the pleasure or pain itself.

BORDEU: It's this continual, invariable interaction between all impressions and the common origin which constitutes the unity of the animal.

MADemoisELLE DE L'ESPInASSE: And it's the memory of all these successive impressions which creates for each animal the history of his life and of its individuality.

BORDEU: And it's the memory and the comparisons which necessarily come after all these impressions which create thought and reason.

MADemoiselle de l'Espinasse: Where is this comparison made?

BORDEU: At the centre of the network.

MADemoiselle de l'Espinasse: What about the network itself?

BORDEU: It does not have in its centre any sense unique to it. It cannot see or hear, and it doesn't suffer. It's produced and fed. It arises from a soft, insensitive, inert substance which serves as a pad on which it sits, listens, judges, and pronounces.

MADemoiselle de l'Espinasse: It suffers no pain.

BORDEU: No. With the lightest impression on the centre of the network it stops responding, and the animal falls into a death-like state. If you make this impression stop, it returns to its functions, and the animal is reborn.

MADemoiselle de l'Espinasse: How do you know that? Has anyone ever made a man die and be born again at will?

BORDEU: Yes.

MADemoiselle de l'Espinasse: And how did that happen?

BORDEU: I'm going to tell you. It's a strange case. La Peyronie, whom you may have known, was called to visit an invalid who had received a violent blow on the head. The invalid felt his head beating. The surgeon was sure that an abscess had formed on the brain and there wasn't a moment to lose. He shaved the invalid and opened the skull. The point of his instrument struck the very centre of the abscess. It had pus in it. He drained off the pus and cleaned the abscess with a syringe. When he pushed his injection into the abscess, the invalid closed his eyes, his limbs went immobile and inert, without the least sign of life. When he pulled back on the syringe and relieved the weight and pressure of the injected fluid on the centre of the network, the invalid re-opened his eyes, moved, spoke, felt, was reborn, and came to life.

MADemoiselle de l'Espinasse: That is remarkable. And did this invalid recover?

BORDEU: He did. And when he was cured, he reflected, thought, and reasoned. He had the same intelligence, the same good sense, the same ability to sort things out, with a good portion of his brain gone.

MADemoiselle de l'Espinasse: That judge you referred to in the network is an extraordinary creature.

BORDEU: It sometimes makes mistakes. Its habits tend to make it biased—the way people feel pain in a limb which they don't have any more. You can mislead it whenever you like: if you cross your fingers one on top of the other and touch a small ball it will declare there are two of them.

MADemoiselle de l'Espinasse: That shows it's just like all judges in the world and needs experience, without which it will mistake the feeling of ice for that of fire.

BORDEU: It can do many other things. It can give an almost infinite volume to an individual or shrink the individual down almost to a point.

MADemoiselle de l'Espinasse: I don't understand you.

BORDEU: What is it that establishes a limit to your actual extent, the true sphere of your sensibility?

MADemoiselle de l'Espinasse: My senses of sight and touch.

BORDEU: During the day, yes, but at night, in the shadows, above all when you're dreaming about something abstract, or even during the day when your mind is preoccupied.

MADemoiselle de l'Espinasse: Nothing. I exist as a point. I almost cease to be something material. I feel only my thought. There is no more sense of place or movement or body or distance or space for me. The universe is annihilated for me, and I am nothing to it.

BORDEU: There you have the final limit to the concentration of your existence, but, in theory, its expansion could have no limits. When the true limit of your sensibility has been passed, whether by moving into yourself, shrinking into yourself, or in extending yourself outwards, we no longer know what that might become.

MADemoiselle de l'Espinasse: You're right, Doctor. Several times in dreaming it's seemed to me . . .

BORDEAU: And with invalids suffering an attack of gout . . .

MADemoiselle de l'Espinasse: . . . that I was getting huge .

.

BORDEU: . . . their foot seemed to touch the canopy over the bed.

MADemoiselle de l'Espinasse: . . . that my arms and legs were getting infinitely longer and the rest of my body was acquiring a proportional volume, that Enceladus in the fable was nothing but a pigmy, that Amphitrite in Ovid, whose long arms went to make an immense belt around the earth, was nothing but a dwarf in comparison to me, and that I was mounting up into the sky and embracing both hemispheres

BORDEU: Yes, that's really good. And I knew a woman in whom the phenomenon worked in reverse.

MADemoiselle de l'Espinasse: What! She got smaller gradually and shrunk into herself?

BORDEU: To the point where she felt herself as tiny as a needle. She saw, heard, reasoned, and judged, and she had a mortal fear of losing herself. She trembled when the smallest objects came near her. She didn't dare to budge from where she was.

MADemoiselle de l'Espinasse: Now, there's a strange dream—really distressing and inconvenient.

BORDEU: She wasn't dreaming at all. It was one of those things that happen when the menstrual cycle stops.

MADemoiselle de l'Espinasse: Did she remain long with this sense of being a tiny imperceptible woman?

BORDEU: One or two hours, after which she returned in stages to her natural size.

MADemoiselle de l'Espinasse: What's the reason for these odd sensations?

BORDEU: In their natural and calm condition, the threads of the bundle have a certain tension, a tone, a habitual energy which determines the real or imagined extent of the body. I say real or imagined, because since this tension, this tone, this energy is variable, so our bodies are not always the same volume.

MADemoiselle de l'Espinasse: Thus, in physical matters, just as with moral issues, we are subject to thinking ourselves greater than we are?

BORDEU: Cold makes us smaller, heat makes us larger, and an individual of a certain sort can believe all his life that he is smaller or larger than he really is. If it so happens that the mass of the bundle goes through an state of extremely violent irritation, so the threads begin to stand up and the countless multitude of their extremities begin to push themselves out beyond their customary limits, then the head, feet, other limbs, and all the points on the surface of the body will be shifted an immense distance, and the individual will feel himself gigantic. The reverse phenomenon will occur if insensibility, apathy, and inertia take over the extremity of the threads and move them gradually towards the centre of the bundle.

MADemoiselle de l'Espinasse: I see that this expansion cannot be measured and I also see that this insensibility, apathy, and inertia at the end of the threads, this numbness, after progressing some extent could end up establishing itself. . . .

BORDEU: Just what happened to La Condamine. At that point the individual feels as if he has balloons under his feet.

MADemoiselle de l'Espinasse: He exists beyond the limits of his physical sensations, and if he was enveloped in this apathy in every way, to us he'd seem like a small man living within a dead one.

BORDEU: From that you conclude that the animal which was nothing but a point at its origin still doesn't know if it is, in reality, anything more. But let's go back.

MADemoiselle de l'Espinasse: Where to?

BORDEU: Where? To La Peyronie's trepanning. . . . There, I think, you had just what you asked me for, the example of a man who alternated between life and death. But there are better.

MADemoiselle de l'Espinasse: What could that be?

BORDEU: The myth of Castor and Pollux come to life—two children in whom the life of one was immediately followed by the death of the other, and the life of the latter immediately followed from the death of the first.

MADemoiselle de l'Espinasse: Now that's a fine story. Did that last a long time?

BORDEU: This existence lasted for two days which they shared equally, going through the different cycles, so that each one had one day of life and one day of death respectively.

MADemoiselle de l'Espinasse: I fear, Doctor, that you're abusing my credibility somewhat. Take care—if you deceive me once, I won't believe you any more.

BORDEU: Do you ever read the *Gazette de France*?

MADemoiselle de l'Espinasse: Never, although it's a masterpiece by two intelligent men.

BORDEU: See if someone will lend you the September 4 issue, this month, and you'll see that in Rabastens in the diocese of Albi, two girls were born back to back, joined at their last lumbar vertebrae, their buttocks, and the hypogastric region. They couldn't hold one of them upright unless the other's head was down. When they were lying down, they could look at each other. Their thighs were bent between their trunks, and their limbs were raised. In the middle of the common circular line where they were attached in the hypogastric area, one could discern their sex, and between the right thigh of the one and the corresponding left thigh of her sister, in a cavity there was a small anus through which meconium came out.

MADemoiselle de l'Espinasse: That's a really odd species.

BORDEU: They took in milk given to them on a spoon. As I told you, they lived for twelve hours, one losing consciousness as the other came out of unconsciousness, one dead while the other lived. The first blackout of one and the first life for the other was at four hours. The alternating blackouts and returns to life which came afterwards were shorter. They died at the same moment. People noticed that their navels also had an alternating movement outwards and inwards, going in for the one who was unconscious and going out for the one who was returning to life.

MADemoiselle de l'Espinasse: And what are you saying about these alternating periods of life and death?

BORDEU: Perhaps nothing worth very much, but since we see everything through the spectacles of our own system and I don't want to be an exception to the rule, I say that it's the phenomenon of La Peyronie's trepanning but doubled in two joined beings. The networks in these two children were so thoroughly mixed together that they acted on and reacted to each other. When the centre of the bundle of one had the upper hand, it took control of the other child's network, and she immediately blacked out. And when the network of the second child dominated their common system, the situation reversed. In La Peyronie's trepanning patient, the pressure was directed downward from above by the weight of a fluid; in the twin girls of Rabastens, the

pressure came up from below through the tension in a certain number of threads in the network: this hypothesis is supported by the alternating inward and outward movement of their navels—in the one returning to life the navel came out, and in the one dying it went back in.

MADemoiselle de l'Espinasse: There we have an example of two linked souls.

BORDEU: An animal based on the principle of two sensing systems and two areas of consciousness.

MADemoiselle de l'Espinasse: But only having the use of one of them by itself at any given time. Still, who knows what would have happened if this animal had lived.

BORDEU: With the experience of all these moments of life and the most powerful habits one could imagine, what sort of intercommunication would have been established between these two brains?

MADemoiselle de l'Espinasse: Double senses, a double memory, a double imagination, a double ability to focus—one half of a being which observes, reads, meditates, which its other half rests; then this other half takes up the same functions when its companion is weary: the double life of a double being.

BORDEU: That's possible. And in time nature brings out everything possible, so it will produce some strange compound creations.

MADemoiselle de l'Espinasse: How impoverished we would be in comparison with such a being!

BORDEU: But why? There are already so many uncertainties, contradictions, and foolish things in a simple understanding that I have no idea any more what would happen with a double understanding. But it's half past ten, and I hear a patient calling me from across town.

MADemoiselle de l'Espinasse: Would he be in any danger if you did not visit him?

BORDEU: Probably less than if I do visit. If nature can't do the work without me, then we'll have a good deal of trouble doing it together, and it's certain that I'll not get it done without her.

MADemoiselle de l'Espinasse: So why not remain?

D'ALEMBERT: Doctor, one word more, and I'll send you to your patient. Given all the vicissitudes which I've been through in the course of my life, I probably don't have now a single one of the molecules which I brought into the world when I was born. So how have I retained my identity for other people and for myself?

BORDEU: You told me that while you were dreaming.

D'ALEMBERT: Was I dreaming?

MADemoiselle de L'ESPINASSE: All night long—and it was so much like a delirium that I sent someone out to find the doctor this morning.

D'ALEMBERT: All that for the business of the spider's legs moving on their own, thus keeping the spider alert and making the animal talk. And what did the animal say?

BORDEU: Through its memory it retained its identity for others and for itself. And I'd add through the slowness of the changes. If you'd passed in the wink of an eye from youth to decrepitude, you'd been thrown into this world as if at the first moment of your birth, and you'd not have been yourself either to others or to yourself, and other people would not have been themselves for you. All interconnections between you would have been destroyed, the whole history of your life would have been jumbled up for me and all the history of my life would have been jumbled up for you. How could you have known that this man, bent over his stick, with no spark in his eyes, dragging himself along with difficulty, still more strange to himself inside than on the outside, was the same man who yesterday was walking along so lightly, shifting heavy loads, who was able to give himself over to the most profound meditations, to the most delicate and the most powerful exercises? You wouldn't have understood your own works, you wouldn't have recognized yourself or anyone, and no one would've recognized you. The entire picture of the world would've changed. Remember that there was even less difference between you as a new born and a young person than there would be between you as a young man and you if you suddenly became a decrepit old man. Keep in mind that, although your birth was linked to your youth by a sequence of uninterrupted sensations, the first three years of your existence have never been in the conscious history of your life. So what would the time of your youth be for you if it hadn't been linked at all to the moment of your decrepitude? The decrepit D'Alembert wouldn't have the slightest memory of the young D'Alembert.

MADemoiselle de l'Espinasse: In the cluster of bees, there would not have been one who'd had the time to develop a sense of the larger group.

D'Alembert: What are you talking about?

MADemoiselle de l'Espinasse: I'm saying that the monastic spirit maintains itself because the monastery refurbishes itself gradually. When a new monk enters, he encounters a hundred old men who train him to think and feel as they do. A bee goes away. It is succeeded in the cluster by another who's soon up to date with what's going on.

D'Alembert: Come on, what's all this extravagant talk of yours about monks, bees, clusters, and monasteries.

Bordeu: Not as extravagant as you might think. If there's only one consciousness in an animal, there are countless wills at work, for each organ has its own.

D'Alembert: Why do you say that?

Bordeu: Well, I mean that the stomach wants food, but the palate does not. The difference between the palate or the stomach and the entire animal is that the animal knows what it wants, but the stomach and the palate have desires without knowing it. The stomach or the palate are to the complete animal almost like the brute is to the human being. The bees lose their own consciousness but retain their appetites or desires. The fibre is a simple animal; the human being is a complex animal. But let's keep that issue for another occasion. To remove a human being's consciousness of himself doesn't require sudden decrepitude—a considerably smaller event can do it. A man on the point of death receives the sacraments with a profound piety, he confesses his sins, asks his wife's forgiveness, kisses his children, summons his friends, speaks to his doctor, gives instructions to his servants, dictates his last wishes, puts his affairs in order—and all that with the soundest judgment, with his intelligence fully engaged. Then once cured, he convalesces, and hasn't the least idea of what he said or did during his illness. This period of time, sometimes very long, has disappeared from his life. There are even examples of people who have resumed the conversation or the action which the sudden attack of illness interrupted.

D'Alembert: I remember that in a public academic exercise, a college pedant, all puffed up with his knowledge, was completely put down, as they say, by a Capucin whom he despised. He—put down completely! And by whom? By a Capucin! And what was the question under discussion? The contingent future—a subject which he had been thinking about all his life! And in what circumstances! In front of a

crowded assembly, in front of his own students! There he was, his honour gone. His head worked over these ideas so much that he fell into a lethargic state which took from him all the knowledge he'd acquired.

MADemoiselle de l'Espinasse: But that was a happy thing for him.

D'Alembert: I'd say you're right. He retained his good sense, but he'd forgotten everything. People taught him to speak and read again, and he died just when he was beginning to spell reasonably well. This man was no idiot. It was said he even had a certain eloquence.

MADemoiselle de l'Espinasse: Since the doctor has listened to your story, he has to listen to mine, too. A young man about eighteen or twenty years of age, whose name I don't remember . . .

Bordeu: He was M. de Schulleberg from Wintertur, and he was only fifteen or sixteen.

MADemoiselle de l'Espinasse: This young man suffered a fall in which he received a severe head concussion.

Bordeu: What are you calling a severe concussion? He fell off the top of a barn. His head was smashed in, and he remained unconscious for six weeks.

MADemoiselle de l'Espinasse: Whatever happened, do you know what followed this accident? The same as with your pedant. He forgot everything he knew. He was brought back as a very young child. He had a second childhood which lasted a while. He was timid and petty. He amused himself with toys. If he did something wrong and someone told him off, he went to hide in a corner. He asked if he could go to the bathroom for a number one or a number two. They taught him to read and write. But I forgot to tell you that it was necessary to teach him to walk again. He became a man again—and a clever one, too. He left a work on natural history.

Bordeu: It was a series of engravings, plates to go with M. Sulzer's work on insects, following the system of Linnaeus. I knew about this incident. It happened in the canton of Zurich, in Switzerland, and there are a number of similar examples. If you disturb the centre of the bundle, you change the animal. Apparently the animal has its whole being there, sometimes dominating the various branches and sometimes dominated by them.

MADemoiselle de l'Espinasse: The animal is either subject to despotism or anarchy.

BORDEU: Under despotism—that's a very good expression. The centre of the bundle issues its orders, and all the rest obeys. The animal is master of itself, *mentis compos* [*of sound mind*].

MADemoiselle de l'Espinasse: In a state of anarchy all the threads of the network rise up against their commander and there's no longer a supreme authority.

BORDEU: Exactly right. In great fits of passion, in delirium, or when danger is imminent, if the master directs all the forces of his subjects towards a single point, the most feeble animal manifests an incredible strength.

MADemoiselle de l'Espinasse: With fits of the vapours, there is a type of anarchy which is peculiar to us women.

BORDEU: It's the image of a weak administration where each person arrogates to himself the authority of the master. I know only one way to cure it. It's difficult, but effective—because the central part of this sensitive network, the part which makes up its identity, has the ability to be so affected by a powerful motive that it recovers its authority.

MADemoiselle de l'Espinasse: And then what happens?

BORDEU: What happens is that it does, in fact, regain its control, or the animal dies. If I had the time, I'd tell you two remarkable things about that.

MADemoiselle de l'Espinasse: But, Doctor, the time for your visit is past, and your patient isn't expecting you any more.

BORDEU: I really shouldn't come here except when there's nothing to do, because it's just impossible to get away.

MADemoiselle de l'Espinasse: All right, so much for your moody outburst. Now what about your stories?

BORDEU: Today you'll have to content yourself with this one. After her pregnancy, a woman fell into a most frightening condition of vapours—involuntary crying and laughter, asphyxiation, convulsions, swelling in the throat, gloomy silences, piercing cries—everything bad. This lasted for several years. She was passionately in love, and she believed she was seeing her lover, weary of her illness, beginning to grow distant. So she resolved to get better or die. A civil war developed in her, in which sometimes the master was victorious and sometimes the subjects. If the action of the threads in the network happened to be equal to the reaction from their centre, she fell down as if dead. She was

taken to her bed, where she remained for hours without moving, almost lifeless. At other times, she got off with some lassitude and a general weakness, a wasting away which seemed it might be final. She remained six months in this state of war. The rebellion always began with the threads. She felt it coming on. At the first symptom, she'd get up, run around, devote herself to the most strenuous exercises—climbing up and down stairs, sawing wood, digging up the ground. The organ of her will power at the centre of her network got stronger. She used to say to herself, "Victory or death." After countless victories and defeats, the chief emerged the master, and the subjects became so submissive that, although this woman went through all sorts of domestic troubles and suffered different illnesses, there was no more trouble with vapours.

MADemoiselle de l'Espinasse: That was nice, but I think I'd have done much the same.

BORDEU: That's because if you were in love, you'd love well, and because you're strong.

MADemoiselle de l'Espinasse: I understand. One is strong if by habit or by structure the centre of the network dominates the threads. On the other hand, one is weak if that centre is dominated by the threads.

BORDEU: We can derive many other conclusions from that.

MADemoiselle de l'Espinasse: But what about your other story? You can draw your conclusions later.

BORDEU: A young woman had devoted herself to several affairs. One day she made a decision to shut the door on her pleasures. There she was alone and melancholy and suffering from vapours. She had me summoned. I advised her to put on a peasant costume, dig up the ground all day, sleep on straw, and live on stale bread. This style of life did not please her. "So travel," I told her. She made a tour of Europe and recovered her health on the road.

MADemoiselle de l'Espinasse: That was not what you were going to say. But no matter—let's move on to your conclusions.

BORDEU: I'd never be able to finish.

MADemoiselle de l'Espinasse: So much the better. Tell me anyway.

BORDEU: I don't have the energy.

MADemoiselle de l'Espinasse: Why not?

BORDEU: Because at the rate we're going we'll just skim over everything and not go into anything in depth.

MADemoiselle de l'Espinasse: What does that matter? We're not composing anything—we're having a conversation.

BORDEU: For example, if the centre of this network calls back all the energies into itself, if the whole system, so to speak, moves backwards, as I believe happens in a man who meditates profoundly, in a fanatic who sees the skies open, in a savage who sings in the middle of the flames, in ecstasy, in voluntary or involuntary insanity . . .

MADemoiselle de l'Espinasse: Well then?

BORDEU: Well, then the animal becomes impassive. It's alive only at a single point. I didn't see the priest of Calamos, who St. Augustine talks about, the man who used to lose himself to the point of no longer feeling burning coals. And I didn't see the group of those savages being tortured who smiled at their enemies, insulted them, and suggested to them more exquisite tortures than those they were being made to suffer. I didn't see in the gladiatorial circus those gladiators who, as they were dying, remembered the grace and lessons of their gymnasium. But I believe all these cases, because I've seen—and seen with my own eyes—behaviour just as extraordinary as any of those.

MADemoiselle de l'Espinasse: Tell me about it, Doctor. I'm like a child—I love marvellous facts, and if it brings honour to the human race, it I rarely challenge their credibility.

BORDEU: In a small town of Langres in Champagne, there was a good priest called Le Moni or De Moni, very devout and well versed in the truth of religion. He suffered attacks of a kidney stone, and it was necessary to operate on him. The day was chosen, the surgeon, his aides, and I go to his house. He receives us with a serene expression. He undresses and lies down on his bed. We want to tie him down, but he refuses. "Just set me in place," he says, "in a convenient position." So we do that. Then he requests a large crucifix which was at the foot of the bed. We give it to him. He holds it between his arms and presses his mouth against it. We operate. He remains motionless. No tears or sighs escape him, and he was freed of the stone. He didn't even know it had taken place.

MADemoiselle de l'Espinasse: That's a fine story. After that, you still doubt that the man whose ribs people broke with rocks saw the skies open.

BORDEU: Do you know about ear ache?

MADemoiselle de l'Espinasse: No.

BORDEU: Lucky for you. It's the cruellest of all illnesses.

MADemoiselle de l'Espinasse: Worse than tooth ache—which unfortunately I do know something about?

BORDEU: There's no comparison. One of your friends, a philosopher, was tormented by one for two weeks. Then one morning he said to his wife, "I don't think I've enough endurance to get through the whole day. . . ." He thought that his only solution was to trick the pain artificially. Little by little he lost himself in thought about a question of metaphysics or geometry so completely that he forgot about his ear. They served him something to eat, and he dined without noticing his ear ache, and reached the hour of his bed time without suffering anything. The horrible pain did not come back until the tension in his mind stopped, but then it came with an incredible intensity, either because his weariness had irritated the sickness or because it had made it harder for him to endure it.

MADemoiselle de l'Espinasse: In coming out of that condition, one should, in fact, be emotionally drained to the point of exhaustion. That's what sometimes happens to this man here.

BORDEU: That's dangerous. He should be careful.

MADemoiselle de l'Espinasse: I'm always telling him that, but he pays no attention.

BORDEU: That how he lives—he's can't control it any more. It will be the death of him.

MADemoiselle de l'Espinasse: That diagnosis makes me fearful.

BORDEU: What does this weariness, this lassitude, prove? That the threads in the network have not remained idle, and there's been an acute tension towards the common centre in the entire system.

MADemoiselle de l'Espinasse: What if this tendency toward acute tension lasts and become habitual?

BORDEU: That creates a spasm in the centre of the network. The animal goes mad—almost beyond any cure.

MADemoiselle de l'Espinasse: Why?

BORDEU: Well, a spasm in the centre is not like a spasm in one of the threads. The head is perfectly capable of commanding the feet, but the feet cannot command the head. The centre can command one of the threads, but the thread cannot command the centre.

MADemoiselle de l'Espinasse: Please explain the difference to me. In fact, why don't I think throughout my body? That's a question I should've thought about earlier.

BORDEU: It's because consciousness has only one location.

MADemoiselle de l'Espinasse: Well, there's a quick answer.

BORDEU: It can have only one location, at the common centre of all sensations, the place where the memory sits and comparisons are made. Each thread is only susceptible to a certain fixed number of impressions, successive sensations, in isolation and unremembered. The centre is susceptible to everything. It is the registry. It keeps the memory or a sustained sensation, and the animal is led from its first formation to connect itself with this centre, to fix its entire identity there, and to exist in it.

MADemoiselle de l'Espinasse: What if my finger could have a memory?

BORDEU: Your finger would think.

MADemoiselle de l'Espinasse: So what then is memory?

BORDEU: It's the property of the centre, the specific sense of the centre of the network, just as sight is the property of the eye. And it's no more astonishing that the eye has no memory than that the ear has no sense of sight.

MADemoiselle de l'Espinasse: Doctor, you're evading my questions rather than dealing with them properly.

BORDEU: I'm not evading anything. I'm telling you what I know, and I would know more if I understood as much about the structure of the centre of the network as I do about the threads and if I'd had the same chance to observe it. But if I'm weak on certain specifics, I'm very strong on general phenomena.

MADemoiselle de l'Espinasse: And these general phenomena are . . . ?

BORDEU: Reason, judgment, imagination, madness, imbecility, ferocity, instinct.

MADemoiselle de L'Espinasse: I understand. All these qualities are only the consequences of the original relationship or something acquired by habit between the centre of the network and its branches.

BORDEU: Exactly. Is the principal part or trunk is too vigorous in relation to the branches? That's how we get poets, artists, people with imagination, timid people, zealots, and fools. If it's too feeble? That gives us what we call brutes, ferocious animals. If the total system is lax and soft, without energy? That's how we get imbeciles. And if the whole system is energetic, harmonious, and well ordered? Well, then we get the good thinkers, philosophers, wise men.

MADemoiselle de L'Espinasse: And according to the all-powerful branch which dominates the others we get the different instincts in animals and the various special abilities which manifest themselves in men—the sense of smell in the dog, the sense of hearing in fish, the sense of sight in the eagle, the talent for mathematics in D'Alembert, for mechanical things in Vaucanson, for music in Gretry, poetry in Voltaire, the different effects of one bundle in the network being more energetic in them than any other and than similar bundles in beings of their species.

BORDEU: And from habits which take control, as in the old man who loves women and Voltaire who still writes tragedies. *(At this point the doctor begins to daydream. Mademoiselle de L'Espinasse speaks to him)*

MADemoiselle de L'Espinasse: You're dreaming, doctor.

BORDEU: That's right.

MADemoiselle de L'Espinasse: What are you dreaming about?

BORDEU: About Voltaire.

MADemoiselle de L'Espinasse: And . . . ?

BORDEU: I was reflecting on the way great men are made.

MADemoiselle de L'Espinasse: How are they made?

BORDEU: How? Well, sensitivity

MADemoiselle de l'Espinasse: Sensitivity?

BORDEU: . . . or the extreme mobility of certain threads in the network is a dominant quality in mediocre creatures.

MADemoiselle de l'Espinasse: Ah, doctor, that's blasphemy!

BORDEU: I was expecting that reaction. But what is a sensitive being? A creature who's a slave to the wishes of his diaphragm. If a touching word strikes his ear or a remarkable sight strikes his eye, there he is all of a sudden caught up in an inner tumult. All the threads of his network are set in motion, a tremor runs through him, he's seized with horror, tears run down, sighs suffocate him, his voice breaks—the centre of the network has no idea what's going on. He's lost his composure, reason, judgment—all his resources.

MADemoiselle de l'Espinasse: That's a description of me.

BORDEU: The great man who has the misfortune to receive this disposition from nature will spend all this time trying to weaken and dominate it, to make himself the master of his movements and to see that the centre of the network maintains all its imperial power. Then he'll maintain his self-control in the midst of the greatest dangers, and he'll judge dispassionately, but soundly. Nothing which can serve his point of view or contribute to his goal will escape him. People will have difficulty taking him by surprise. By the time he's forty-five years old, he'll be a great king, minister, politician, artist, above all a great actor, philosopher, poet, musician, doctor. He'll rule himself and everything around him. He'll have no fear of death, a fear which, as the Stoic philosopher has so sublimely stated, is a loop which the robust man seizes to lead the weak man wherever he wishes. He will have smashed that loop and at the same time have freed himself from all the tyrannies of this world. Sensitive creatures or fools are on the stage, but he is in the orchestra seats. He's the wise man.

MADemoiselle de l'Espinasse: God preserve me from the company of such a wise man!

BORDEU: But because you haven't worked to be like him you'll go through an alternating series of acute pains and pleasures; you'll spend your life laughing and crying and will never be anything but a child.

MADemoiselle de l'Espinasse: I've resigned myself to that.

BORDEU: Are you hoping that will make you happier.

MADemoiselle de l'Espinasse: I've no idea.

BORDEU: Mademoiselle, this quality of sensitivity which people prize so much never leads to anything great. It hardly ever manifests itself strongly without pain or weakly without boredom. One is either intoxicated or yawning. You surrender yourself without restraint to the sweet sensation of delicious music, or you let yourself be drawn in in by the charm of a scene full of pathos. Your diaphragm is upset, the pleasure is past, and you've nothing left but a breathlessness which lasts all evening.

MADemoiselle de l'Espinasse: But what if I could enjoy sublime music and a stirring scene only on this condition.

BORDEU: That's a mistake. I also know how to enjoy or admire something, and I never suffer, unless from colic. I experience pure pleasure. That makes my criticisms more stringent and my praise more gratifying and thoughtful. Is there such a thing as a bad tragedy for spirits as mobile as yours? How many times, as you read the work over, have you blushed at the emotional feelings you experienced in the theatre and vice versa?

MADemoiselle de l'Espinasse: Yes, that's happened to me.

BORDEU: So it's not appropriate for a sensitive being like you but rather for a tranquil and cool being like myself to say what's true, what's good, and what's beautiful. . . . Let's strengthen the centre of the network. That's the best thing we can do. Do you know our life comes from there?

MADemoiselle de l'Espinasse: Our lives, Doctor! This is serious.

BORDEU: Yes, our lives. There's no one who hasn't at some time felt depressed. A single event is enough to bring on this involuntary and habitual feeling. And then, in spite of distractions, a variety of amusements, advice from friends, and one's own efforts, the threads stubbornly carry the gloomy impulses to the centre of the network. It's no good for the poor man to struggle—the spectacle of the universe keeps getting darker for him. He moves along with a cortege of mournful ideas which never leave him, and he finishes by killing himself.

BORDEU: Doctor, you make me afraid.

D'ALEMBERT: (*getting up, clothed in a dressing gown and a night cap*) What about sleep, doctor? What do you say about that? It's something beneficial.

BORDEU: Sleep is the state where, whether through exhaustion or habit, the whole network relaxes and stays motionless. Then, as in sickness, each strand of the network is stimulated, moves, and transits to the common centre a crowd of sensations which are often disparate, disjointed, and troubled. At other times they are so linked, so sequential, so well organized that the man would not have more reason or eloquence or imagination if he were awake. Then sometimes they are so violent and so lively, that the man, once awake, remains uncertain about the reality of things. . . .

MADemoiselle de L'ESPINASSE: Well then, what is sleep?

BORDEU: It's a state in the animal where it is no longer a harmonious whole. All coordination and subordination stops. The master is left to the discretion of his servants and to the unbridled energy of his own activity. Is the optic thread stimulated? The centre of the network sees. And it hears if the auditory thread prompts it. Action and reactions are the only things which remain between them. It's a consequence of the characteristics of the centre, of the law of continuity and habit. If the action begins with the thread for sexual pleasure, the one which nature has fixed for erotic love and the propagation of the species, the effect of the reaction at the centre of the network will be the reawakened image of the loved object. But if, by contrast, this image is aroused first at the centre of the network the reaction will lead to tension in the thread for sexual pleasure, sexual tension, and ejaculation of seminal fluid.

D'ALEMBERT: And so there's a dream as we rise and a dream as we go down. I had one of the former last night, but I don't know where it went.

BORDEU: While we're awake, the network obeys the impressions of external objects. In sleep, it's the exercise of its own sensibility which gives rise to everything that takes place in it. There's no distraction in a dream—that's why it's so life like. It's almost always the result of some abnormal excitement of an organ, a temporary fit of illness. The centre of the network is alternatively active and passive in an infinity of ways. That's where its disorder arises. Its concepts are sometimes as linked and distinct as in the animal confronting a natural spectacle. It's only the portrait of this spectacle reawakened. And indeed that's why it's impossible to distinguish it from the state of being awake. There's no probability that it's more one of these states than the other, no way of recognizing the mistake, other than experience.

MADemoiselle de L'ESPINASSE: Is experience always able to do that?

BORDEU: No.

MADemoiselle de l'Espinasse: If a dream presents me with the picture of a friend whom I'd lost and gives him to me as truly as if this friend was alive, if he speaks to me and I hear him, if I touch him and my hands get the impression of solidity from him, and if, when I wake up, my soul is full of tenderness and sorrow and my eyes full of tears and my arms are still stretched out towards the place where he appeared to me, who'll convince me that I haven't really seen, heard, and touched him?

BORDEU: His absence. But if it is impossible to distinguish being awake from being asleep, who can appreciate how long sleep lasts? When it's peaceful, it's an unconscious interval between the moment of going to bed and the moment of getting up. When it's disturbed, it sometimes lasts for years. In the first case, at least, consciousness of self completely ceases. Can you give me a good example of a dream which no one has ever had and no one ever will have?

MADemoiselle de l'Espinasse: Yes—that one is someone else.

D'ALEMBERT: And in the second case, we not only have consciousness of ourselves but even of our will and liberty. What is this will, what is this freedom of the man who's dreaming?

BORDEU: What is it? It's the same as it is in the man who's awake—the last impression of desire or aversion, the final result of everything which one has been since birth right up to the moment where one is. And I defy the most nimble mind to notice the least difference between them.

D'ALEMBERT: You think so?

BORDEU: What a question, coming from you! You who, delivered over to profound speculations, have passed two-thirds of your life dreaming with your eyes open and acting without willing—yes, without willing, less willing than in your dreams. In your dreams you commanded, gave orders, people obeyed you. You were unhappy or satisfied, experienced contradictions, encountered obstacles, got annoyed, loved, hated, blamed, approved, laughed, cried, came and went. In the course of your meditations, your eyes were hardly open in the morning when you were caught up with the idea which had occupied you the day before. You got dressed, sat at your table, meditated, drew diagrams, carried out calculations, dined, took up your calculations again, sometimes leaving your desk to confirm them. You talked to others, gave orders to your servants, dined, went to bed, and then to sleep without having done the least willed act. You were nothing but a point—you acted, but you didn't will. Does one have a will all by

oneself? The will is always born from some interior or exterior motive, some present impression, some reminiscence of the past, some passion, some future project. After that I'll say only one word to you about liberty—it's the fact that the last of our actions is the necessary effect of a single cause—ourselves—a very complex cause, but a single one.

MADemoiselle de l'Espinasse: A necessary effect?

BORDEU: Undoubtedly. Try to imagine the production of a different action, assuming that the person acting is the same.

MADemoiselle de l'Espinasse: He's right. Since I act in this way, anyone who could act different is no longer me. And to assume that at the moment when I do or say something, I could say or do something different from that is to assume that I am myself and I am someone else. But, Doctor, what about vice and virtue? Virtue, such a holy word in all languages, such a sacred idea among all nations!

BORDEU: It's necessary to transform it into the idea of doing good and its opposite, doing harm. People are born fortunate or unfortunate and are imperceptibly led along by the general torrent which leads one to glory and the other to ignominy.

MADemoiselle de l'Espinasse: And what about self-esteem, shame, and remorse?

BORDEU: Puerile ideas based upon ignorance and vanity in a creature who credits himself with the merit or demerit which comes from an inevitable moment.

MADemoiselle de l'Espinasse: And rewards and punishments?

BORDEU: Those are means to correct a modifiable creature we call bad or to encourage those we call good.

MADemoiselle de l'Espinasse: In all this doctrine isn't there something dangerous?

BORDEU: Is it true or false?

MADemoiselle de l'Espinasse: I believe it's true.

BORDEU: So you're saying you think that lies have their advantages and truth its disadvantages.

MADemoiselle de l'Espinasse: That's what I think.

BORDEU: So do I. But the advantages of a lie are temporary and those of the truth are eternal. The detrimental consequences of the truth, if it has any, quickly pass, and those of lies don't end until the lie does. Examine the effects of a lie in a man's head and its effect on his conduct: in his head, where the lie is more or less confused with the truth and his head has trouble reasoning, or else he's happy to incorporate the lie and his reasoning is logically valid but erroneous. Now, what behaviour can you expect from a mind which is either inconsistent in its reasoning or logically consistent but erroneous?

MADemoiselle de L'ESPINASSE: The second of these vices may be less contemptible than the first, but is perhaps more to be feared than the first.

D'ALEMBERT: Excellent. See how everything comes back to sensibility, memory, organic movements. That suits me fine. But imagination, abstractions?

BORDEU: Imagination . . .

MADemoiselle de L'ESPINASSE: One moment, doctor, let's summarize. According to your principles, it seems to me that by a sequence of purely mechanical operations, I could reduce the finest genius in the world to a mass of unorganized flesh to which we wouldn't ascribe anything but sensibility at a particular moment, and then we could bring back this unformed mass from a state of the profoundest stupidity one could imagine to the condition of a man of genius. One of these two phenomena could consist of mutilating a certain number of threads in the primitive tangle and really mixing the other ones up. The reverse phenomenon would require us to restore to the tangle the threads we had detached and to leave the whole thing to develop properly. For example, if I remove from Newton the two auditory threads, he has no more sense of sound, the olfactory threads, no more sense of smell, the optic threads, no more sense of colour, the taste threads, no more sense of taste—if I cut out or mix up the others, then farewell to the organic structure of the brain, farewell memory, judgement, desires, aversions, passions, willing, consciousness of the self, and lo and behold an unformed mass which retains nothing but life and sensation.

BORDEU: Two almost identical qualities. Life is the aggregate, and sensitivity is among the elements.

MADemoiselle de L'ESPINASSE: I take this mass again, and I restore the olfactory threads, and its nose starts to work, the auditory threads and it hears, the optic threads and it sees, the palate threads, and it tastes. By straightening out the rest of the tangle, I permit the other

threads to develop, and I see memory, comparison, judgment, reason, desires, aversions, passions, natural aptitude, and talent reborn. I recover my man of genius and all that without the intervention of any heterogeneous unintelligible agent.

BORDEU: That's exactly it. Stick to that. The rest is nothing but nonsense. But the abstractions, the imagination? The imagination is the memory of forms and colours. The spectacle of a scene or an object necessarily sets up the sensing instrument in a certain manner. It either winds itself up by itself or is wound up by some foreign cause. Then it quivers inside or it makes some external sound. It either records in silence the impressions which it has received or it makes them burst out in conventional sounds.

D'ALEMBERT: But its account exaggerates, omits circumstances, adds things, distorts the facts or embellishes them, and the sensing instruments close by imagine impressions which are really those of the reasoning instrument and don't come from the event which has taken place.

BORDEU: That's true. The account can be historical or poetical.

D'ALEMBERT: But how is this poetry or falsehood introduced into the account?

BORDEU: By ideas which arouse each other, and they do so because they are always linked. If you've taken the liberty of comparing an animal to a keyboard, you'll allow me to compare a poetry reading to a song.

D'ALEMBERT: That's fair.

BORDEU: In every tune there is a scale. This scale has its intervals, each of its strings has its harmonics, and these harmonics have their own harmonics. In this way, modulations are introduced into passages of the melody, and the music is embellished and extended. The musical event is an established theme which each musician responds to in his own way.

MADemoiselle de L'ESPINASSE: But why complicate the question with this metaphorical language? I would say that each since everyone has his own eyes, he sees differently and gives a different account. I'd say that each idea awakens others and that, according to how his mind works or his character, a person either holds to ideas which represent the facts rigorously or else he introduces into them other ideas which have been aroused. I'd say that there's a choice to be

made among these ideas. I'd say . . . well, that this subject alone, if we dealt with it thoroughly, would fill a book.

D'ALEMBERT: You're right. But that won't prevent me from asking the doctor if he is really persuaded that some shape which didn't look like anything could ever be produced in the imagination, a shape which would not be produced in any story.

BORDEU: I think that's possible. Every delirium of this faculty is basically like the talent of those charlatans who cut up several animals and then make up a strange one from the pieces, something we've never seen in nature.

D'ALEMBERT: What about abstractions?

BORDEU: There aren't any. There are only habitual omissions, ellipses which make propositions more general and language faster and more convenient. They are the linguistic signs which have given birth to the abstract sciences. A quality common to several actions gave rise to the words *vice* and *virtue*, a quality common to several beings gave rise to the words *ugliness* and *beauty*. People said one man, one horse, two animals, and then later they said one, two, three, and the whole science of numbers was born. We have no idea of an abstract word. We have observed in all three-dimensional bodies length, width, and depth. We have busied ourselves with each of these dimensions, and from that we have derived all the mathematical sciences. All abstraction is nothing but a sign empty of ideas. All abstract science is only a combination of signs. We have excluded the idea once we separated the sign from the physical object, and it's only by re-attaching the sign to the physical object that science becomes once again a science of ideas. That's where the need arises—so frequent in conversation and in our written works—of dealing with examples. When, after a longer discussion comparing signs, you ask for an example, you are only asking the person talking to give body, form, reality, and some idea to the series of his verbal noises by linking them to some dependable sensations.

D'ALEMBERT: Is that clear enough for you, Mademoiselle?

MADemoiselle DE L'ESPINASSE: Not all that much, but the doctor is going to explain himself.

BORDEU: You like to say that. It's not that there isn't perhaps something to correct and plenty to add to what I've said, but it's half past eleven, and I have an appointment in the Marais at noon.

D'ALEMBERT: The fastest and most convenient language! Doctor, do we understand ourselves? Are we understood?

BORDEU: Almost all conversations are settled accounts . . . I don't know where my cane is any more . . . We have no clear idea present in our minds . . . And my hat . . . And for this sole reason—no man is perfectly like another one. We never understand exactly. We are never exactly understood. It's a matter of more or less. Our discussion is always on one side or other of a sensation. We clearly see the diversity in judgments, and there are a thousand times more which we do not see and which fortunately we cannot see. Good bye, good bye . . .

MADemoiselle de l'Espinasse: One word more, please.

BORDEU: Speak quickly then.

MADemoiselle de l'Espinasse: You remember those jumps you spoke to me about?

BORDEU: Yes.

MADemoiselle de l'Espinasse: Do you think that idiots and intelligent men have jumps like that in their ancestry?

BORDEU: Why not?

MADemoiselle de l'Espinasse: So much the better for our grandchildren. Perhaps another Henry IV will reappear.

BORDEU: Perhaps he's already come back.

MADemoiselle de l'Espinasse: Doctor, you'll come to dine with us.

BORDEU: I'll do what I can. I'm not promising. If I can come, you'll be seeing me.

MADemoiselle de l'Espinasse: We'll wait for you until two o'clock.

BORDEU: Agreed.

D'Alembert's Dream is a more strictly philosophical exercise, detailing Diderot's materialistic theory of biology. His main contention is that all matter is sensitive, or at least potentially sensitive, and thus no mind or soul is needed to explain life, movement, memory, sensation, or thought. Though this hypothesis mainly consists of armchair theorizing, which may sound very facile in the light of serious research, Diderot does put forward a hazy idea of evolution in this dialogue. D'Alembert's Dream (or The Dream of D'Alembert, French: Le Rêve de d'Alembert) is an ensemble of three philosophical dialogues authored by Denis Diderot in 1769, which first anonymously appeared in part in the Correspondance littéraire, philosophique et critique in 1782, but was not published in its own right until 1830: Denis Diderot — Diderot, by Louis-Michel van Loo, 1767 — N° 9 de la place dans le centre ville de Langres: in the background on the right side the birthplace Conversation between d'Alembert and Diderot. D'Alembert's Dream (or The Dream of D'Alembert, French: Le Rêve de d'Alembert) is an ensemble of three philosophical dialogues authored by Denis Diderot in 1769, which first anonymously appeared in the Correspondance littéraire, philosophique et critique between August and November of 1782, but was not published in its own right until 1830: The Continuation of a Conversation between d'Alembert and Diderot (La Suite d'un entretien entre M. Diderot et M. d'Alembert). D'Alembert's Dream is an ensemble of three philosophical dialogues authored by Denis Diderot in 1769,[1] which first anonymously appeared in the Correspondance littéraire, philosophique et critique between August and November of 1782, but was not published in its own right until 1830:[2] D'Alembert's Dream is a more philosophical book than its partner in this publication and is prefaced with a conversation between Diderot and d'Alembert. But the Dream is also a novel written in dialogue form. Several of Diderot's philosophical positions recall those of earlier philosophers, or hint at ideas from contemporary or future thinkers. For example, the idea that the world is constantly in flux and moves between opposites recalls the views of Greek philosopher, Heraclitus.