

# The Passions of the Soul

René Descartes

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[Brackets] enclose editorial explanations. Small ·dots· enclose material that has been added, but can be read as though it were part of the original text. Occasional •bullets, and also indenting of passages that are not quotations, are meant as aids to grasping the structure of a sentence or a thought. Every four-point ellipsis . . . . indicates the omission of a brief passage that seems to present more difficulty than it is worth. Longer omissions are reported between brackets in normal-sized type.—The division of the work into 212 articles, and their headings, are Descartes's. When an article starts with 'This. . .' or 'Therefore. . .' or the like, it follows on not from its heading but from the end of the preceding article; see for example articles 138–9 and 165–6.—Many articles start with 'It must be observed' or 'Next we should take notice' or the like; these throat-clearings are dropped from the present version.—Part 2 starts on page 17, Part 3 on page 44. The full table of contents is at the end.

First launched: October 2010

## Part I: The Passions in General and incidentally the whole nature of man

### 1. Anything that is a passion with regard to one subject is an action with regard to something else

The most glaring defect in the sciences we have from the ancients is what they wrote about the passions. This topic has been strenuously explored, and doesn't seem to be especially hard to investigate because we all feel passions in ourselves and so don't need to look elsewhere for observations to establish their nature; and yet the teachings of the ancients about the passions are so skimpy and mostly so implausible that I can't hope to approach the truth except by leaving the paths they have followed. So I'll have to write as though I were considering a topic that no-one had dealt with before me.

To start with, I note that anything that happens is generally labelled by philosophers as a 'passion' with regard to the subject to which it happens and an 'action' with regard to whatever brings it about that it happens. Thus, although the agent and patient—the maker and the undergoer—are often quite different, an action and passion are always a single thing that has these two names because of the two different subjects to which it may be related.

### 2. To understand the soul's passions we must distinguish its functions from the body's

Next point: We are not aware of any subject that acts more immediately on our soul than the body to which it is joined; so we should recognize that passions in the soul are usually actions in the body. To come to know about our passions, therefore, there's no better approach than to examine the

difference between the soul and the body, so as to learn which of the two is responsible for each of the things we do.

### 3. The rule to be followed in doing this

We won't find this very hard to do if we bear this in mind: anything we experience as being in us, and which we see can also exist in wholly inanimate bodies, can be attributed only to our body; and anything in us that we can't conceive of as being somehow had by a body must be attributed to our soul.

### 4. The heat and movement of our body-parts come from the body; thoughts come from the soul

Thus, because we have no conception of the body as somehow thinking, we have reason to believe that all our thoughts, of whatever kind, belong to the soul. And because we're sure that some inanimate bodies can move in as many ways as our bodies, if not more, and have as much heat as our body-parts, if not more. . . ., we ought to believe that all the heat and all the movements present in us, not being dependent on thought, belong solely to the body.

### 5. It is an error to believe that the soul gives movement and heat to the body

This will enable us to avoid a very serious error that many have fallen into—I reckon that it's the primary cause of our failure to give a good account of the passions or of anything else belonging to the soul. The error goes like this:

‘Since dead bodies don’t have any heat or motion, it is the absence of the soul that causes them to be cold and motionless.’

Thus it has been wrongly believed that our natural heat and all our bodily movements depend on the soul; whereas we ought to hold that the dependence goes the other way—the soul leaves our body when we die only because this heat ceases and the organs that move the body decay.

### 6. How a living body differs from a dead one

To avoid this error, let us note that death is never due to •the absence of the soul but only to •the decay of some principal part of the body. And let us recognize that

the body of a living man

differs from

the body of a dead man

in just the same way that

a watch or other automaton (i.e. self-moving machine) when it is wound up and contains within itself the physical source of the movements for which it is designed, together with everything else needed for its operation

differs from

the same watch or machine when it is broken and the source of its movement has stopped working.

### 7. A brief account of the parts of the body and some of its functions

To make this more intelligible I shall explain in a few words the over-all structure of our body’s machine. Everyone knows that we contain a heart, brain, stomach, muscles, nerves, arteries, veins, and the like. We know too that the

food we eat goes down to the stomach and bowels, from where its juices flow into the liver and all the veins, mixing with the blood in the veins and thus increasing its quantity. Those who have heard *anything* about medicine also know •how the heart is constructed and •how the blood in the veins can flow easily from the *vena cava* into its right-hand side, from there into the lungs through the arterial vein, then back to the heart through the venous artery running to its left-hand side, and finally from there into the great artery, whose branches spread through the whole body. Likewise anyone who hasn’t been completely blinded by the authority of the ancients, and has been willing to open his eyes to examine Harvey’s view about the circulation of the blood, will be sure that the body’s veins and arteries are like streams through which the blood constantly rushes. [Descartes now repeats what he said above about blood-flow to and from the heart. Then:] The two cavities of the heart are thus like sluices through which all the blood passes upon each circuit through the body. It is also •generally• known that every movement of the limbs depends on the muscles, which are organised into opposing pairs: when a muscle x becomes shorter, it pulls on the part of the body to which it is attached, and that lengthens the other member of the pair y. Then, if later on y happens to shorten, it makes x lengthen again. . . . Finally, it is •generally• known that all these movements of the muscles, and likewise all sensations, depend on the nerves, which are like little threads or tubes coming from the brain and containing a certain very fine air or wind that is called the ‘animal spirits’. [see Glossary] The brain contains animal spirits too.

### 8. The root source of all these functions

But it is *not* commonly known how these animal spirits and nerves help to produce movements and sensations, or what physical cause makes them act. So although I have already touched on this in other writings, I'll say something about it here. Just this: while we are alive there is a continual heat in our hearts, a kind of fire maintained there by the blood from the veins. This fire is the physical cause of all the movements of our limbs.

### 9. How the heart moves

The fire's first effect is to make the blood in the heart's cavities expand. So the blood, needing more space, rushes from the right-hand cavity into **(a)** the arterial vein and from the left-hand cavity into **(b)** the great artery. Then, when this expansion has stopped, new blood rushes into the right-hand cavity of the heart from **(c)** the vena cava, and into the left-hand cavity from **(d)** the venous artery. (For there are tiny membranes at the entrances to these four vessels that are so arranged that the blood can enter the heart only through **(c)** and **(d)**, and leave it only through **(a)** and **(b)**.) When the new blood has entered the heart it is immediately rarefied [see Glossary] in the same way as before. This and this alone is what the pulse—the beating of the heart and arteries—consists in, with a new beat every time new blood enters the heart. It is also the sole cause of the movement of the blood, making it constantly rush through all the arteries and veins, carrying with it the heat it acquires in the heart; in taking this heat to all the other parts of the body, it provides them with nourishment.

### 10. How the animal spirits are produced in the brain

Something that matters more here is the fact that all the most lively and finest parts of the blood, which have been rarefied by the heat in the heart, constantly pour into the cavities of the brain. Why do they go there rather than elsewhere? It's because all the blood leaving the heart through **(b)** the great artery follows a straight line towards the brain; but not all this blood can enter the brain because the passages are too narrow; only the most active and finest parts can go in there, while the rest of the blood spreads out into the other regions of the body. Now these very fine parts of the blood constitute the animal spirits. All that is needed for them to be animal spirits is being sifted out from the less fine parts of the blood. There's nothing intrinsically special about these 'spirits', as I call them; they are merely bodies, like any other bodies except for being extremely small and moving very fast, like flames shooting out from a bonfire. They never stop anywhere; as some of them enter the brain's cavities, others leave the brain through the pores in its substance. These pores steer them into the nerves, and from there to the muscles, which is how the animal spirits move the body in all the different ways it is capable of.

### 11. How the muscles' movements occur

For, as already mentioned in article 7, the sole cause of all the movements of the parts of the body is the shortening of certain muscles and the lengthening of the opposed muscles. What brings it about that one muscle *x* becomes shorter rather than its opposite muscle *y* is simply that fractionally more spirits from the brain come to *x* than to *y*. The spirits that come immediately from the brain aren't enough by themselves to move the muscles; but they cause the other spirits that are already in muscle *x* to leave it very suddenly

and pass into y. In this way x becomes longer and more relaxed, and y, being suddenly swollen by sudden influx of spirits from x, becomes shorter and pulls the limb to which it is attached. You'll find this easy to grasp provided you know that the continuous flow of animal spirits from the brain to any muscle is very small, and that every muscle always contains a good store of its own spirits. These move fast, sometimes •whirling around without going anywhere (when they find no passages open for them to leave through), and sometimes •flowing into the opposed muscle. Each muscle has small openings through which the spirits can flow between that muscle and its opposite number; and these are so arranged that when •the spirits from the brain to one muscle x are ever so slightly more forceful than those going to the other muscle y, •they open all the passages through which the spirits in x can pass into y, while closing all the passages through which the spirits in y could pass into x. In this way all the spirits previously contained in the two muscles are gathered very rapidly in y, thus making it swell and become shorter, while x lengthens and relaxes.

## 12. How external objects act on the sense organs

The spirits don't flow uniformly from the brain to the muscles—they sometimes more flow to some muscles than to others—and we still have to know what causes this. In the case of humans, one of these causes is the soul's activity (I'll explain this later); but there are two other notable causes that depend only on the body. I'll deal with one right away; the other will be the topic of article 14. (i) The first consists in differences in the movements that external objects arouse in the sense organs. I have already explained this quite fully in my *Optics*; but I'll go through it again here so that the reading of the present work can be self-contained. There are

three things to consider in the nerves:

- The marrow, or interior substance, extends in the form of tiny fibres from their origin in the brain to the extremities of the other parts of the body to which they are attached.

- The membranes surrounding the fibres form little tubes in which the fibres are enclosed; these are continuous with the membranes in which the brain is wrapped.

- The animal spirits that are carried by these tubes from the brain to the muscles provide the fibres with a low-resistance medium to float in, and so they cause the fibres to remain so completely free and extended that any tiny movement at one end of a fibre sends a movement along the fibre to the relevant part of the brain; just as we make one end of a cord move by pulling the other end.

## 13. This action of external objects can direct the spirits into the muscles in various ways

I explained in my *Optics* how the objects of sight get through to us solely by producing . . . motions in the fibres of the optic nerves at the back of our eyes, thus producing motions in the regions of the brain where these nerves originate. I explained too that •all the qualitative variety that we see in things comes from the corresponding variety in those motions in the nervous system, and that •what immediately represent these objects to the soul are not motions in the eye but motions in the brain. This account of eyesight makes it easy to conceive how sounds, smells, tastes, heat, pain, hunger, thirst—and quite generally all the objects of our external senses and of our internal appetites—also produce in our nerves some movement that passes through them to the brain. Besides causing our soul to have various different sensations, these various movements in the brain can also act without the soul, causing the spirits to make their way to

certain muscles rather than others, and so causing them to move our limbs. I shall prove this here by one example only. If someone suddenly thrusts his hand in front of our eyes as if to strike us, then even if we know that he is our friend, that he is doing this only in fun, and that he will take care not to harm us, we still find it difficult to prevent ourselves from closing our eyes. This shows that it is not through the mediation of our soul that they close, since this action is contrary to our volition, which is the soul's only activity, or at least its main one. They close rather because the mechanism of our body is so composed that the movement of the hand towards our eyes produces another movement in our brain, which directs the animal spirits into the muscles that make our eyelids drop.

**14. Differences among the spirits may also cause them to take various different courses**

(ii) The other cause of variety in the flow of the animal spirits to the muscles is the variety in how fast the spirits are moving and how small their parts are. When some of their parts are coarser and more agitated than others, they penetrate more deeply in a straight line into the brain's cavities and pores, and in this way they are directed to muscles that they wouldn't have gone to if they'd had less force.

**15. The causes of the differences among the spirits**

This inequality can arise from differences in the materials of which the spirits are composed. We see this in people who have drunk a lot of wine: the wine's vapours get quickly into the blood and rise from the heart to the brain, where they turn into spirits which, being stronger and more abundant than the spirits that are usually there, can move the body in many strange ways. Such differences among the spirits can also come from differences in the conditions of the heart,

liver, stomach, spleen and all the other organs that help to produce them. [Descartes adds two rather wordy details about how this can happen: •nerves that control the widths of openings to the heart; and •differences in the strength of thrust of spirits from different parts of the body.]

**16. How all parts of the body can be moved by outer objects and by the spirits without the soul's help**

Our body's machine is so constructed that changes in the movements of the spirits can affect which pores in the brain are more open and which less. Conversely, when an •action of the sensory nerves opens one of those pores a tiny bit more or less than usual, this affects how the spirits move and directs them into the muscles that control how the body is usually moved when such an •action occurs. Thus every movement we make without any input from our will—as often happens when we breathe, walk, eat and indeed when do anything that the beasts [see Glossary] also do—depends solely on the lay-out of the parts of our body and on the route that the spirits, aroused by the heat of the heart, follow naturally in the brain, nerves and muscles. It's just as a watch's movement of a watch is produced solely by the strength of its spring and the configuration of its wheels.

**17. The soul's functions**

Now that we have looked at all the things the body can do unaided, it's easy for us to see that there is nothing in us that we *must* attribute to our soul except our thoughts [see Glossary]. There are two main kinds of thoughts—actions of the soul and passions of the soul. The ones I call 'actions' are all our volitions, ·i.e. acts of the will·, because we experience them as coming directly from our soul with, apparently, no input from anything else. On the other hand, our various

perceptions or items of knowledge can be called the soul's 'passions'—taking this word in a very general sense—because they are often not actively **made** by our soul but rather passively **received** by the soul from the things that they represent.

### 18. The will

Our volitions in their turn divide into two sorts: •actions of the soul that aim only at something in the soul itself, as when we will [see Glossary] to **love God** or in any way to apply our mind to some object that isn't material; and •actions of the soul that aim at some event in our body, as when we will to **walk** . . .

### 19. Perception

Our perceptions (•or items of knowledge•) are also of two sorts, one sort caused by the soul and the other sort by the body. The ones caused by the soul are our perceptions of our volitions and of all the •imaginings or other thoughts that depend on •them. We can't will anything without *thereby* perceiving that we are willing it—that's for sure. And although our soul is active in willing, it is passive in its perception of that action. But because this perception is really one and the same thing as the volition, and names are always based on whatever sounds better, we usually don't call it a 'passion' but an 'action'.

### 20. Imaginings and other thoughts that are formed by the soul

When our soul applies itself to imagining something non-existent—an enchanted palace, for example, or a chimera—and also when it applies itself to thinking about something

that is purely intelligible and not imaginable—for example, in thinking about its own nature—the perceptions it has of these things depend mainly on the volition that makes it perceive them. That is why we usually regard these perceptions as actions rather than passions.

### 21. Imaginings that are caused solely by the body

Most of the perceptions caused by the body depend on the nerves, but some don't, and they are called 'imaginings'. Unlike the imaginings described in article 20, however, these don't arise from the will and therefore don't count as 'actions' of the soul. Their cause is this: variously agitated spirits

**how Descartes finished the sentence:** . . .rencontrant les traces de diverses impressions qui ont précédé dans le cerveau, ils y prennent leur cours fortuitement par certains pores plutôt que par d'autres.

**what that means:** . . . come upon the traces of various impressions that have preceded them in the brain, and there make their way by chance through certain pores rather than others.

**what Descartes may have had in mind:** . . . come by chance upon the traces of various impressions that have preceded them in the brain, and are steered by them through certain pores rather than others.

The illusions of our dreams are cases of that, and so are the day-dreams we often have when we're awake and our mind wanders idly without deliberately applying itself to anything. All these imaginings are 'passions' of the soul if that word is understood in its general sense, •i.e. they are events in respect of which the soul is passive•. But when 'passion' is taken in its more proper and exact sense, some of them are passions •and others are not•. [If Descartes ever

tells us what this more proper and exact sense is, he does so in articles 27–29.] Their cause isn't as conspicuous and determinate as that of the perceptions the soul receives by means of the nerves; and they seem to be mere shadows and pictures of those other more normal perceptions. We should hold off from characterising these imaginings, however, until we get further in sorting out the other ones.

## 22. How these other perceptions differ from one another

All the perceptions that I haven't yet explained—i.e. all but article 21's imaginings—come to the soul by means of the nerves. They differ amongst themselves in that we take some to be perceptions of external objects that strike our senses, others to be perceptions of our body or some of its parts, and still others to be perceptions of our soul.

## 23. The perceptions that we relate to objects outside us

The perceptions we take to be perceptions of things outside us, namely of the objects of our senses, are caused by these objects, at least when we aren't wrong about them: the objects arouse movements in the sense-organs and, through the nerves, arouse other movements in the brain—which make the soul sense the objects. Thus, when we see the light of a torch and hear the sound of a bell, the sound and the light are two different actions which, simply by arousing two different movements •in some of our nerves and through them •in our brain, give the soul two different sensations. And we relate these sensations to the subjects we think caused them in such a way that we think we see the torch itself and hear the bell, and not that we merely sense movements coming from these objects.

## 24. The perceptions we relate to our body

The perceptions we relate to our body or to certain parts of it—i.e. take to be perceptions *of* our body or some part of it—are those of hunger, thirst and other natural appetites, as well as pain, heat and other states that we feel as being in our body-parts and in external objects. Thus, at the same time and by means of the same nerves we can feel

the cold of our hand and the heat of a flame coming close to it,

or the other way around:

the heat of our hand and the cold of the air to which it is exposed.

The causes of the cold/hot sensations in one case and the hot/cold sensations in the other are exactly the same, except that the temporal order of hot and cold is different in the two cases, and we judge that the one that comes first is already in us, while its successor hasn't yet reached us from the object that causes it.

## 25. The perceptions we relate to our soul

The perceptions that we relate only to the soul are those whose effects we feel as being in the soul itself, and for which we usually don't know any more immediate cause to which we can relate them. These include the feelings of joy, anger and the like, which are aroused in us sometimes by the objects that stimulate our nerves and sometimes also by other causes. Now all our perceptions—those that we relate to objects outside us and those we relate to the various states of our body—are indeed passions with respect to our soul, taking 'passion' in its most general sense •which means merely that the soul is passive with respect to them.; but we usually restrict the term 'passion' to signify only perceptions that relate to the soul itself. And the latter perceptions are

the only ones that I have undertaken to explain here under the title 'passions of the soul'.

**26. Imaginings that depend solely on chance movements of the spirits may be *passions* just as truly as the perceptions that depend on the nerves**

Everything the soul perceives by means of the nerves can also be represented to it through chance movements of the spirits. The only difference is that •impressions entering the brain through the nerves are usually livelier and more clearly detailed than •the ones produced there by the spirits—which is why I said in article 21 that the latter are like 'shadows and pictures' of the former. Sometimes a 'picture' of this kind is so similar to the thing it represents that it may mislead us regarding the perceptions related to objects outside us, or even ones related to certain parts of our body. But we can't be misled in that way with regard to the *passions*, because they are so close, so internal to our soul, that it can't possibly feel them unless they are truly as it feels them to be. Thus often when asleep, and sometimes even when awake, we imagine certain things so vividly that we think we see them before us or feel them in our body although they aren't there at all; but even when asleep and dreaming we can't feel sad or moved by any other passion unless the soul truly has this passion within it.

**27. Definition of the passions of the soul**

Having considered how the passions of the soul differ from all its other thoughts, it seems to me that we can define them generally as

- perceptions, sensations or commotions of the soul which
- we relate particularly to the soul, and are caused, maintained and strengthened by some movement of the spirits.

**28. Explanation of the first part of this definition**

We can call them '**perceptions**' if we're using this term generally to signify all the thoughts that aren't actions of the soul, i.e. volitions, but not if we are using it to signify only evident items of knowledge. For experience shows •that the people who are the most strongly stirred by their passions aren't the ones who know them best, and •that the passions are among the perceptions that are made confused and obscure by the soul's close alliance with the body. We can also call them '**sensations**' because they are received into the soul in the same way as the objects of the external senses, and they are not known by the soul any differently. But it is even better to call them '**commotions**' of the soul, not only because this term is applicable to *all* the changes that occur in the soul—i.e. to all the various thoughts that come to it—but more particularly because the passions agitate and disturb the soul more forcefully than any other kinds of thought the soul may have.

**29. Explanation of the remainder of the definition**

I add that they **relate particularly to the soul** so as to distinguish them from sensations that relate to external objects (e.g. smells, sounds and colours) or to our body (e.g. hunger, thirst and pain). I also add that they are **caused, maintained and strengthened by some movement of the spirits** so as to •distinguish them from our volitions (which can also be called 'commotions of the soul that relate to it',

but are caused by the soul itself), and so as to •explain their last and most immediate cause—the last link in the causal chain leading to them—which again distinguishes them from other sensations.

### 30. The soul is united to all the body's parts together

For a perfect grasp of all this we need to recognize that the soul is really joined to the whole body, and can't properly be said to exist in any one part of the body rather than in others. Why? •Because the body is a unity that is in a way *indivisible*—its organs are so arranged that the removal of any one of them makes the whole body defective. And •because the nature of the soul won't let it have any relation to extension, or to the dimensions or other properties of the matter the body is made of; all it can be related to the whole assemblage of the body's organs. You can see this in the inconceivability of *half a soul* or *a third of a soul*, or of a soul's *size*. And in the fact that the soul doesn't shrink if we amputate some part of the body, and that if the assemblage of the body's organs is broken up the soul completely separates from the body.

### 31. There's a little gland in the brain where the soul does its work more particularly than elsewhere in the body

Although the soul is joined to the whole body, there's a certain part of the body where it exercises its functions more particularly than in all the others. [The French is *plus particulièrement*; Descartes doesn't explain this, and his uses of the adverb elsewhere, e.g. in articles 27 and 29, don't help with this one. Judging by the next few pages we can take him to be saying that this gland is where the soul does most of its work or the most important part of it.] It's commonly thought that this part is •the brain,

because of its relation to the sense-organs, or •the heart, because it feels to us as though that's where our passions are. But on looking into this very carefully I think I can clearly see that the part of the body in which the soul directly [*immédiatement*] does its work is. . . .a certain very small gland deep inside the brain, in a position such that. . . .the slightest movements by it can greatly alter the course of the nearby spirits passing through the brain, and conversely any little change in the course of those spirits can greatly alter the movements of the gland.

### 32. How we know that this gland is the principal seat of the soul

What convinces me that this gland is the only place in the body where the soul *can* directly exercise its functions is my conviction that all the other parts of our brain are double, as are all the organs of our external senses—eyes, hands, ears and so on. •The fact that sense-organs come in pairs is central to my argument. We often have one simple thought about one object at one time; so there *must* be some place where two sense-impressions coming through a matched pair of sense-organs can be brought together in a single impression before reaching the soul, so that they don't present it with two objects instead of one. It makes sense to think of these impressions as being unified in this gland by means of the spirits that brush by it going into the brain. There's nowhere else in the body where they could exist in the unified form except as a result of the unifying activities of this gland.

### 33. The seat of the passions is not in the heart

As for the view that the soul receives its passions in the heart: this is negligible because it is based solely on the fact

that the passions make us feel some change in the heart; and it's easy to see that the only reason for this feeling is that there's a small nerve running down from the brain to the heart. In the same way, pain is felt *as* in the foot by means of the nerves in the foot, and the stars are perceived *as* in the sky by means of their light and the optic nerves. The soul doesn't have to do its work in the heart in order to feel its passions there, any more than it has to be in the sky in order to see the stars there!

#### **34. How the soul interacts with the body**

Let us take it, then, that the soul's principal seat is in the small gland located in the middle of the brain. From there it radiates out through the rest of the body by means of the animal spirits, the nerves, and even the blood, which can take on the impressions of the spirits and carry them through the arteries to all parts of the body. Remember what I said about our body's machine:

The nerve-fibres are distributed through the body in such a way that when the objects of the senses stir up various movements in different parts of the body, the fibres open the brain's pores in various ways; which brings it about that the animal spirits contained in those cavities enter the muscles in various ways. That is how the spirits can move the parts of the body in all the different ways they can be moved. . . .

To this we can now add:

The little gland that is the principal seat of the soul is suspended within the cavities containing these spirits, so that it can be moved by them in as many different ways as there are perceptible differences in the objects. But it can also be moved in various different ways by the soul, whose nature is such that

it receives as many different impressions—i.e. has as many different perceptions—as there occur different movements in this gland. And, the other way around, the body's machine is so constructed that just by this gland's being moved in any way by the soul or by any other cause, it drives the surrounding spirits towards the pores of the brain, which direct them through the nerves to the muscles—which is how the gland makes them move the limbs ['them' could refer to the nerves or to the muscles; the French leaves that open].

#### **35. Example of how the impressions of objects are united in the gland in the middle of the brain**

If we see an animal approaching us, the light reflected from its body forms two images, one in each of our eyes; and these images form two others, by means of the optic nerves, on a surface in the brain facing in on its cavities. Then, by means of the spirits that fill these cavities, the images radiate towards the little gland that is surrounded by the spirits; the movement belonging to each point of one of the images tends towards the same point on the gland as the movement belonging to the corresponding point of the other image. . . . In this way, the two images in the brain create only one image on the gland, which acts directly on the soul and makes it see the shape of the animal.

#### **36. Example of how passions are aroused in the soul**

If this shape is very strange and terrifying—i.e. if it is closely related to things that have previously been harmful to the body—this arouses in the soul the passion of •anxiety, followed by that of •bold defiance or •fear and terror, depending on the state of the body or the strength of the soul, and on

whether we have had past experience of coping with such things by fight or flight. In some people this ·frightening image· puts the brain into a state where the spirits reflected from the image formed on the gland proceed from there

(1) partly to the nerves that serve to turn the back and move the legs in order to flee, and partly

(2a) to the nerves that expand or constrict the openings to the heart, or else

(2b) to nerves that agitate other parts of the body from which blood is sent to the heart,

with (2) (whether a or b) happening in such a way that the blood is rarefied in an unusual way that makes it send to the brain spirits that are adapted for maintaining and strengthening the passion of fear—that is, for holding open or re-opening the pores of the brain that direct the spirits into these same nerves. For merely by entering into these pores they produce in the gland a particular movement that nature has set up so as to make the soul feel this passion. And because these pores are related mainly to the little nerves that serve to contract or expand the openings to the heart, this brings it about that the soul feels the passion chiefly as if it were in the heart. [Descartes famously had a problem explaining what could be going on in causal interactions between souls and bodies. In this paragraph he doesn't speak of the soul's acting on the body, and regarding the body's acting on the soul he says only that a certain movement is *institué de la nature pour faire sentir à l'âme cette passion*—set up by nature to make the soul feel fear.]

### **37. How it becomes apparent that the passions are all caused by some movement of the spirits**

Something similar happens with all the other passions: they are caused chiefly when spirits contained in the brain's cavities make their way to nerves that •expand or constrict

the orifices of the heart, or •drive blood towards the heart in a distinctive way from other parts of the body, or •maintain the passion in some other way. So you can see why I included in my definition of the passions [article 27] that they are caused by some particular movement of the spirits.

### **38. Example of bodily movements that accompany the passions and don't depend on the soul**

Just as the course that the spirits take to the nerves of the heart suffices to make the gland move in a way that sends fear into the soul, so also the simultaneous movement of some spirits to the nerves that move the legs in flight causes that same gland to move in another way by means of which the soul feels and perceives this action. In this way, then, the body can be moved to take flight by the mere lay-out of its organs with no input from the soul.

### **39. How a single cause can arouse different passions in different people**

The same impression that the presence of a terrifying object makes on the gland and that causes fear in some people may arouse courage and boldness in others. That is because brains are not all constituted in the same way: the very same movement of the gland that arouses fear in some people makes the spirits in others enter the pores of the brain that direct them partly •into nerves that move the hands in self-defence and partly •into those that stir up the blood and drive it towards the heart in the way that is needed to produce spirits appropriate for continuing this defence and for maintaining the will to do so.

**40. The main effect of the passions**

The main effect of every the human passion is to arouse the soul and make it will the body to move in the way the passion prepares the body for. Thus the feeling of fear moves the soul to will to flee, that of courage to will to fight, and similarly with the others.

**41. The soul's power with respect to the body**

But the will is by its nature so free that it can't ever be constrained. Of the two kinds of thought I distinguished in the soul ·in article 17·—

- its actions, i.e. its volitions, and
- its passions, taking this word in its broadest sense to include every kind of perception

—the actions are absolutely within the soul's power and can't be changed by the body except indirectly, whereas the passions are absolutely dependent on the ·bodily· events that produce them, and can't be changed by the soul except indirectly, with the exception of cases where the soul is itself their cause. All that the soul actively *does* is this: it wills to do something x, and that brings it about that [see Glossary] the little gland to which it is closely joined moves in the way needed to produce the doing of x.

**42. How we find in our memory the things we will to remember**

When the soul wills to remember something, this volition brings it about that the gland leans in various directions, driving the spirits towards various regions of the brain until they come to the one containing traces of the object the soul wants to remember. To say that the brain contains a 'trace' of an object x is just to say:

The pores of the brain through which the spirits have in the past made their way because of the presence of x have been made by this more apt than other pores to be opened in the same way when the spirits again flow towards them.

And so the spirits enter into these pores more easily when they come upon them, thereby producing in the gland that special movement that represents x to the soul, and makes it recognize x as the thing it wanted to remember.

**43. How the soul can •imagine, •be attentive, and •move the body**

When we will [see Glossary] to •imagine something that we have never seen, this volition has the power to bring it about that the gland moves in the way needed to drive the spirits towards the pores of the brain the opening of which enables the thing to be represented. When we will to •fix our attention for some time on some particular object, this volition keeps the gland leaning in one particular direction during that time. When we will to •walk or move our body in some other way, this volition brings it about that the gland drives the spirits to the muscles that bring about this effect.

**44. Each volition is naturally joined to a certain movement of the gland, but through effort or habit it can be joined to others ·as well·**

What makes us produce some movement or other effect in ourselves isn't always a volition to do just that, because nature or habit has established a variety of different links between thoughts and movements of the gland. **(A)** An example ·involving **nature**·: if we will to adjust our eyes to look at a far-distant object, this volition brings it about

that the pupils grow larger; and if we will to adjust them to look at a very near object, this volition brings it about that the pupils contract. But if we want to get our pupil enlarged, it's no use our *willing to enlarge them*—we won't get them enlarged in that way! That is because nature has joined

- the movement of the gland by which spirits are driven to the optic nerve in the way needed for enlarging or contracting the pupils

not to

- the volition to enlarge or contract the pupils

but rather to

- the volition to look at distant or nearby objects.

**(B)** Another example, ·this one involving **habit**·: while we are speaking we're thinking only of the meaning of what we want to say, and this brings it about that we make a much better job of moving our tongue and lips than if we aimed to move them in all the ways needed for uttering those same words. That is because the habits acquired in learning to speak have brought it about that we have joined

- the action of the soul (which, by means of the gland, can move the tongue and lips)

not with

- those movements themselves

but rather with

- the meaning of the words that ensue from those movements.

[Of those two examples, only **(B)** illustrates the thesis announced in the heading of article 44. But they jointly illustrate the two parts of the first sentence of the article. In moving from the heading to the article Descartes seems to have drifted a little. The effort (*industrie*) mentioned in the heading is heard from again only in articles 47 and 211.]

#### 45. The soul's power with respect to its passions

Our passions can't be aroused or suppressed directly by the action of our will, but only indirectly by our representing to ourselves things that are usually joined with the passion we want to have or opposed to the one we want to fend off. To arouse boldness and suppress fear in ourselves, it's not enough to have a volition to do so. We have to set ourselves to think about the reasons, objects, or precedents which argue that •the danger isn't great, that •there's always more security in defence than in flight, that •we'll gain glory and joy if we conquer, and nothing but regret and shame if we flee—things like that.

#### 46. What prevents the soul from having full control over its passions

There is one special reason why the soul can't readily change or suspend its passions, a reason that led me to say in my definition [article 27] that the passions are not only caused but also 'maintained and strengthened' by some movement of the spirits. The point is that nearly all the passions are accompanied by some commotion that occurs in the heart and consequently also all through the blood and the ·animal· spirits. Until this commotion stops, the passions remain present to our mind in the way that objects of the senses are present to it while they are acting upon our sense organs. By focussing intently on something else, the soul can prevent itself from hearing a slight noise or feeling a slight pain; but it can't in that way prevent itself from hearing thunder or feeling a fire that burns the hand. Well, in the same way it can easily overcome the lesser passions, but not—until the commotion of the blood and spirits has died down—the strongest and most violent ones. The most the will can do while this commotion is at its full strength is •not to go along

with its effects, inhibiting many of the movements to which it disposes the body. If anger makes the hand rise to strike a blow, the will can usually restrain it; if fear moves the legs to flight, the will can stop them; and similarly in other cases.

**47. The conflicts that are commonly thought to occur between the lower and higher parts of the soul—what they really are**

The conflicts that are commonly thought to occur between

(a) the lower and higher parts of the soul, i.e.

(b) the soul's 'sensitive' and its 'rational' parts, i.e.

(c) the natural appetites and the will

consist simply in the opposition between

(d) the movements that the body (by means of its spirits) and the soul (by means of its will) tend to produce at the same time in the gland,

·which is what I was talking about at the end of article 46·. Each of us has only one soul, which (a) doesn't have different parts; it is (b) at once sensitive and rational too, and (c) all its appetites are volitions. How do people come to commit this error of making the soul play different roles that are usually opposed to one another? It comes entirely from their failure to get the soul's functions clearly separate in their minds from the body's. Everything that can be observed in us that contradicts our reason should be attributed to the body. The little gland in the middle of the brain can be pushed by the soul and by the animal spirits (which, I repeat, are nothing but bodies), and these two pushes often happen to be opposed, the stronger cancelling the effect of the weaker; and **that's the only conflict** here. Now, movements produced in the gland by the spirits are of two kinds:

(i) Movements which represent to the soul •the objects that stimulate the senses, or •the impressions occurring in the brain; and these have no influence on the will. They often hinder the soul's actions, or are hindered by them; but they aren't directly opposed to those actions, so we observe no conflict between them.

(ii) Movements that cause the passions or the bodily movements that accompany the passions, and do have an influence on the will. The conflicts we observe ·within ourselves· are between these movements and the volitions that oppose them.

An example of such a conflict: the spirits push the gland one way so as to cause in the soul a desire for something x, and the soul by its volition to avoid x pushes the gland in a contrary direction. The conflict is revealed mainly through the fact that the will, lacking the power to arouse the passions directly (as I said in article 45), is compelled to put in some effort (*industrie*) to consider a series of different things; it can happen that

one of these x has the power to redirect the spirits for a moment while the very next one y lacks this power; y brings the spirits back to the course they had been on ·before x intervened·, doing this before there has been time for any change in the state of the nerves, heart and blood.

This brings it about that the soul feels itself impelled, almost at the very same time, to want and not want one and the same thing; and that's how people come to think that the soul contains two conflicting powers. Still, we can allow a kind of conflict: a single cause that produces a certain passion in the soul often also produces certain movements in the body; the soul doesn't contribute to these, and as soon as it perceives them it stops them, or tries to do so. We

experience this when an object that arouses fear also makes the spirits enter the muscles that serve to move our legs in flight, while our will to be bold stops them from moving.

**48. How we recognize the strength or weakness of souls, and what is wrong with the weakest souls**

Each person can recognize the strength or weakness of his soul by the outcome of these conflicts. For the strongest souls, clearly, belong to people in whom the will can *by nature* most easily conquer the passions and stop the bodily movements that go with them. But some people never get to test the strength of their souls because they never let their will fight with the soul's proper weapons, instead letting it use only the 'weapons' that some passions provide for resisting some other passions. What I call the soul's 'proper' weapons are firm and determinate judgments relating to good and bad, which the soul has resolved to steer by in everything it does. The weakest souls of all are those whose will isn't determined in this way to follow such judgments, but constantly allows itself to be carried away by present passions. These, being often opposed to one another, pull the will first one way and then another, thus making it battle against itself and so putting the soul in the most deplorable state possible. Thus, when •fear represents death as an extreme evil [see Glossary] that can be avoided only by flight, while •ambition depicts the dishonour of flight as an evil worse than death, these •two passions jostle the will in opposite ways; and since the will obeys first the one and then the other it is continually opposed to itself, and so it renders the soul enslaved and miserable.

**49. It's not enough to have a strong soul if you don't know the truth**

It is true that very few people are so weak and irresolute that they never will anything except what their passion dictates. Most people have *some* determinate judgments that they follow in regulating some of their actions. Often these judgments are false—and even based on passions that have previously conquered or seduced their will—but because the will continues to follow them in the absence of the passion that caused, they can be regarded as their souls' proper weapons; and we can judge those souls to be strong or weak depending on how closely they can follow these judgments and resist the present passions that are opposed to them. But resolutions •that come from some false opinion are vastly different from ones •that depend solely on knowledge of the truth: no-one ever regrets having followed •the latter, whereas following •the former is always a matter for regret when their error is discovered.

**50. Any soul, however weak, can if well-directed acquire absolute power over its passions**

As I have already said, although nature seems to have set up in us at birth specific links between gland-movements and thoughts, we can replace some of those links by others through habit. Experience shows this in the case of language. Words produce gland-movements that nature has ordained to represent to the soul only their sounds (spoken words) or shapes (written words); but because we have acquired the habit of thinking of their *meanings* when we hear or see them, that is what our thoughts go to—the *meanings*, not the sounds or shapes—when we see or hear those words. Another point: although the movements of the gland, the spirits and the brain that represent certain objects to the soul

are naturally linked to ones that produce certain passions in it, it's always possible through habit to break those links and associate those movements with very different passions instead; and indeed this habit can be acquired by a single event, with no need for long practice. For example: when we unexpectedly come upon something disgusting in food that we have been eating and enjoying, our surprise may re-organise our brain in such a way that we can't afterwards look at any such food without revulsion, though until then we ate it with pleasure. The same thing can be seen in beasts: although they lack reason, and perhaps even lack thought, all the movements of the spirits and of the gland that produce passions in us are present in them too, though in them they maintain and strengthen only •the movements

of the nerves and the muscles that usually accompany the passions and not, as in us, •the passions themselves. When a dog sees a partridge, it is naturally disposed to run towards it; and when it hears a gun fired, the noise naturally impels it to run away; but setters are commonly trained so that the sight of a partridge makes them stop, and the subsequent gun-shot makes them run towards the bird. It's useful to know these things as encouragement to each of us to work on controlling our passions. For since we can with a little effort change the movements of the brain in animals devoid of reason, it is evident that we can make an even better job of this in the case of men. Even those who have the weakest souls could acquire absolute mastery over all their passions if they worked hard enough at training and guiding them.