

## First Dialogue

### ON THE NATURE OF THE MIND

Protagonists:

Richard: a middle-aged Oxford philosopher of the mid-twentieth century, dressed in cavalry twill slacks, waistcoat and tie, and well-cut jacket.

Jill: a philosopher in her early thirties, dressed in an elegant but informal manner.

Frank Craik: A contemporary American neuroscientist, casually dressed in jeans and pullover, with open necked shirt.

Descartes: in sombre Dutch mid-seventeenth century dress.

Aristotle: In Greek dress

The author

*The setting is a garden in Elysium. The sun is shining. A rich verdant lawn is surrounded by flower beds and flowering bushes, with a grove of magnificent trees behind. Beyond, a large lake and in the distance high mountains. Five comfortable garden chairs are placed in the shade of some trees. There is a low table on which are placed a wine decanter and glasses, three of which are half full. Richard, Jill and Frank are deep in discussion.*

**Richard:** But you must admit that it is very puzzling that we speak of *having* a mind and *having* a body. I mean, if I have a mind and also have a body, then who and what am I that has these two things?

**Jill:** Well, it seems obvious enough. After all, you just said ‘*I* have a mind’ and ‘*I* have a body’. It is you, the ‘*I*’, the Ego, the Self, that has a mind, on the one hand, and a body, on the other.

**Richard:** But, Jill, what on earth is this ‘*I*’ or ‘Ego’ or ‘self’? Surely I’m a human being.

**Frank:** Sure. And if you’re a human being, then you can’t be an Ego or Self. Unless human beings are selves.

**Jill:** All right. But then I surely *have* an Ego or Self. Human beings *have* selves.

**Frank:** No, no. Do I have a self? I’ve never come across it! I’m sure I’m sometimes selfish, but that doesn’t mean that I have a self. And as for an Ego, that’s just a fancy way of saying that I have an ‘*I*’. It may sound better in Latin, but it’s just baloney. Look, talking of *an* ‘*I*’ is just plain ungrammatical. I mean, y’ don’t talk of the you, the she or the it. Well, it’s just as ungrammatical to talk of an I, of the I, or of my I.

**Richard:** [*chuckles*] Oh, my eye!

**Jill:** [*A little hotly*] All right. I grant you the ungrammaticality. Perhaps all this talk of ‘*an “I”*’ and ‘*the “I”*’ is ill-advised. But it doesn’t follow that there is no such thing as a self, does it? After all, we speak, perfectly intelligibly, of our better self, and Polonius advised Laertes ‘to thine own self be true’ – you can’t say that that’s baloney, Frank.

**Richard:** [*pouring oil on troubled waters*] Take it slowly. We really need some clarity here. . . . No one is going to quarrel with the statement that we have a mind and that we have a body. Some people want to insist, as Jill does, that we also have a self, and others like you, Frank, disagree. Let’s shelve the disagreement for a moment and try to let some light in. In the first place, who is it that has a mind, a body, and perhaps also a self?

**Jill:** Well, . . . It’s me, *this* living human being.

**Richard:** So it’s human beings who have minds, and have bodies, and have perhaps selves. So we’re human beings, and we possess a mind, possess a body, maybe also possess a self. What about the soul? Do you also possess a soul, Jill?

**Jill:** Well, I’m not sure what to say. It’s starting to look like an excess of possessions.

**Frank:** The soul is just pre-scientific mythology. Look, you, your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules.<sup>1</sup>

**Richard:** That’s a bit quick, Frank. In the first place, we aren’t behaviour. And our joys and sorrows, our memories and ambitions, are not behaviour either, although they are *manifest* in behaviour. But they’re manifest in *our* behaviour, not in the behaviour of our nerve cells. Secondly, we’re flesh and blood – living animals constituted of a vast array of different kinds of cells. And, like all other organisms, we are also constituted of a variety of chemical elements, variously combined to form hugely complex molecules. But we are not identical with the stuff of which we’re made, any more than we’re identical with the ever changing assemblage of cells of which we consist.

**Frank:** Why not? Why aren’t we identical with the matter – the material stuff – of which we’re made?

**Richard:** The natural replacement over time of the cells of which a living organism is constituted does not change the identity of the organism. These mighty trees [*he waves at the trees beyond the garden*] are the same organisms as the little seedlings from which they grew, are they not? But neither the matter of which they are made nor the cells of which they are constituted are the same.

**Frank:** OK. . . . Yeah . . . I can see that. I’m not a philosopher, and I’m not sure how to respond to your point. But it surely doesn’t follow that you’re a soul and that you’re identical with your soul. That’s just religious mythology. Y’don’t *have* a soul. Souls don’t exist.

**Jill:** And yet we do speak perfectly intelligibly of someone’s being a soul in torment or of being a gentle soul.

**Richard:** And we also speak of someone losing their soul and of selling their soul, to the devil or to the company store, as the case may be. So, on your view, Jill, is the soul something we *are* or something we *have*?

**Jill:** It looks as if we both have a soul and are a soul. But that *is* paradoxical. I mean the owner cannot be identical with what she owns, can she? This is very odd. How is the soul related to the mind? And how is it related to the self? And how are the mind, the soul, and the self related to the body one has? Does my mind belong to my body?

**Richard:** What would a body do with a mind? And if your body turned to stone, Jill, would your soul then belong to the stone statue?

**Jill:** Oh! . . . All right. So does my body belong to my mind?

**Richard:** And not to you? Is it really your mind that has a body? If that is right, then who on earth is it that has a mind?

**Jill:** Well, it's obviously me — *I* have a mind.

**Frank:** OK, OK. But now we're just going round in circles.

*Descartes strolls out of the trees.*

**Descartes:** *Bonjour, mes amis.* I could not help hearing you conversing as I was taking my afternoon stroll. The topic about which you are discoursing is a deep and important one. Your ardour is *admirable*, although your reasoning may be questioned.

**Richard:** Well, please do join us here, sir. This lady is Jill.

**Descartes:** [*bows and doffs his hat*] *C'est un honneur et un plaisir, Madame.*

**Richard:** This is Frank, a brain scientist [*Descartes smiles and raises his eyebrows*] and my name is Richard. I'm a philosopher.

**Descartes:** [*bows*] *Messieurs.*

**Richard:** We should be delighted if you were to join us, sir. Do sit down. Would you care for a glass of wine? [*He pours a glass of wine and hands it to Descartes.*]

**Descartes:** *Merci, merci.* [*He takes a deep drink*] Ah, *très bien.* It would be most *agréable* to sit here under the trees and join your debate. I gather from what I heard that you are concerned with the relation between the mind and the body, *n'est-ce pas?*

**Jill:** Yes, that's right. We were trying to get clear about what exactly we are, whether we're minds or egos or selves.

**Richard:** The question, I think, is what a human being is. I mean we speak of having a mind, and of having a body. And it seems as if the entity that has the mind and has the body is the 'I'. But now what exactly is this 'I'. Is it a self? And what is the human being? Is it a self attached to a mind and a body. Or is the self the mind? But if the self *is* the mind, how can we speak of it's *having a mind*? I'm afraid we are confused.

**Frank:** [*chuckles*] Y'know, when the Lone Ranger and his Indian sidekick Tonto get captured by some Apaches, Lone Ranger says to Tonto 'We're in real trouble', and Tonto replies, 'Who's this we, white man?' [*Descartes looks puzzled*] . . . Well, I'm not so sure as my friends that *we're* confused. I

just think that *they're* confused. I think that the mind *is* the brain, and that the activities of the mind just are the activities of the brain.<sup>2</sup>

Look, sir, it was you who taught us that we can explain everything about living bodies by reference to the same general principles that govern physics – that the sciences of life are no different in principle from the physical sciences. Life, and the functions of living things, can be explained by reference to broadly speaking mechanical principles. That was a great insight. It freed neuroscience – the study of the brain and nervous system – from futile investigations of psychic pneuma, and from the ancient ventricular doctrine that located the physiological root of psychological functions in the ventricles of the brain.

**Descartes:** I am grateful to you for your compliments, Monsieur Frank. I agree with you that it was indeed an achievement of some moment. Now, *mes amis*, if you think carefully and methodically about your questions, it is not too difficult to discover the truth of the matter. It should be evident that you are not your body. For it is possible to doubt whether your body exists, but you cannot doubt whether you exist. And since that is so, you cannot be your body. If you were your body, then the fact that you cannot doubt that you exist would also mean that you cannot doubt that your body exists. But you can doubt whether your body exists.

**Frank:** But what about the brain. I can't doubt that I have a brain – I have a brain, and so does every other animal.

**Descartes:** *Non, non, mon ami.* You, who know that you exist merely by trying to doubt whether you exist, are not something you have. And can you really not doubt whether you have a brain? After all, you have never even seen or touched your brain. Of course, you have one. But that is hardly the soundest and most certain of knowledge, *n'est-ce pas?* You can, provisionally, in the course of your search for truth, doubt whether you have a brain, just as you can doubt whether you have a body.

**Frank:** [*a bit puzzled and out of his depth*] Well, I'm not sure how to answer you. I'm not a philosopher; just a scientist. But do go on, sir.

**Descartes:** *Bien!* The first step towards the true knowledge – *scientia* – that is absolutely certain is to say to yourself 'I doubt, that is to say: I think, therefore I am'. This establishes a truth indubitable concerning something that exists: *I* exist. Now ask yourself what is this 'I' by which you are what you are. It is a thing that thinks, is it not?

**Jill:** But I not only think, I affirm and deny, I want and intend, and many other things too.

**Descartes:** *Mais certainement!* But these are all modes of thought. By 'thought', I understand everything of which we are conscious as happening within us, in so far as we are conscious of it. So thinking is not merely reflecting, but also understanding, willing, imagining, as well as sensory *experience* in general – that is, the *experience* of seeing, hearing and so forth, irrespective of whether one is dreaming, hallucinating or actually perceiving. All these I deem forms of consciousness.

**Jill:** So you are claiming that thinking belongs to our essence?

**Descartes:** *Exactement!* You are a mind or soul, the essence or nature of which is to think – to be conscious of what passes within you. The mind is a substance the essence of which is to think, just as body is a substance the essence of which is to be extended.

**Jill:** But even if it is true that thinking is the essence of the mind, it does not follow that *only* thinking is the essence of the mind.

**Descartes:** I admit that what you say is true, Madame. But since I have a clear and distinct idea of myself in so far as I am simply a thing non-extended and thinking, and, on the other hand, I have a clear and distinct idea of body as a thing extended and unthinking, I know with certainty that I am distinct from my body.

**Richard:** So you are essentially a thinking substance?

**Descartes:** *Mais oui.* I am not a thought or collection of thoughts, as my friend David 'ume supposes. Thoughts demand a substance in which to inhere. One cannot have thoughts floating around like so many phantasms flitting through the air! I am a thinking substance.

**Jill:** But Hume argues that when, as he put it, he 'entered most intimately' into what he called *himself*, he always stumbled upon some particular perception or other – roughly speaking, what you call 'thoughts' – but could never perceive *a self*, a mental substance that persisted through time.

**Descartes:** *Le pauvre David! Certainement* he could not. The self is not something we perceive or experience. It is what thinks and perceives, imagines and wills. That thoughts inhere in thinking substances is not a matter of fact that we discover by experiences, it is presupposed by all thought and experiences. It is something that we clearly and distinctly perceive to be true by the natural light of reason.

**Richard:** So the self, in your view, is the same as the mind or soul and indeed the same as the 'I'.

**Descartes:** What you say is very true. And my mind is entirely distinct from my body, even though it is very closely intermingled with it.

*Richard tops up all the glasses, and thoughtfully takes a sip himself.*

**Richard:** Well, I have some qualms. In the first place, you have simply by-passed the question we raised earlier, namely: how can I be something I have. I have a mind, of course, but by the same token I can't be the mind I have.

**Descartes:** *Mais* Richard, that is merely an idiom trivial. It can have no bearing on deep metaphysical questions.

**Richard:** Really? I'm not so sure. . . .

But let's pass over that one. I *suppose* I can't doubt whether I exist – although, I confess, I am not sure what the form of words 'I doubt whether I exist' mean. And for the sake of argument let me grant you that we can doubt whether our bodies exist, although I have qualms about that too – I mean, I don't even know how I'd go about doubting that I have a body. But even if I grant you all that, does it really show that I am distinct from my body? I mean, if a child knows what a triangle is, he cannot doubt that it has three angles, but he can doubt whether the sum of its angles equals two right angles. But *we* know that it is necessarily so. The child still lacks an adequate understanding of the nature and essence of triangles. Perhaps we lack an adequate understanding of mind and body and do not grasp that they are necessarily united and cannot exist one without the other.

**Descartes:** But, *mon ami*, you are no child, and you do know what the nature of matter is, namely a substance the whole essence of which is to be extended. And you know what the nature of mind is, namely: it is a thinking substance. Reflect moreover that the body, being an extended thing, is divisible – but the mind is utterly indivisible. When I consider myself in so far as I am merely a thinking thing, I am unable to distinguish parts within myself. I understand myself to be something quite single and complete.

**Richard:** Are you? Since you hold that you are your mind, surely your mind is divisible into different faculties – faculties of sense, of passion, of understanding and reason, of memory, and so forth. And indeed you can lose one of these faculties, as when you suffer from amnesia. When you have lost your memory, you have lost a part of your mind.

**Descartes:** I think that I can get round this objection easily. We must distinguish between the faculty and what possesses the faculty. It is one and the same thinking substance that reasons and reflects, that senses and remembers. If you lose your memory, it is still one and the same thinking substance that before had the faculty of memory and now has lost it. Loss of a faculty does not imply divisibility of the thinking substance that previously possessed it. This one argument concerning the divisibility of the body and indivisibility of the mind would be enough to show me that the mind is completely different from the body.<sup>3</sup>

**Jill:** But surely the mind and the body are united in each human being? I'm not just a non-spatial mind temporarily embodied in a female human body.

**Descartes:** *Mais naturellement*, your body is not merely the vehicle for your soul. You are united with your body. You are, so to say intermingled with it. Embodiment is not like being a sailor in a ship, who has to look to see whether the vessel in which he dwells is damaged. But you *feel* your sensations just *as if* they were located in your body.

**Jill:** But pains, itches and tickles *are* located in our bodies. We have head-aches, stomach-aches and back-aches.

**Descartes:** *Non, non*, Madame Jill, you feel them *as if* they were in the body. But careful reflection on phantom limb pain shows that pain in the hand is felt by the soul not because it is present in the hand but because it is present in the brain.<sup>4</sup> We feel pain *as it were* in the hand or foot, but that does not show that pain exists outside the mind in the hand or foot.<sup>5</sup>

**Frank:** Yeah, that's right. Common sense tells us that a pain in the foot is really there in the physical space of the foot. But, just as you said, sir, we now know that's wrong. The brain forms a body image, and pains, like all bodily sensations, are parts of the body image. The pain-in-the-foot, as John Searle has written, is literally in the physical space in the brain.<sup>6</sup> But the way it appears to consciousness is just as if it were in the foot.

**Descartes:** What you say is very true, *Monsieur*. This judgement was already made by the author of *Principia Philosophiae*.<sup>7</sup> I am delighted that truth has prevailed.

**Richard:** I'm not convinced that what has prevailed in neuroscientific and in some philosophical circles too is the truth. The fact that an amputee can hallucinate that the pain he feels is in his foot when he has no foot does not show that when one feels a pain in one's foot when one *does* have a foot, the pain is not in the foot.

**Descartes:** But the pain is not located in the foot at all, *mon ami*. It is not in physical space as the foot is. And if you examine the foot you will not find a pain in it. The pain, in one sense, is in the brain, and in another sense, it is in the mind.

**Frank:** Yeah, that's dead right.

**Richard:** Well, I am afraid I disagree with both of you. It is the foot that hurts, not the mind. As Aristotle taught us, and as our language shows us, we have a sensitive body – our head may ache, our

back may tickle, our leg may itch and our feet may hurt. The human body is not an insensate machine, but a living organism.

**Descartes:** I am very grateful to you, Monsieur Richard, for the objection. But as Monsieur Frank observed, the author of *Traité de l'Homme* showed quite clearly that the living organisms they are no more than machines.<sup>8</sup> And if you reflect further, you will note that our head does not have the head-ache, rather we do; our back does not have the back-ache, rather we have the ache that sensibly seems to us to be in the back; and so too, we may feel the pain that seems to us to be in the tooth, but the pain is caused by the decaying tissue in the tooth, which sends signals to the brain, which presents them to the mind in the form of the toothache.

**Jill:** You mean that we have toothache in the brain? That seems a very odd thing to say, Monsieur Descartes. When I have a toothache, it is my tooth that aches, not my mind.

**Descartes:** [*condescendingly*] Well, Madame, you may speak with the vulgar, but you should think with the learned. Sensation is a confused mode of awareness which arises from the union and as it were the intermingling of the mind with the body.<sup>9</sup> Furthermore, hunger and thirst, pleasure as well as pain, perception as well as sensation, likewise arise from the union of mind and body. For this “I” whereby I am what I am, is from the body entirely distinct. Nevertheless, a human being is an *embodied* soul or mind. It is not the accidental union of the two, but a substantial union. For a human being is an *ens per se*, in which mind and body form a unity. But sensation is not a part of my essence, that is, of the essence of my mind.<sup>10</sup>

**Jill:** [*indignantly*] And how is this ‘intermingling’, as you call it, effected, Monsieur Descartes? How can an immaterial non-spatial substance interact with, let alone intermingle with, a material substance that constitutes our body? You say that acts of will cause the transmission of animal spirits to the muscles, so making them contract or extend. And you say that the impact of light waves and sound waves on our nerves causes the movement of animal spirits from the sense organs to the brain, where they cause perceptual thoughts. But you don’t explain how this can be.

**Descartes:** Madame Jill, you should read *Principia Philosophiae*, *la Dioptrique* and *Les Passions de l’Ame*. The author there explains that it is the soul that sees, not the eye; and it does not see directly, but only by means of the brain. Furthermore, the seat of the soul or mind – the point where it affects and is affected by the body – is not the whole brain, but the pineal gland that lies within the ventricles between the two hemispheres of the brain. Insofar as we do not see double or hear everything twice, there must necessarily be some place where the two images coming from the two eyes or the two ears can come together in a single image or impression before reaching the soul, so that they do not present to it two objects rather than one.<sup>11</sup> That place is the pineal gland.

**Frank:** Well, sir, that is not persuasive, y’know. First of all, animals other than us have a pineal gland too. But on your view they do not have the thought that things sensibly seem to them to be this or that, because they don’t have any thoughts at all. Moreover, the pineal gland isn’t located in the passage between the anterior and posterior ventricles and so can’t affect the flow of ‘animal spirits’ between the ventricles. So your metaphor of the mind’s being like the water engineer who turns the taps that control the flow of water to the fancy fountains at the Royal gardens is inappropriate. The pineal gland isn’t in the ventricular fluid, and neuro-transmission isn’t by means of animal spirits, as you supposed – it’s electro-chemical. Secondly, your identification of the functional localization of what you call ‘the soul’ or ‘the mind’ is, *as a matter of scientific fact*, mistaken. It’s the cortex that is the varied locus of mental functions, not the pineal body. We now know that different psychological functions have different cortical localizations. Vision, for example, has its functional localization in the ‘visual’ striate cortex, whereas thinking is associated with the prefrontal cortices.

**Jill:** Moreover, sir, your reasoning is flawed. Even if it were the mind that sees, then unless it sees the alleged image on the pineal gland, it does not matter whether there is one image there or two – or none at all. For whatever is there, if anything, *is not an object of vision*. It is not as if two images would cause double vision! As you yourself pointed out, there is not another pair of eyes within the brain<sup>12</sup> with which to see the representations you hold to be on the pineal gland – or, for that matter, on the visual striate cortex. Moreover, it is neither the brain nor the mind that sees and hears, smells and tastes. It is the creature as a whole, no matter whether man or animal.

**Richard:** Whoa! Slow down. We needn't confront the matter of animal thinking and perceiving now. The central *philosophical* point we are advancing in criticism of your system, Monsieur Descartes, is that you have not given any explanation of *how* thinking immaterial substance can interact causally with unthinking and extended material substance. You insist, unlike your successors Malebranche and Geulincx, that they *do* interact. But you have not explained how that is possible – saying that the soul interacts with the body via the pineal gland simply shifts the problem back another stage, for now you must explain how the unextended immaterial soul can interact causally with the extended material pineal gland, or, as we should say, with the cortex.

**Descartes:** Ah, *je suis mortifié*. Her Highness, the Princess Elizabeth of Bohemia, once sapiently asked me how the soul, being only a thinking substance, can determine the animal spirits to bring about voluntary actions. I replied to her that the question she posed is the one which can most properly be put to me in view of my published writings.<sup>13</sup> Everyone invariably experiences in himself, without philosophizing, the union of the soul and the body. I concede to you that the human mind is not capable of forming a very distinct conception of the distinction between the soul and the body and also of their union. For to do this it is necessary to conceive them as a single thing and at the same time as two things. This is an *absurdité*. But everyone *feels* that he is a single person with both the body and the thought so related that the thinking mind can move the body, and the mind can also feel the things that happen to the body.<sup>14</sup>

**Frank:** Well, Monsieur Descartes, now y' really have blown it. If reasoning comes up with one thing and feeling with the opposite, then one may be right and the other wrong, or both may be wrong, but they can't both be right.

**Jill:** Quite apart from that, I don't think that your appeal to *feeling* the unity of mind and body is warranted. We don't feel that the thinking mind can move the body – we know that *we* can move our limbs, and indeed move ourselves. That is not a form of telekinesis! My thinking mind can no more move my arm than it can move my armchair. It is *I* who moves my arm, not my mind.

**Richard:** Moreover, the issue is not so much *whether* our mind and our bodies interact. We are not asking you to persuade us of that, sir. What you owe us is an explanation of *how* they can interact.

**Descartes:** I am not in the habit of crying when people are treating my wounds, and those who are kind enough to instruct me and inform me will always find me very docile. I cannot answer your question, *Messieurs*. But before I take my leave, I wish to remind you of one further point. We are all here *in Elysium* – so the soul and the body *must be* separable, for our mortal remains have long since turned to bone and dust. But our souls, being indivisible are therefore also indestructible, and hence immortal – unless, of course, reduced to nothingness by God. So I must surely be right, even though it is beyond my powers to explain how it is that I am right. Perhaps, as my follower Noam Chomsky says when he encounters what he calls 'Descartes's problem' of how we can utter sentences we have never encountered before, it is beyond the powers of the human mind to comprehend such matters.<sup>15</sup> [*He rises to his feet, picks up his hat, and bows to the others*]

*Au revoir, Madame Jill, Au revoir, Messieurs. [He leaves, rather miffed]*



**Frank:** Well, that was kind of interesting, but I don't think it helped much. The idea that the mind is an immaterial substance interacting with the brain is just hopeless. But he did make a point that floored me. What d'you make of the idea that the mind is immortal since it is indivisible, Richard?

**Richard:** Well, assuming that all destruction is disintegration or decomposition, then if the mind were indivisible, it would be indestructible. But although one might say that the mind is not divisible, one must admit that it is not indivisible either.

**Frank:** What d'you mean?

**Richard:** Well, it is not as if you cannot divide a mind no matter how hard you try. It's rather that there is no such thing as dividing a mind, just as there is no such thing as dividing red. Minds, like colours, are neither divisible nor indivisible. So I wouldn't hang any hopes of immortality on that argument, old chap.

**Frank:** I see. Yeah. I always thought that dualism is a false theory. Y'know physics has disproved it.

**Richard:** [*incredulously*] Say that again!

**Frank:** Well, if my mind could move my body, that would violate the law of conservation of momentum.<sup>16</sup>

**Richard:** No, no, Frank. That objection was already advanced by Leibniz, but it is wholly misconceived. No scientific discovery and no scientific theory can resolve a philosophical or conceptual problem.

**Frank:** [*annoyed*] What the hell do you mean?

**Richard:** There's no need to get hot under the collar, old boy. You grant, I trust, that no discovery in physics and no law of physics can contribute to the resolution of a problem in pure mathematics, let alone confirm or infirm a mathematical proof. After all, it's not as if Newton's physics confirmed the theorems of the differential calculus.

**Frank:** [*still resentful*] OK, sure. So what?

**Richard:** Well, that's because mathematics is concept-formation by means of proofs. And philosophy is, among other things, concept-clarification by means of linguistic description. Conceptual clarification is not answerable to facts and theories of physics. Concepts, including the concepts of physics, create the logical space within which physics can determine facts and formulate theories concerning matters of fact.

**Frank:** OK. But even if I give you that, it still seems to me that if Descartes were right, then the mind's making the body move by acts of will *would* violate the laws of physics, in particular the law of conservation of momentum.

**Richard:** No, *if* the mind could move matter, it would show definitively that the law of conservation of momentum is false. But this hypothesis can only be true or false if the statement that the mind moves the body by acts of will makes sense. And that would make sense only if the idea of an immaterial substance made sense, and if we could render intelligible the supposition that an immaterial thing can have causal powers and could bring about change by acting *on* a material thing.

**Jill:** You mean the idea of an immaterial mind makes no sense?

**Richard:** Just so. There is no such thing as individuating substances independently of their being material space-occupants. Abstract material constitution, and with it spatial location and a spatio-temporal path through the world, and we would have no principle of individuation or criteria of identity.

**Jill:** I don't follow.

**Richard:** The deep trouble with Cartesian minds is that they lack criteria of synchronic identity. We cannot distinguish between one mind having a thought, and a thousand different minds having the very same thought. And, as Kant pointed out, they lack criteria of diachronic identity too, since we cannot distinguish between one mind persisting over time and having fresh thoughts from a thousand successive minds, each with the same thoughts as its predecessor with the addition of one more thought. So every time one has a thought, a different mental substance springs into being, possessed of all the thoughts of the prior substance together with a new thought -- just like one billiard ball passing its momentum on to another on impact.

**Jill:** But that's absurd!

**Richard:** Of course it is. But that's no thanks to Descartes's tale, since on his account it cannot be excluded. The very notion of an immaterial mental substance makes no sense.

**Frank:** That's OK by me! I told you that the answer is clear. Dualism in any shape or form is just plain wrong. We have to opt for straightforward materialism: *the mind is the brain*. I have a brain, and *that is what it is* to have a mind. Because all the mental functions of perceiving, thinking, imagining, deciding and willing are brain functions. Descartes was right to think that the body is a machine. He was only wrong to think that the mind is an immaterial substance that interacts with it.

**Richard:** [*laughing*] You mean it's not elephants all the way down, as Russell's old lady thought, but it's machinery all the way up!<sup>17</sup>

**Frank:** [*chuckles*] Yeah, that's right. The fact of the matter is that although we feel ourselves to be in control of our actions, that feeling is the product of our brain, whose machinery has been designed, on the basis of its functional utility, by means of natural selection. We are machines, but machines so wonderfully sophisticated that no one should count it an insult to be called such a machine.<sup>18</sup>

**Jill:** Oh come on, Frank. You can't really believe that!

**Frank:** Why not? I do believe it.

**Jill:** Well, because machines are neither conscious nor unconscious. They take no pleasure in what they do and suffer no pain. They neither love nor hate. They do not deliberate on courses of action and then decide what to do on the basis of reasons. Machines don't know the difference between right and wrong, they have no obligations and they have no rights either. It's no insult to call a machine a machine, but it certainly is an insult to call me a machine! Do you think that I have no moral sense? Or are you suggesting that I have no rights and duties?

**Frank:** No, no.

**Jill:** Moreover, the fact that in one sense, everything we think, feel and do depends upon the activity of our brain, as you say, does not show that it's the brain that thinks and feels, makes decisions and acts.

**Frank:** Why not? We perceive because the brain forms an internal image on the basis of the information it receives from the senses. That's scientific fact.<sup>19</sup> All y' have to do is look it up in any decent textbook of neuroscience. We know that the brain makes decisions before you're even conscious of it. Benjamin Libet showed that decades ago.<sup>20</sup> And it's the brain that makes our hands and legs move and do things. In fact, we are our brains. As Chris Frith says, we are nothing more than 1.5 kilograms of sentient meat that is our brain.<sup>21</sup>

**Richard:** No. That isn't scientific fact, it's scientific confusion. For heaven's sake, Frank, you weigh more than one and a half kilos, and you're taller than seven inches. To be sure, you have a brain, but you're not what you have, and your brain doesn't have a brain – it is one. Your brain is in your skull, but *you* are not enskulled. You can't seriously believe such nonsense. Moreover, there is no such thing as a brain's forming images on the basis of information it receives from the senses. When we observe the world around us, what we see are objects and their properties, the unfolding of events and the obtaining of states of affairs. We don't see images, unless we are in a picture gallery. Nor does the brain *receive information*, in the sense in which you or I might receive information about lectures and concerts here by reading the *Elysian Gazette* or the *Heavenly Herald*.

**Frank:** Y'mean that the theories of Nobel prize winners like Eric Kandel, Frank Crick, Gerald Edelman, as well as the theories of world renowned scientists like Michael Gazzaniga, Antonio Damasio and Horace Barlow, are plain false? I mean, what scientific work have you ever done, Richard?

**Richard:** None at all, my dear fellow. But I am not saying that their theories are false.

**Frank:** [*irritated*] You're just advancing your opinion against theirs. There is a whole group of representationalists in cognitive science and the philosophy of cognitive science who think it is perfectly OK to attribute - for example - memory to cognitive subsystems. It is, to put it mildly, provocative to suggest your view as if it were a settled fact that they are wrong. That's just opinion presented as fact.<sup>22</sup>

**Richard:** My dear chap, it is no more an opinion than it is an opinion that red is a colour or that nothing can be both round and square at the same time. Is it your opinion that red is a colour? Come now! Nor am I saying that it is a matter of fact that brains don't think or remember or form images. If something is a matter of fact, then things *are* so, but they might have been otherwise. But this is a matter of logic, not of fact. It makes no sense to say that the brain thinks or remembers. And that is why these theories are not false. They are nonsense.

**Frank:** [*spluttering with indignation*] Who the hell are *you*, Richard, to say that the work of these distinguished scientists is all rubbish? That's just outrageous.

**Richard:** Calm down, Frank. I didn't say their work was rubbish. I said their claims about the brain that we just mentioned are nonsense – that they lack sense. It makes *no sense* to say that the brain thinks, remembers, and perceives, constructs hypotheses and guesses what is, as your friends misguidedly put it, 'out there'. It is senseless to say that the brain decides and wills. These are forms of words that are simply excluded from language, like 'black whiteness' or 'square roundness'.

**Frank:** I don't see why. That's the way neuroscientists talk. What's wrong with it? It may be excluded from folk-psychological language, but it sure isn't excluded from scientific language. And who the hell are you to tell scientists how they should talk?

**Richard:** Frank, they may talk as they please. If they want to talk nonsense, let them talk nonsense. I'm not a linguistic policeman. All I am pointing out is that if you chaps want to speak *of yourselves* as thinking and reasoning, perceiving and feeling, deciding and acting in the received sense of these terms, then you cannot coherently *also* say that *your brain* thinks and reasons, perceives and feels, and so forth, *in the same sense*.

**Frank:** I don't follow you.

**Richard:** It is actually straightforward, once you orient yourself correctly, Frank. Look, you don't say that the table feels things, do you.

**Frank:** No, I'm not stupid, y'know.

**Richard:** No, of course your not. You're one of the most intelligent scientists I know, old chap. Now, you don't think that the trees and roses over there can see or hear, do you.

**Frank:** [*a bit mollified*] No, of course not.

**Richard:** Why not?

**Frank:** Why not? Well, for one thing, they don't have eyes.

**Richard:** Quite so. And they don't duck when you throw a rock at them. Nor do they look at things or move closer to observe things better.

**Frank:** Yeah. OK. So?

**Richard:** Well, does the brain have eyes? Does it look at things that catch its interest? Does it move its eyes to follow what it's looking at? Does it rub its eyes when there's a glare, and shield them when it's too bright?

**Frank:** No. If it has no eyes, it can't engage in visual behaviors.

**Richard:** That's right. There is no such thing as *a brain* exhibiting visual behaviour. Increased neural activity in the 'visual' striate cortex is not a form of behaviour. Moreover, even if, as you suggest, brains see and hear, think and remember, how would that help *you* to see and hear, think and remember?

**Frank:** Well, my brain informs me.

**Jill:** But, Frank, how can your brain inform you of anything if it cannot speak English? Or are brains language-users? Do brains have voices? And how would you listen to your brain when it talks to you? With an inner ear? It is schizophrenics that hear inner voices, you know.

**Frank:** Yeah, OK. I see what you're driving at. So, how does all this add up?

**Richard:** How it adds up is this: It only makes sense to ascribe vision to beings that have eyes with which to see, and that exhibit – manifest – their visual powers in their behaviour. An animal that sees avoids obstacles in its pathway, it goes around them or steps over them. It examines and scrutinizes anything it sees that rouses its curiosity, and it flees from dangerous things it perceives. It's not false that trees see. If it were false, then it might have been true but doesn't happen to be. But trees aren't blind either. Nor are brains – they can neither see, *nor are they blind*. It *makes no sense* to ascribe

seeing or overseeing or not seeing to them. Brains don't make decisions, and they're not indecisive either. It simply lacks sense to say that my brain decided to do something. And the brain doesn't *make* your hands and legs move, rather it makes it possible for you to move them at will.

**Frank:** So what you're saying is that cognitive neuroscientists are making a conceptual mistake here.

**Richard:** Exactly. That's why I said that they're talking nonsense. I don't mean that they're talking sheer rubbish, what I mean is that they're transgressing the bounds of sense and that they're putting words together in a way that's excluded from the language. They're committing a mereological fallacy.

**Jill:** What's a mereological fallacy, Richard?

**Richard:** Mereology is the logic of parts and wholes. One kind of mereological fallacy is ascribing to a part of a thing properties that can only intelligibly be ascribed to the thing as a whole. Look, an aeroplane can't fly without its engines, but it isn't its engines that fly, it's the 'plane. An antique bracket clock can't keep time without a fusée, but it's the clock that keeps time, not the fusée. So too, an animal cannot walk or run, talk or sing, without a brain, but it's not the brain that walks and talks, it is the animal as a whole.

*[Silence for a moment]*

**Frank:** OK. You're a clever beggar, Richard. I see what y' mean.

**Richard:** Good! Well, if you see that, old boy, then you should also see why neuroscientific materialism is a degenerate form of Cartesian dualism. It just replaces ethereal minds with grey glutinous stuff and leaves everything else intact. It replaces mind/body dualism with brain/body dualism.

**Frank:** Hey, wait a minute. The brain is just as material as the rest of the human body. There can't be any such thing as brain/body dualism. Both the brain and the body are material.

**Richard:** Of course. But you neuroscientists leave intact the whole structure of Cartesian dualism. You think that the only thing wrong with it is that it introduces a mental substance as the subject of all psychological attributes. You think that perceiving is the generation of mental images in the brain by the impact of material things and of sound or light waves on our sense organs. That is senseless. You think that voluntary movement is movement caused by the brain's deciding to move. And that is nonsense too. And you imagine that thinking is information processing by the brain, whereas it is nothing of the sort. Frank, the trouble about you neuroscientists is not that you are anti-Cartesian, it is that you are not nearly anti-Cartesian enough.

**Frank:** OK. I get the message. But where does that leave us?

**Jill:** It means that there aren't enough 'or-s' in your battle-cry: Either dualism or materialism.

**Frank:** OK. So what's the new deal?

**Jill:** Yes. What is the third way, Richard? We haven't even scratched at answers to the questions we started out with. I mean: What is the mind? What is the self? What is the Soul? What am I, and who or what is it that has a mind, a self or a soul? And how is the mind related to the body? And who is it that has a body? And ...

**Frank:** Enough already. You're swamping us. We need some help.

**Richard:** Yes, a *deus ex machina* would come in useful.

*[A dignified, good-looking, late middle age gentleman strolls in from the trees, wearing ancient Greek dress. He has a well cut beard, flecked with grey, and greying hair. They all recognize Aristotle, and the men rise to their feet]*

**Aristotle:** Good day. May I join you for a short while. I think I may be able to help you a little.

**Richard:** We are honored that you should choose to join our modest symposium here, sir. May I introduce my friends? This is Jill; this is Frank; and my name is Richard. May I offer you some wine? *[He pours Aristotle a glass of wine and hands it to him.]* It comes from an excellent cellar: the *Nectarian*. Please sit down. *[Aristotle takes a seat.]* We have been struggling to clarify the nature of the mind.

**Aristotle:** Your difficulties are quite reasonable. For among the many, and even more among the wise – including Plato – there is division of opinion and obscurity of statement concerning the mind.

**Jill:** Well, we certainly have plenty of difficulties. We had a long discussion with Monsieur Descartes, and examined his view that the mind is a separate substance from the body and that its essential nature is thought, construed as consciousness of what passes within us. But there were many objections to this dualist view. And we examined Frank's view that the mind is just the brain and that all the attributes of the mind are in effect attributes of the brain. But Richard showed us that this view too is unacceptable. We really are at a loss.

**Aristotle:** But that is already progress, madam. It is the height of madness not merely to be ignorant but not to realize that you are ignorant, and therefore to assent to false conceptions and to suppose that true conceptions are false.

**Jill:** But there are so many competing reasons that it is difficult to know where to begin.

**Aristotle:** I agree with you, madam. But you must bethink yourself that some people offer reasons that are irrelevant or unsound, and often get away with it. Some people do this in error. Others are sheer charlatans. By such arguments even thoughtful people may be caught out by those who are lacking in the capacity for serious theoretical reflection.

**Richard:** So where do we begin?

**Aristotle:** Most of the controversies and difficulties will become clear if we offer an appropriate explanation of how to think of living beings. Living beings are organisms. Where we have living beings, beings that may prosper and flourish or deteriorate and die, we have welfare and ill-fare. Where we have organisms of developed form, we have organs. Where we have organs, we have function and purpose. Where we have function and purpose, welfare and ill-fare, we have varieties of the good. For we have the goodness of health, the goodness of organs, the goodness of their exercise, the good of the being that has organs, and the goodness of that which is conducive to the good of the being. From this it is evident that one of the roots of axiology is biology.

**Jill:** So you mean that the sciences of life are inseparable from the study of the good?

**Aristotle:** But of course. No one in his right mind could think otherwise. However, let us focus upon our task, which is to clarify what is distinctive of all living beings.

**Frank:** Well, I guess it's that they all ingest nutriment from their environment, they all grow and reproduce, giving rise to the next generation.

**Aristotle:** I agree. We must begin our investigation by noting the *archē*, the distinctive principle, of the lower forms of life – the plants. It is evident that they have the powers of metabolism, growth, and reproduction. This is characteristic of all species of living things, is it not? These nutritive or vegetative powers constitute the form of botanical life. Indeed, we may say that they *inform* the organism, constituting the essential powers of botanical organisms that have organs. And we may characterize this form as the nutritive or vegetative *psuchē*.

**Richard:** But that is not how Plato thought of the *psuchē*? He thought that the soul is something that resides temporarily in the body and that will leave the body on death.

**Aristotle:** Indeed. Like many others, Plato joined the *psuchē* to a body, or placed it in a body, without explaining the reason for their union or the bodily conditions required for it. He thought that the *psuchē* is embodied. But that is absurd.<sup>23</sup> For it is not as if *any psuchē* could be conjoined with *any* body – the *psuchē* of a man with the body of a tree, for example, or with the body of a bean – as the Pythagoreans supposed. This is not a helpful way of thinking about the soul. We should not conceive of the *psuchē* as a being – a secondary substance of a strange kind – but rather as the form of living things. The *psuchē* is not embodied, rather the organic body – the body with organs – is *empsychos*, ensouled. The *psuchē* is constituted by the distinctive powers that *inform* living beings and in virtue of which they are the kinds of beings they are. Thinking thus, we have a far more powerful way of conceiving of natural life in general and of ourselves as part of nature – albeit partaking of the divine or blessed.

**Frank:** Hey, slow down. What do you mean ‘partaking of the divine’?

**Aristotle:** Mankind possesses nothing divine or blessed that is of any account except what there is in us of mind and understanding. We are born for two things, understanding and action, and we fully realize our nature in the exercise of our understanding in the noble endeavour to comprehend the world in which we pass our lives, on the one hand, and in the excellence of our actions in accordance with virtue. To achieve this to the best of our abilities is what I mean by ‘partaking of the divine’.

**Frank:** I see. So you don't mean that the mind or soul, or the *psuchē* as you call it, is *a part* of a living animal? If it was a part, it might be separated from the body – and that's surely just a fiction.

**Aristotle:** The *psuchē* is the form of living things. Where there is no living thing, there can be no *psuchē*, for the being of such forms is to inform matter. Now, we can say that a substance has parts in many different senses. It is clear that the *psuchē* is not a part of a body that potentially has life as wheels are a part of a chariot. The *psuchē* stands to the organism somewhat as the shape of a statue stands to the marble of which the statue is carved. That is why it is absurd to ask whether the body and soul are one or two. That is like asking whether the wax and its shape are one or two.<sup>24</sup> From this it is clear that the *psuchē* is inseparable from the body.<sup>25</sup> It is the principle of life characteristic of kinds of living beings, for its distinctive powers are what make a living being with organs the kind of being it is.

**Jill:** So according to you, sir, the *psuchē* explains the nature of life?

**Aristotle:** It is a notion that belongs to the sciences of life, but not after the manner of those who conceive of the soul as corporeal and originative of movement, and identify it with hot breath or hot blood, thinking of these as the principle of life. The *psuchē* characterizes organic life by reference to

its powers. Of course, we can study the powers of living things only by studying their behaviour, for activities and actions are logically prior to potentialities. But let us not jump ahead of ourselves as a steed jumps before it has reached the correct distance from a wall. We must proceed methodically, in the correct order. So, the nature of the nutritive *psuchē* by which all living things are informed has been outlined. Now, what further powers characterize *animals*?

**Frank:** Well, I guess they can perceive their environment, they have desires and they can move about to get what they want.

**Aristotle:** Quite so. Animal life, over and above the powers of the nutritive *psuchē*, is characterized by sensibility, of which the primary form is touch and hence taste. Where there is sense, there is the capacity for pleasure and pain. Where these are present, there too must be appetite. Otherwise even the most primitive of sea animals could not nourish themselves and distinguish what is beneficial from what is detrimental to them. Certain kinds of animal also possess powers of locomotion, and further senses of sight, hearing and smell. Where there is sensibility and self-movement, there too must be desire and aversion, and action for the sake of a goal.

**Frank:** Y'mean that animals have two of these *psuchē*-s – two souls. That seems weird!

**Aristotle:** Not weird, absurd. What I mean is that the distinctive set of powers of animate creatures *includes* the essential powers of vegetal forms of life, namely: powers of nutrition, growth and reproduction, but incorporates further distinctive powers that constitute, in one sense of the word, the essence of animal life. And, of course, we classify different kinds of animals according to their distinctive powers and the distinctive organs by means of which they exercise them.

**Jill:** But still, there is something distinctive of us humans in virtue of which we conceive of ourselves as having a mind.

**Aristotle:** Of course. We possess rational faculties. Animals lack the powers of reason, calculation and reflection. And it must be born in mind that thought is found only where there is also reason. What distinguishes us within the realm of nature is the possession of a rational *psuchē*, over and above the nutritive and sensitive *psuchē*. It is this that you may think of as *the mind*, which is distinctive of mankind. The power of reason is the ability to apprehend the transition from premisses to the conclusion that they determine, and hence too the power of understanding the manifold 'because-s' that answer the question 'Why?'. Only beings that can answer the question 'Why?' can be answerable for their deeds, and know the difference between virtue and vice. Rationality is exhibited in drawing inferences from premisses and in deriving conclusions from evidence. It is manifest in deliberating, in rational choice, and in sensitivity to reasons.

**Richard:** I don't follow that. I'm not sure what you mean by 'sensitivity to reasons'. Since sensitivity is itself a potentiality, not an actuality, I am not sure what you mean by saying that mind is exhibited in a potentiality, given that you also want to say that it *is* a potentiality.

**Aristotle:** You must realize that there are many different kinds of 'can' and different sorts of potentiality. Because mankind is endowed with reason and understanding, we can understand something as warranting thought and action. We can apprehend a 'this is so' as a justification for acting thus-and-so, or as a warrant for concluding that things are so. But we may know something to be a reason, just as we know something to be so, even when we are asleep. Or we may apprehend something to be a reason while we are awake, and yet not take notice of it. Or we may notice it and act immediately without deliberation, as when we catch someone who is about to fall. Or we may apprehend something as a reason, and deliberate on what is to be done, and later do it for that reason.



What is clear is that in all or some or one of these ways, we, unlike all other animals, are sensitive to reasons.

**Frank:** I don't see how this 'rational *psuchē*' or mind can interact with the body if it isn't a part of the body, like the brain is. I mean if the nature of the rational *psuchē* is to be sensitive to reasons, how does it make the body move?

**Aristotle:** We are speaking of powers, my dear sir, not of things. The ability of an axe to cut is not a part of the axe. Nor does it interact with the axe, or make the axe cut. We cannot see without eyes, but eyesight is not a part of the eye. It is not the eye that sees, it is the animal with eyes. Without eyes, there is no eyesight, but eyesight does not make the eyes see. So too, it is the human being that reasons and deliberates for reasons and acts on account of reasons and for the sake of rationally chosen ends. It is not the mind or rational *psuchē* that reasons, infers, and comes to conclusions. It is the human being. To say that the *psuchē* reasons or deliberates is like saying that the *psuchē* weaves or builds. Surely it is better not to say that the *psuchē* pities, learns or thinks, but that the man does these things with his *psuchē*.<sup>26</sup>

**Jill:** You mean one does things with one's mind or rational *psuchē* just as one sees with one's eyes and walks with one's legs?

**Aristotle:** No, my dear lady, not at all. The *psuchē* is not a part of a living being and so the rational *psuchē* is not an organ of a human being like the legs and eyes. One does things with one's *psuchē* in the sense in which one does things with one's talents.

**Jill:** Ah, I see. So the very question of how the mind is related to the body is itself a misguided question?

**Aristotle:** Of course. It is akin to the question of how the potter is related to his ability to throw a pot, or of how the eye is related to eyesight. These are not relations at all. We have capacities and abilities, liabilities and susceptibilities, but while *having an axe* is a relation between an owner and his possession, having powers is no relation. You must think of the peculiarities of the idea of *having*. For we speak of *having* in a number of different ways: of having knowledge, which is akin to possessing abilities; or of having courage, which is a trait of character; of having a height or length, as well as of having a cloak or tunic, as when one covers oneself after exercise in the palaestra. And we speak of having a ring on one's finger, as when one wears a ring on a part of oneself. We speak of the jar as having wine in it, when it contains wine. And there is an even stranger way of having, as when we speak of having parents – which means that one's parents are alive, and of having a wife, which signifies no more than that one is married to her.<sup>27</sup>

**Richard:** Yes, I read that in your *Categories*. But you wrote there that you had made a pretty complete enumeration of the different ways 'having' is spoken of. But you didn't speak of having a mind, of having something in mind or having something at the back of one's mind. Nor did you extend your remarks to such forms of *having* as having a thought, having a reason or having a goal. But that surely is a most fruitful way of pursuing further your idea of conceiving of the mind, the *rational psuchē*, in terms of having first- and second-order abilities and exercising them. For here too we must examine carefully what lies behind all this *having*.

**Aristotle:** But of course. I wrote three carefully composed pages of notes in Chapter 15 of the *Categories*, which made the matter quite clear. You don't mean to say that you stopped before the end?

**Richard:** Well, no. I read right to the end, but Chapter 15 consists only of one brief paragraph.

**Aristotle:** [*agitated*] You mean that those concluding pages have been lost?

**Richard:** Well, yes, I suppose they must have been.

**Aristotle:** [*jumping to his feet*] This is grievous indeed. I did not realize that the complete notes have not survived. Pray excuse me now. I must see whether there is a decent copy in the Library here. [*he pauses and collects himself*] But before I go, let me suggest to you how to pursue matters further for yourselves. Bear in mind that if you begin with things that are said in a manner that is true but unenlightening, you will make progress towards enlightenment by constantly substituting more perspicuous expressions for the ones that are more familiar but confusing. To make clear distinctions is not characteristic of most men. But this is what you must at all times strive to do. Now I must go and try to find Theophrastus and Neleus to see whether they can throw some light on this loss. Farewell. [*He leaves*]

**Jill:** Oh what a shame! That was wonderful. And we were just about to get to the heart of the matter.

**Frank:** Who are these guys Theophrastus and Nellyus?

**Richard:** Neleus. Theophrastus took over the Lyceum after Aristotle died, and so he inherited all of his manuscripts, and he passed them on to his nephew Neleus of Skepsis, one of Aristotle's last pupils, for safe keeping.

**Frank:** Ah! . . . Well, that was some display of fireworks. He sure did leave dualism in tatters.

**Jill:** But also reductive materialism, Frank. What he's offering us is naturalism without reduction – a conception of the mind that is neither dualist nor materialist.

**Richard:** Yes. What we now have to do is apply the schema he's given us to our normal discourse about the mental. We need to examine the use of such phrases as 'having a thought at the back of one's mind', 'having a thought cross one's mind', 'having something in mind', 'making up one's mind' and . . .

**Frank:** Hey, wait a minute. If he's right, then it makes no sense to speak of the mind being separable from the body.

**Richard:** Yes, that seems eminently plausible to say the very least. Surely you must find that idea congenial?

**Frank:** Yeah, sure. But then how do you reply to Descartes's parting shot? I mean, we *are* here y' know, and our bodies must have turned to dust by now. So maybe we do survive without the bodies we once had.

**Richard:** My dear chap, did it never occur to you that we might simply be characters in someone's dream?

*[There is a roll of thunder and flash of lightening, and all goes black. When light returns the scene has changed. The author is lying on a chaise longue in which he has dropped off to sleep. He sits up and rubs his eyes.]*

**The author:** What an amazing dream! How extraordinary. [*He rises to his feet*] I must go and write it all down before I forget.

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## Endnotes

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- <sup>1</sup> F. Crick, *The Astonishing Hypothesis* (Touchstone, London, 1994), p. 3.
- <sup>2</sup> F. Crick, op. cit., p. 7.
- <sup>3</sup> Descartes, *Meditations* VI (CSM II, 59; AT VII, 86)
- <sup>4</sup> Descartes, *Principles of Philosophy* IV, 196.
- <sup>5</sup> Descartes, *ibid.* I, 67
- <sup>6</sup> J. R. Searle, *The Rediscovery of the Mind* (MIT Press, Cambridge, Mass., 1992), p. 60.
- <sup>7</sup> Namely Descartes; in his correspondence he liked to refer to himself as ‘the author of ...’
- <sup>8</sup> Descartes, *Treatise on Man*, CSM I, 108f.; AT XI 202
- <sup>9</sup> Descartes, *Meditations* VI (CSM II, 56; AT VII, 81).
- <sup>10</sup> Descartes, *Meditations* VI (CSM II, 51; AT VII, 73).
- <sup>11</sup> Descartes, *The Passions of the Soul*, (CSM I, 340; AT X, 353).
- <sup>12</sup> Descartes, *Optics*, CSM I, 106; AT XI, 119.
- <sup>13</sup> Descartes, letter to Princess Elizabeth, 21 May, 1643 (CSMK 217; AT III, 663f.)
- <sup>14</sup> Descartes, letter to Princess Elizabeth, 28 June, 1643 (CSMK 228; AT III, 694.)
- <sup>15</sup> N. Chomsky, *Language and Problems of Knowledge* (MIT Press, Cambridge, Mass., 1988), pp. 147-52.
- <sup>16</sup> Paul Churchland, ‘Cleansing Science’, *Inquiry* 48 (2005), 464-77.
- <sup>17</sup> Russell relates that at one of his lectures he remarked on the futility of the Hindu supposition that the earth rest on the back of a great elephant, since one would now have to ask on what the great elephant rests. After his lecture a little old lady approached him and said ‘You’ve got it all wrong, Lord Russell. It’s elephants all the way down!’
- <sup>18</sup> Colin Blakemore, *The Mind Machine* (BBC Publications, London, 1988), pp. 270-2.
- <sup>19</sup> Antonio Damasio, *The Feeling if What Happens* (Heinemann, London, 1999), p. 320; G. Edelman, *Bright Air, Brilliant Fire – On the Matter of the Mind* (Penguin, Harmondsworth, 1994), p. 119; E. R. Kandel and R. Wurtz, ‘Constructing the Visual Image’ in E. R. Kandel, J. H. Schwartz, and T. M. Jessell (eds.) *Principles of Neural Science and Behaviour* (Appleton and Lange, Stamford, CT, 1995), p. 492.
- <sup>20</sup> B. Libet, *Neurophysiology of Consciousness* (Birkhäuser, Boston, 1993)

<sup>21</sup> C. Frith, 'My Brain and I', *Nature* 499 (18 July 2013), p. 282.

<sup>22</sup> Kim Sterelny, email to Harry Smit, 29. 7. 2013 rejecting a paper explaining misunderstandings of the mereological fallacy for publication in the journal *Philosophy and Biology*.

<sup>23</sup> Aristotle, *De Anima* I, 407<sup>b</sup>14-26.

<sup>24</sup> Aristotle, *De Anima* II, 412<sup>b</sup> 5-9.

<sup>25</sup> Aristotle, *De Anima* II, 413<sup>a</sup>4.

<sup>26</sup> Aristotle, *De Anima* I, 408<sup>b</sup>12-15.

<sup>27</sup> Aristotle, *Categories* chapter 15, 15<sup>b</sup>18-32.

## READING

Aristotle, *De Anima*

Descartes, *Meditations* 2 and 6

P. M. S. Hacker, *Human Nature: the Categorical Framework*, chap. 8.

A. J. P. Kenny, *The Self – the Aquinas Lecture 1988* (Marquette University Press, Milwaukee, 1988).

A. J. P. Kenny, 'The Geography of the Mind' repr. in *Essays on the Aristotelian Tradition* (Clarendon Press, Oxford, 2001), pp. 61-75.