

René Descartes, *Passions of the Soul*

Excerpts from René Descartes, *The Passions of the Soul*, in *The Philosophical Works of Descartes*, translated by E. S. Haldane and G. R. T. Ross (Cambridge, 1975).

The Passions of the Soul was the last of Descartes' works, and was prompted by his correspondence with Princess Elisabeth of Bohemia (see lecture 8). In this excerpt, Descartes describes how, on his view, the mind and the body interact. The crucial mind-body gateway, he thinks, is a "small gland"—the [pineal gland](#), which three centuries later was discovered to secrete the hormone melatonin. If there is a mind-body gateway, surgical removal of the pineal gland—a *pinealectomy*—does not appear to disrupt it.

That the soul is united to all the portions of the body conjointly.

[I]n order to understand all these things more perfectly, we must know that the soul is really joined to the whole body, and that we cannot, properly speaking, say that it exists in any one of its parts to the exclusion of the others, because it is one and in some manner indivisible, owing to the disposition of its organs, which are so related to one another that when any one of them is removed, that renders the whole body defective; and because it is of a nature which has no relation to extension, nor dimensions, nor other properties of the matter of which the body is composed, but only to the whole conglomerate of its organs, as appears from the fact that we could not in any way conceive of the half or the third of a soul, nor of the space it occupies, and because it does not become smaller owing to the cutting off of some portion of the body, but separates itself from it entirely when the union of its assembled organs is dissolved.

That there is a small gland in the brain in which the soul exercises its functions more particularly than in the other parts.

It is likewise necessary to know that although the soul is joined to the whole body, there is yet in that a certain part in which it exercises its functions more particularly than in all the others; and it is usually believed that this part is the brain, or possibly the heart: the brain, because it is with it that the organs of sense are connected, and the heart because it is apparently in it that we experience the passions. But, in examining the matter with care, it seems as though I had clearly ascertained that the part of the body in which the soul exercises its functions immediately is in nowise the heart, nor the whole of the brain, but merely the most inward of all its parts, to wit, a certain very small gland which is situated in the middle of its

substance and so suspended above the duct whereby the animal spirits in its anterior cavities have communication with those in the posterior, that the slightest movements which take place in it may alter very greatly the course of these spirits; and reciprocally that the smallest changes which occur in the course of the spirits may do much to change the movements of this gland.

How we know that this gland is the main seat of the soul.

The reason which persuades me that the soul cannot have any other seat in all the body than this gland wherein to exercise its functions immediately, is that I reflect that the other parts of our brain are all of them double, just as we have two eyes, two hands, two ears, and finally all the organs of our outside senses are double; and inasmuch as we have but one solitary and simple thought of one particular thing at one and the same moment, it must necessarily be the case that there must somewhere be a place where the two images which come to us by the two eyes, where the two other impressions which proceed from a single object by means of the double organs of the other senses, can unite before arriving at the soul, in order that they may not represent to it two objects instead of one. And it is easy to apprehend how these images or other impressions might unite in this gland by the intermission of the spirits which fill the cavities of the brain: but there is no other place in the body where they can be thus united unless they are so in this gland.

How the soul and the body act on one another.

Let us then conceive here that the soul has its principal seat in the little gland which exists in the middle of the brain, from whence it radiates forth through all the remainder of the body by means of the animal spirits, nerves, and even the blood, which, participating in the impressions of the spirits, can carry them by the arteries into all the members. And recollecting what has been said above about the machine of our body, i.e. that the little filaments of our nerves are so distributed in all its parts, that on the occasion of the diverse movements which are there excited by sensible objects, they open in diverse ways the pores of the brain, which causes the animal spirits contained in these cavities to enter in diverse ways into the muscles, by which means they can move the members in all the different ways in which they are capable of being moved; and also that all the other causes which are capable of moving the spirits in diverse ways suffice to conduct them into diverse muscles; let us here add that the small gland which is the main seat of the soul is so suspended between the cavities which contain the spirits that it can be moved by them in as many different ways as there are sensible

diversities in the object, but that it may also be moved in diverse ways by the soul, whose nature is such that it receives in itself as many diverse impressions, that is to say, that it possesses as many diverse perceptions as there are diverse movements in this gland. Reciprocally, likewise, the machine of the body is so formed that from the simple fact that this gland is diversely moved by the soul, or by such other cause, whatever it is, it thrusts the spirits which surround it towards the pores of the brain, which conduct them by the nerves into the muscles, by which means it causes them to move the limbs.

Example of the mode in which the impressions of the objects unite in the gland which is in the middle of the brain.

Thus, for example, if we see some animal approach us, the light reflected from its body depicts two images of it, one in each of our eyes, and these two images form two others, by means of the optic nerves, in the interior surface of the brain which faces its cavities; then from there, by means of the animal spirits with which its cavities are filled, these images so radiate towards the little gland which is surrounded by these spirits, that the movement which forms each point of one of the images tends towards the same point of the gland towards which tends the movement which forms the point of the other image, which represents the same part of this animal. By this means the two images which are in the brain form but one upon the gland, which, acting immediately upon the soul, causes it to see the form of this animal.

Example of the way in which the passions are excited in the soul.

And, besides that, if this figure is very strange and frightful—that is, if it has a close relationship with the things which have been formerly hurtful to the body, that excites the passion of apprehension in the soul and then that of courage, or else that of fear and consternation according to the particular temperament of the body or the strength of the soul, and according as we have to begin with been secured by defence or by flight against the hurtful things to which the present impression is related. For in certain persons that disposes the brain in such a way that the spirits reflected from the image thus formed on the gland, proceed thence to take their places partly in the nerves which serve to turn the back and dispose the legs for flight, and partly in those which so increase or diminish the orifices of the heart, or at least which so agitate the other parts from whence the blood is sent to it, that this blood being there rarefied in a different manner from usual, sends to the brain the spirits which are adapted for the maintenance and strengthening of the

passion of fear, i.e. which are adapted to the holding open, or at least reopening, of the pores of the brain which conduct them into the same nerves. For from the fact alone that these spirits enter into these pores, they excite a particular movement in this gland which is instituted by nature in order to cause the soul to be sensible of this passion; and because these pores are principally in relation with the little nerves which serve to contract or enlarge the orifices of the heart, that causes the soul to be sensible of it for the most part as in the heart.