XXXV Of Knowledge and Perception in General

Since natural knowledge and perception, is the ground and principle, not only of philosophy both speculative and experimental, but of all other arts and sciences, nay, of all the infinite particular actions of nature; I thought it not amiss to join to the end of this part, a full declaration of my opinion concerning that subject.

First, it is to be observed, that matter, self-motion, and self-knowledge, are inseparable from each other, and make nature one material, self-moving, and self-knowing body. [To say "inseparable from each other," in my opinion, seems as if they were different parts, and not different properties of the same part.][95]

2. Nature being material, is dividable into parts; and being infinite in quantity or bulk, her parts are infinite in number.

3. No part can subsist singly, or by itself, precised from the rest; but they are all parts of one infinite body; for though such parts may be separated from such parts, and joined to other parts, and by this means may undergo infinite changes, by infinite compositions and divisions; yet no part can be separated from the body of nature.

4. And hence it follows, that the parts of nature are nothing else but the particular changes of particular figures, made by self-motion.

5. As there can be no annihilation, so there can neither be a new creation of the least part or particle of nature, or else nature would not be infinite.

6. Nature is purely corporeal or material, and there is nothing that belongs to, or is a part of nature, which is not corporeal; so that natural and material, or corporeal, are one and the same; and therefore spiritual-beings, non-beings, mixt-beings, and whatsoever distinctions the learned do make, are no ways belonging to nature. Neither is there any such thing as an incorporeal motion; for all actions of nature are corporeal, being natural; and there can no abstraction be made of motion or figure, from matter or body, but they are inseparably one thing. [Wherefore no spiritual being, can have local motion.][96]

7. As infinite matter is divided into infinite parts; so infinite knowledge is divided into infinite particular knowledges; and infinite self-motion, into infinite particular self-actions.

[95] Lacking in 1666. [96] Lacking in 1666.

8. There is no other difference between self-knowledge, and particular knowledges, than betwixt self-motion, and particular self-actions; or betwixt a whole, and its parts; a cause, and its effects: for, self-knowledge is the ground and principle of all particular knowledges, as self-motion is the ground and principle of all particular actions, changes and varieties of natural figures.

9. As infinite nature has an infinite self-motion and self-knowledge; so every part and particle has a particular and finite self-motion and self-knowledge, by which it knows itself, and its own actions, and perceives also other parts and actions; which latter is properly called perception; not as if there were two different principles of knowledge in every particular creature or part of nature; but they are two different acts of one and the same interior and inherent self-knowledge, which is a part of nature's infinite self-knowledge.

10. Thus perception, or a perceptive knowledge, belongs properly to parts, and may also be called an exterior knowledge, by reason it extends to exterior objects.

11. Though self-knowledge is the ground and principle of all particular knowledges and perceptions; yet, self-motion, since it is the cause of all the variety of natural figures, and of the various compositions and divisions of parts; it is also the cause of all perceptions.

12. As there is a double degree of corporeal self-motion, viz. rational and sensitive; so there is also a double degree of perception, rational and sensitive.

13. A whole may know its parts; and an infinite a finite; but no particular part can know its whole, nor one finite part, that which is infinite: I say, no particular part; for, when parts are regularly composed, they may by a general conjunction or union of their particular knowledges and perceptions, know more, and so judge more probably of the whole, or of infinite; and although by the division of parts, those composed knowledges and perceptions, may be broke asunder like a ruined house or castle, kingdom or government; yet some of the same materials may chance to be put to the same uses, and some may be joined to those that formerly employed themselves other ways. And hence I conclude, that no particular parts are bound to certain particular actions, no more than nature herself, which is self-moving matter; for, as nature is full of variety of motions or actions, so are her parts; or else she could not be said self-moving, if she were bound to certain actions, and had not

liberty to move as she pleases: for, though God, the author of nature, has ordered her, so that she cannot work beyond her own nature, that is, beyond matter; yet has she freedom to move as she will; neither can it be certainly affirmed, that the successive propagation of the several species of creatures, is decreed and ordained by God, so that nature must of necessity work to their continuation, and can do no otherwise; but human sense and reason may observe, that the same parts keep not always to the same particular actions, so as to move to the same species or figures; for, those parts that join in the composition of an animal, alter their actions in its dissolution, and in the framing of other figures; so that the same parts which were joined in one particular animal, may, when they dissolve from that composed figure, join severally to the composition of other figures; as for example, of minerals, vegetables, elements, etc. and some may join with some sorts of creatures, and some with others, and so produce creatures of different sorts, whenas before they were all united in one particular creature: for, particular parts are not bound to work or move to a certain particular action, but they work according to the wisdom and liberty of nature, which is only bound by the omnipotent God's decree, not to work beyond herself, that is, beyond matter; and since matter is dividable, nature is necessitated to move in parts; for matter can be without parts, no more than parts can be without a whole; neither can nature, being material, make herself void of figure; nor can she rest, being self-moving; but she is bound to divide and compose her several parts into several particular figures, and dissolve and change those figures again infinite ways: All which proves the variety of nature, which is so great, that even in one and the same species, none of the particulars resemble one another so much, as not to be discerned from each other.

But to return to knowledge and perception: I say, they are general and fundamental actions of nature; it being not probable that the infinite parts of nature should move so variously, nay, so orderly and methodically as they do, without knowing what they do, or why, and whether they move; and therefore all particular actions whatsoever in nature, as respiration, digestion, sympathy, antipathy, division, composition, pressure, reaction, etc. are all particular perceptive and knowing actions: for, if a part be divided from other parts, both are sensible of their division: The like may be said of the composition of parts: and as for pressure and reaction, they are as knowing and perceptive as any other

particular actions; but yet this does not prove, that they are the principle of perception, and that there's no perception but what is made by pressure and reaction; or that at least they are the ground of animal perception;[97] for as they are no more but particular actions, so they have but particular perceptions: and although all motion is sensible, yet no part is sensible but by [its own][98] motions in its own parts; that is, no corporeal motion is sensible but of or by itself. Therefore when a man moves a string, or tosses a ball, the string or ball is no more sensible of the motion of the hand, than the hand is of the motion of the string or ball; but the hand is only an occasion that the string or ball moves thus or thus. I will not say, but that it may have some perception of the hand, according to the nature of its own figure; but it does not move by the hand's motion, but by its own: for, there can be no motion imparted, without matter or substance.

Neither can I certainly affirm, that all perception consists in patterning out exterior objects; for, although the perception of our human senses is made that way, yet nature's actions being so various, I dare not conclude from thence, that all the perceptions of the infinitely various parts and figures of nature are all made after the same manner. Nevertheless, it is probable to sense and reason, that the infinite parts of nature have not only interior self-knowledge, but also exterior perceptions of other figures or parts, and their actions; by reason there is a perpetual commerce and intercourse between parts and parts; and the chief actions of nature, are composition and division, which produce all the variety of nature; which proves, there must of necessity be perception between parts and parts; but, how all these particular perceptions are made, no particular creature is able to know, by reason of their variety; for, as the actions of nature vary, so do the perceptions. Therefore it is absurd to confine all perception of nature, either to pressure and reaction, or to the animal kind of perception; since even in one and the same animal sense, (as for example, of seeing) there are numerous perceptions: for, every motion of the eye, were it no more than a hairsbreadth, causes a several perception: besides, it is not only the five organs in an animal, but every part and particle of his body, that has a peculiar knowledge and perception, because it consists of self-moving

[97] The target here is a mechanical account of sense perception, such as the theories of the ancient atomists Epicurus and Lucretius, and of Hobbes.

[98] As in 1666; 1668: own.

matter; which if so, then a looking glass, that patterns out the face of a man; and a man's eye, that patterns again the copy from the glass, cannot be said to have the same perception; by reason a glass, and an animal, are different sorts of creatures: for, though a piece of wood, stone, or metal, may have a perceptive knowledge of man, yet it hath not a man's perception;[99] because it is a vegetable, or mineral, and cannot have an animal knowledge or perception, no more than the eye patterning out a tree or stone, can be said to have a vegetable or mineral perception; nay, when one animal (as for example, one man) perceives another, he doth not perceive his knowledge; for, it is one thing to perceive the exterior figure of a creature, and another thing to perceive its interior, proper, and innate actions: also, it is one thing to perceive exterior objects, and another to receive knowledge: for, no part can give away to another its inherent and proper particular nature; neither can one part make itself another part; it may imitate some actions of another part, but not make itself the same part: which proves, that each part must have its own knowledge and perception, according to its own particular nature: for, though several parts may have the like perceptions, yet they are not the same; and although the exterior figures of some objects may be alike, yet the perceptions may be quite different. It is true, sensitive and rational knowledge, is general and infinite in nature; but every part being finite, can have but a finite and particular knowledge, and that according to the nature of its particular figure: for, as not all creatures, although they be composed of one matter, are alike in their figures; so not all can have the like knowledges and perceptions, though they have all self-motion: for, particular creatures and actions, are but effects of the only infinite self-moving matter, and so are particular perceptions; and although they are different, yet the difference of effects does not argue different causes, but one and the same cause may produce several and different effects; so that although there be infinite different motions in nature, yet they are all but motions, and cannot differ from each other in being motions, or self-moving parts; and although there be infinite, several, and different perceptions, yet they are all perceptions; for the effects cannot alter the cause, but the cause

[99] Hobbes, *Elements of Philosophy*, IV, ch. 25, § 5, agrees that if we consider perception made solely through pressure and reaction, it is unclear how the view – that all bodies are endowed with sense – can be refuted; but since animal sensation requires memory, and thus organs fit for retaining motions, not all bodies have animal sense (*EW*, I, 393–94).

may alter the effects. Wherefore rational and sensitive corporeal motions, cannot change from being motions, though they may change from moving thus, to move thus; nor perceptions from being perceptions, though they may change from being such or such particular perceptions; for the change is only in particulars, not in the ground or principle, which continues always the same. The truth is, as it is impossible that one figure should be another figure, or one part another part; so likewise it is impossible, that the perception of one part should be the perception of another; but being in parts, they must be several; and those parts being different, they must be different also; but some are more different than others: for, the perceptions of creatures of different sorts, as, for example, of a vegetable and an animal, are more different than the perception of particulars of one sort, or of one composed figure: for, as there is difference in their interior natures, so in their perceptions; so that a mineral or vegetable that perceives the figure of an animal, has no more the perception of an animal, than an animal which perceives or patterns out the figure of a mineral or vegetable, has the perceptions of those creatures; for example, when a man lies upon a stone, or leans on a tree, or handles and touches water, etc. although these parts be so closely joined to each other, yet their perceptions are quite different; for the man only knows what he feels, or sees, or hears, or smells, or tasteth, but knows not what sense or perception those parts have; nay, he is so far from that, that even one part of his body doth not know the sense and perception of another part of his body: as for example, one of his hands knows not the sense and perception of his other hand; nay, one part of his hand knows not the perception of another part of the same hand: for, as the corporeal figurative motions differ, so do particular knowledges and perceptions: and although sensitive and rational knowledge is general and infinite in infinite nature, yet every part being finite, has but finite and particular perceptions: besides, perception being but an effect, and not a cause, is more various in particulars: for, although creatures are composed of rational and sensitive matter, yet their perceptions are not alike; neither can the effect alter the cause; for, though the several actions of sensitive and rational matter be various, and make several perceptions, yet they cannot make several kinds of sensitive and rational matter; but when as perceptions change, the parts of the sensitive and rational matter remain the same in themselves; that is, they do not change from being sensitive or rational

parts, although they may make numerous perceptions in their particular parts, according to the various changes of self-motion.

But some may say, If the particular parts of one composed figure, be so ignorant of each other's knowledge, as I have expressed, how can they agree in some action of the whole figure, where they must all be employed, and work agreeably to one effect? As for example, when the mind designs to go to such a place, or do such a work, how can all the parts agree in the performing of this act, if they be ignorant of each other's actions? I answer: Although every part's knowledge and perception, is its own, and not another's, so that every part knows by its own knowledge, and perceives by its own perception; yet it doth not follow from thence, that no part has any more knowledge than of itself, or of its own actions: for, as I said before, it is well to be observed, that there being an intercourse and commerce, as also an acquaintance and agreement between parts and parts, there must also of necessity be some knowledge or perception betwixt them, that is, one part must be able to perceive another part, and the action of that same part: for, wheresoever is life and knowledge, that is, sense and reason, there is also perception; and though no part of nature can have an absolute knowledge, yet it is neither absolutely ignorant; but it has a particular knowledge, and particular perceptions, according to the nature of its own innate and interior figure. In short; As there are several kinds, sorts and particular perceptions, and particular ignorances between parts, so there are more general perceptions between some parts, than between others; the like of ignorance: all which is according to the various actions of corporeal self-motion: But yet no part can have a thorough perception of all other parts and their actions, or be sure that that part which it perceives, has the like perception of it again: for, one part may perceive another part, and yet this part may be ignorant of that part, and its perception: For example, my eye perceives an object, but that object is not necessitated to perceive my eye again: also my eye may perceive the pattern of itself made in a looking glass, and yet be ignorant whether the glass do the like. Again, when two parts touch each other, one part may perceive the other, and yet be ignorant whether the other does the like: For example, a man joins both his hands together; they may have perception of each other, and yet be ignorant of each other's perception; and, most commonly, one part judges of another's perception by its own; for, when one man perceives the actions of another man, he judges by those actions, what perceptions

he has; so that judgment is but a comparing of actions: for, as likeness of interior motions makes sympathy, so comparing of actions makes judgment, to know and distinguish what is alike, and what is not. Therefore perception of exterior objects, though it proceeds from an interior principle of self-knowledge, yet it is nothing else but an observation of exterior parts or actions; so that parts in their several compositions and divisions, may have several perceptions of each other, according to the nature of their figurative corporeal motions: and although each part's knowledge is its own, yet parts may have as much knowledge of each other, as they can perceive, or observe of each other; for, the perceptive motions of one part, may inform themselves of the actions of other parts. The truth is, every particular part has its own motion's figures, sense and reason, which by a conjunction or composition of parts, makes a general knowledge: for, as the division of parts causes a general obscurity; so composition of parts makes a general knowledge and understanding: and as every part has self-motion, so it has self-knowledge and perception.

But it is to be observed, that since there is a double perception in the infinite parts of nature, sensitive and rational; the perception and information of the rational parts is more general, than of the sensitive, they being the most prudent, designing and governing parts of nature, not so much encumbered with labouring on the inanimate parts of matter, as the sensitive: Therefore the rational parts in a composed figure, or united action, may sooner have a general knowledge and information of the whole, than the sensitive, whose knowledge is more particular: As for example, a man may have a pain in one of the parts of his body, although the perception thereof is made by the sensitive corporeal motions in that same part, yet the next adjoining sensitive parts may be ignorant thereof, whenas all the rational parts of the whole body may take notice of it. Thus the rational parts having a more general acquaintance than the sensitive, and being also the designing and architectonical parts, they employ the sensitive parts to work to the same effect; but these are not always ready to obey, but force sometimes the rational to obey them, which we call irregularity; which is nothing but an opposition or strife between parts: As for example, a man designs to employ the exterior strength and action of his exterior parts; but if through irregularity, the legs and arms be weak, the stomach sick, the head full of pain; they will not agree to the executing of the commands of the rational parts.

Likewise, the mind endeavours often to keep the sensitive motions of the body from dissolution; but they many times follow the mode, and imitate other objects, or cause a dissolution or division of that composed figure by voluntary actions.

Thus the sensitive and rational motions do oftentimes cross and oppose each other: for, although several parts are united in one body, yet are they not always bound to agree to one action; nor can it be otherwise; for, were there no disagreement between them, there would be no irregularities, and consequently no pain or sickness, nor no dissolution of any natural figure.

And such an agreement and disagreement, is not only betwixt the rational and sensitive parts, but also betwixt the rational and rational, the sensitive and sensitive. For some rational parts, may in one composed figure, have opposite actions; As for example, the mind of man may be divided, so as to hate one person, and love another: nay, hate and love one and the same person, for several things, at the same time: as also, rejoice and grieve at the same time. For example; a man has two sons, one is killed in the wars, and the other comes home with victory and honour; the father grieves for the slain son, and rejoices for the victorious son: for, the mind being material, is dividable as well as composable; and therefore its parts may as well oppose each other, as agree; for, agreement and friendship is made by composition, and disagreement by division; and sense and reason is either stronger or weaker, by composition or division, regularity or irregularity; for a greater number of parts may overpower a less: also, there are advantages and disadvantages amongst parts, according to the several sorts of corporeal figurative motions; so that some sorts of corporeal motions, although fewer or weaker, may overpower others that are more numerous and strong; but the rational being the most subtle, active, observing and inspective parts, have, for the most part, more power over the sensitive, than the sensitive have over them; which makes that they, for the most part, work regularly, and cause all the orderly and regular compositions, dissolutions, changes and varieties in the infinite parts of nature: Besides, their perception and observation being more general, it lasts longer; for, the rational continue the perception of the past actions of the sensitive, whenas the sensitive keep no such records.

Some say, that perception is made by the ideas of exterior objects entering into the organs of the sentient; but this opinion cannot be

probable to sense and reason:[100] For, first, if ideas subsist of themselves, then they must have their own figures; and so the figures of the objects would not be perceived, but only the figures of the ideas. But if those ideas be the figures of the objects themselves, then by entering into our sensories, the objects would lose them; for one single object, can have no more but one exterior figure at one time, which surely it cannot lose and keep, at one and the same time. But if it be a print of the object on the air, it is impossible there could be such several sorts of prints as there are perceptions, without a notable confusion.[101] Besides, when I consider the little passages, (as in the sense of touch) the pores of the flesh, through which they must enter, I cannot readily believe it: nay, the motions and prints would grow so weak, and faint in their journey, especially if the object be a great way off, as they would become of no effect. But if their opinion be, that ideas can change and alter, then all immaterial substances may do the same, and spirits may change and alter into several immaterial figures; which, in my opinion cannot be: for, what is supernatural, is unalterable; and therefore the opinion of ideas in perception, is as irregular, as the opinion of senseless atoms in the framing of a regular world.

Again, some of our modern philosophers are of opinion, that the subject wherein colour and image are inherent, is not the object or thing seen; for image and colour, say they, may be there where the thing seen, is not: As for example, the sun, and other visible objects, by reflexion in water or glass; so that there is nothing without us, really, which we call image or colour: for the image or colour, is but an apparition unto us, of the motion and agitation which the object works in the brain or spirits;[102] and divers times men see directly the same object double, as two candles

[100] Seventeenth-century scholastics held that perception involves an object's production of an incorporeal "species," or form, in our sense organs via the "multiplication" (i.e., replication) of species in the air from that object to our organs. Critics worried about how these forms could subsist detached from any substance; see Leibniz, *Monadologie* [Monadology], § 7; and *Phil. Letters*, pp. 97ff. They also argued that if there were such forms, they would have to be corporeal, in which case a variety of problems arise; see Nicolas Malebranche, *De la recherche de la verité* . . . [The Search After Truth] (Paris, 1674–75), bk III, pt II, ch. 2; and John Norris, *Essay on the Ideal or Intelligible World* (London, 1701–04), vol. II, pp. 344ff.

[101] See Malebranche, ibid.; cf. Kenelm Digby, *Two Treatises*, First Treatise, ch. 32, § 9; and Joseph Glanvill, *Scepsis Scientifica: or, Confest Ignorance, the Way to Science; In an Essay of the Vanity of Dogmatizing* . . . (London, 1665), ch. VI, § 5.

[102] The reference is to the mechanical philosophers, e.g., Descartes and Hobbes, for whom sensible images and colors are just ideas (Descartes) or phantasms (Hobbes) in perceivers; external objects are properly characterized solely in terms of mechanical properties, e.g., extension and motion.

for one, and the like. To which I answer, that all this doth not prove that the object is not perceived, or that an object can be without image or colour, or that figure and colour are not the same with the object; but it proves, that the object enters not the eye, but is only patterned out by the perceptive motions in the optic sense; for the reflexion of the sun in water or glass, is but a copy of the original, made by the figurative perceptive motions in the glass or water, which may pattern out an object as well as we do; which copy is patterned out again by our optic perception, and so one copy is made by another. The truth is, our optic sense could not perceive either the original, or copy of an exterior object, if it did not make those figures in its own parts: and therefore figure and colour are both in the object, and the eye; and not, as they say, neither in the object, nor in the eye: for, though I grant that one thing cannot be in two places at once, yet there may be several copies made of one original, in several parts, which are several places, at one and the same time; which is more probable, than that figure and colour should neither be in the object, nor in the eye; or, according to their own words, that figure and colour should be there, where the thing seen is not; which is to separate it from the object, a thing against all possibility, sense and reason; or else, that a substanceless and senseless motion, should make a progressive journey from the object to the sentient, and there print, figure and colour upon the optic sense, by a bare agitation or concussion, so that the perception or apparition (as they call it) of an object, should only be according to the stroke the agitation makes: As for example, the perception of light, after such a manner, figure after such, and colour after another: for, if motion be no substance or body, and besides, void of sense, not knowing what it acts, I cannot conceive how it should make such different strokes upon both the sensitive organ, and the brain, and all so orderly, that everything is perceived differently and distinctly. Truly, this opinion is like Epicurus' of atoms; but how absurd it is to make senseless corpuscles, the cause of sense and reason, and consequently of perception, is obvious to everyone's apprehension, and needs no demonstration.

Next, as colour, according to their opinion, is not inherent any otherwise in the object, but by an effect thereof upon us, caused by such a motion in the object; so, neither (say they) is sound in the thing we hear, but in ourselves: for, as a man may see, so he may hear double, or treble, by multiplication of echoes, which are sounds as well as the original; and not being in one and the same place, cannot be inherent in the body; for

the clapper has no sound in it, but motion, and maketh motion in the inward parts of the bell: neither has the bell motion, but sound, and imparts motion to the air, the air again imparts motion to the ear and nerves, until it comes to the brain, which has motion, not sound: from the brain it rebounds back into the nerves outward, and then it becomes an apparition without, which we call sound. But, good Lord! what a confusion would all this produce, if it were thus! What need is there of imparting motion, when nature can do it a much easier way. I wonder how rational men can believe that motion can be imparted without matter: Next, that all this can be done in an instant: Again, that it is the organ of the sentient that make colour, sound, and the like, and that they are not really inherent in the object itself. For were there no men to perceive such or such a colour, figure or sound; can we rationally think that object would have no colour, figure, nor sound at all? I will not say, that there is no pressure or reaction; but they do not make sense or reason: several parts may produce several effects by their several compositions; but yet this does not prove that there can be no perception but by pressure upon the organ, and consequently the brain; and that the thing perceived, is not really existent in the object, but a bare apparition to the sentient: the clapper gives no motion to the bell, but both the clapper, and the bell, have each their own motion, by which they act in striking each other; and the conjunction of such or such parts, makes a real sound, were there no ear to hear it.

Again, concerning the sense of touch, the heat, say they, we feel from the fire, is in us; for it is quite different from that in the fire: our heat is pleasure, or pain, according as it is, great or moderate; but in the coal there is no such thing. I answer: They are so far in the right, that the heat we feel, is made by the perceptive motions of, and in our own parts, and not by the fire's parts acting upon us: but yet, if the fire were not really such a thing as it is, that is, a hot and burning body, our sense would not so readily figure it out, as it does: which proves it is a real copy of a real object, and not a mere phantasm, or bare imparted motion from the object to the sentient, made by pressure and reaction: for if so, the fire would waste in a moment of time, by imparting so much motion to so many sentients; besides, the several strokes which the several imparted motions make upon the sentient, and the reaction from the sentient to the exterior parts, would cause such a strong and confused agitation in the sentient, that it would rather occasion the body to

dissolve through the irregularities of such forced motions. But having discoursed enough of this subject heretofore, I will add no more, but refer both their, and my own opinions, to the judicious and impartial reader: Only concerning fire, because they believe it is the only shining body upon earth, I will say this: If it were true, then a glow-worm's tail, and cat's eyes, must be fire also; which yet experience makes us believe otherwise.

As for sleep, they call it a privation of the act of sense:[103] To which I can no ways give my consent, because I believe sense to be a perpetual corporeal self-motion, without any rest. Neither do I think the senses can be lockt up in sleep: for, if they be self-moving, they cannot be shut up; it being as impossible to deprive self-motion of acting, as to destroy its nature; but if they have no self-motion, they need no locking up at all, because it would be their nature to rest, as being moveless. In short, sense being self-motion, can neither rest nor cease; for what they call cessation, is nothing else but an alteration of corporeal self-motion: and thus cessation will require as much a self-moving agent, as all other actions of nature.

Lastly, say they, it is impossible for sense to imagine a thing past; for sense is only of things present.[104] I answer, It is true, by reason the sensitive corporeal motions work on, and with the parts of inanimate matter; nevertheless, when a repetition is made of the same actions, and the same parts, it is a sensitive remembrance; and thus is also experience made; which proves, there is a sensitive perception and self-knowledge, because the senses are well acquainted with those objects they have often figured or patterned out: And to give a further demonstration thereof, we see that the senses are amazed, and sometimes frighted at such objects as are unusual, or have never been presented to them before. In short, conception, imagination, remembrance, experience, observation, and the like, are all made by corporeal, self-knowing, perceptive self-motion, and not by insensible, irrational, dull, and moveless matter.

XXXVI Of the Different Perceptions of Sense and Reason

Having declared in the former discourse, that there is a double perception in all parts of nature, to wit, rational and sensitive; some might ask,

[103] See Descartes, *Principles of Philosophy*, IV, § 196; but cf. Aristotle, *On Sleep*.
[104] Hobbes, *Elements of Philosophy*, IV, ch. 25, § 7 (*EW*, I, 396).

how these two degrees of motions work; whether differently or unitedly in every part, to one and the same perception.

I answer: that regularly, the animal perception of exterior objects, is made by its own sensitive, rational, corporeal and figurative motions; the sensitive patterning out the figure or action of an outward object in the sensitive organ; and the rational making a figure of the same object in their own substance; so that both the rational and sensitive motions, work to one and the same perception, and that at the same point of time, and, as it were, by one act; but yet it is to be observed, that many times they do not move together to one and the same perception; for, the sensitive and rational motions do many times move differently even in one and the same part: As for the rational, they being not encumbered with any other parts of matter, but moving in their own degree, are not at all bound to work always with the sensitive, as is evident in the production of fancies, thoughts, imaginations, conceptions, etc. which are figures made only by the rational motions in their own matter or substance, without the help of the sensitive; and the sensitive, although they do not commonly work without the rational, yet many times they do, and sometimes both the rational and sensitive work without patterns, that is, voluntarily, and by rote; and sometimes the sensitive take patterns from the rational, as in the invention of arts, or the like; so that there is no necessity that they should always work together to the same perception. Concerning the perception of exterior objects, I will give an instance, where both the rational and sensitive motions do work differently, and not to the same perception: Suppose a man be in a deep contemplative study, and somebody touch or pinch him, it happens oft that he takes no notice at all of it, nor doth feel it; whenas yet his touched or pinched parts are sensible, or have a sensitive perception thereof; also a man doth often see or hear something, without minding or taking notice thereof, especially when his thoughts are busily employed about some other things; which proves, that his mind, or rational motions, work quite to another perception than his sensitive do. But some perhaps will say, because there is a thorough mixture of animate (rational and sensitive) and inanimate matter, and so close and inseparable a union and conjunction betwixt them, that it is impossible they should work differently, or not together: Besides, the alleged example does not prove, that the rational and sensitive motions in one and the same part that is touched or pinched, or in the organ which hears or seeth, do not work

together, but proves only, that the sensitive motions of the touched part or organ, and the rational motions in the head or brain, do not work together; whenas, nevertheless, although a man takes no notice of another man's touching or pinching, the rational motions of that same part may perceive it. To which I answer: First, I do not deny that there is a close conjunction and commixture of both the rational and sensitive parts in every body or creature, and that they are always moving and acting; but I deny that they are always moving to the same perception: for to be, and move together, and to move together to the same perception, are two different things. Next, although I allow that there are particular, both rational and sensitive figurative motions in every part and particle of the body; yet the rational being more observing and inspective than the sensitive, as being the designing and ordering parts, may sooner have a general information and knowledge of all other rational parts of the composed figure, and may all unitedly work to the conceptions or thoughts of the musing and contemplating man; so that his rational motions in the pinched part of his body, may work to his interior conceptions; and the sensitive motions of the same part, to the exterior perception: for, although I say in my *Philosophical Opinions*, that all thoughts, fancies, imaginations, conceptions, etc. are made in the head, and all passions in the heart; yet I do not mean, that all rational figurative actions, are only confined to the head, and to the heart, and are in no other parts of the body of an animal, or man; for surely, I believe there is sense and reason, or sensitive and rational knowledge, not only in all creatures, but in every part of every particular creature. But since the sensitive organs in man are joined in that part which is named the head; we believe that all knowledge lies in the head, by reason the other parts of the body do not see as the eyes, nor hear as the ears, nor smell as the nose, nor taste as the tongue, etc. All which makes us prefer the rational and sensitive motions that work to those perceptions in the mentioned organs, before the motions in the other parts of the body; whenas yet these are no less rational and sensible than they, although the actions of their sensitive and rational perceptions, are after another manner: for, the motions of digestion, growth, decay, etc. are as sensible, and as rational, as those five sensitive organs, or the head; and the heart, liver, lungs, spleen, stomach, bowels, and the rest, know as well their office and functions, and are as sensible of their pains, diseases, constitutions, tempers, nourishments, etc. as the eyes, ears, nostrils, tongue, etc. know

their particular actions and perceptions: for, although no particular part can know the infinite parts of nature, yet every part may know itself, and its own actions, as being self-moving. And therefore, the head or brains cannot engross all knowledge to themselves; but the other parts of the body have as much in the designing and production of a creature, as the brain has in the production of a thought; for children are not produced by thoughts, no more than digestion or nourishment is produced by the eyes, or the making of blood by the ears, or the several appetites of the body, by the five exterior sensitive organs: But, although all, (interior, as well as exterior) parts of the body have their particular knowledges and perceptions, different from those of the head, and the five sensitive organs; and the head's and organ's knowledge and perception are differing from them; nevertheless, they have acquaintance or correspondence with each other: for, when the stomach has an appetite to food, the mouth and hands endeavour to serve it, and the legs are willing to run for it: The same may be said of other appetites. Also, in case of oppression, when one part of the body is oppressed, or in distress; all the other parts endeavour to relieve that distressed or afflicted part. Thus, although there is difference between the particular actions, knowledges, and perceptions of every part, which causes an ignorance betwixt them; yet, by reason there is knowledge and perception in every part, by which each part doth not only know itself, and its own actions; but has also a perception of some actions of its neighbouring parts: it causes a general intelligence and information betwixt the particular parts of a composed figure: which information and intelligence, as I have mentioned heretofore, is more general betwixt the rational, than the sensitive parts: for, though both the sensitive and rational parts are so closely intermixt, that they may have knowledge of each other; yet the sensitive parts are not so generally knowing of the concerns of a composed figure, as the rational; by reason the rational are more free and at liberty than the sensitive, which are more encumbered with working on, and with the inanimate parts of matter; and therefore it may very well be, that a man in a deep contemplative study, doth not always feel when he is pinched or touched; because all the rational motions of his body concur or join to the conception of his musing thoughts; so that only the sensitive motions in that part, do work to the perception of touch; whenas the rational, even of the same part, may work to the conception of his thoughts. Besides, it happeneth oft, that there is not always an agreement betwixt the rational

and sensitive motions, even in the same parts; for the rational may move regularly, and the sensitive irregularly; or, the sensitive may move regularly, and the rational irregularly: nay, often there are irregularities and disagreements in the same degree of motions, as betwixt rational and rational, sensitive and sensitive: and although it be proper for the rational to inform the sensitive, yet the sensitive do often inform the rational; only they cannot give such a general information as the rational: for one rational part can inform all other rational parts in a moment of time, and by one act: And therefore rational knowledge is not only in the head or brains, but in every part or particle of the body.

Some learned conceive, that all knowledge is in the mind, and none in the senses: For the senses, say they, present only exterior objects to the mind; which sits as a judge in the kernel, or fourth ventricle of the brain,[105] or in the orifice of the stomach,[106] and judges of them; which, in my apprehension, is a very odd opinion: For first, they allow, that all knowledge and perception comes by the senses, and the sensitive spirits; who, like faithful servants, run to and fro, as from the sensitive organs, to the brain and back, to carry news to the mind; and yet they do not grant, that they have any knowledge at all: which shows, they are very dull servants; and I wonder how they can inform the mind of what they do not know themselves. Perchance, they'll say, it is after the manner or way of intelligence by letters, and not by word of mouth: for, those that carry letters to and fro, know nothing of the business that intercedes betwixt the correspondents; and so it may be between the mind, and the external object. I answer: First, I cannot believe there's such a correspondence between the object and the mind of the sentient or perceiver: for, if the mind and the object should be compared to such two intelligencers, they would always have the like perception of each other, which we see is not so: for, oftentimes I have a perception of such or such an object, but that object may have no perception of me. Besides, there's nothing carried from the object, to the mind of the sentient, by its officers, the sensitive spirits, as there is betwixt two correspondents: for, there's no perception made by an actual emission of parts, from the object to the mind: for, if perception were made that way, not only some

[105] Descartes held that the soul/mind has its principal seat in "gland H," the pineal gland; but this gland is at the root of the third ventricle: *L'Homme* . . . [Treatise on Man] (Paris, 1664) (AT, XI, 129, 176ff.; CSM, I, 100, 106ff.); *Passions de l'âme* [Passions of the Soul] (Paris, 1649), I, §§ 31ff. Cf. *Phil. Letters*, pp. 111ff.

[106] The view of Van Helmont in *Oriatrike*, pp. 283ff.; cf. *Phil. Letters*, pp. 327ff.

parts of the object, but the figure of the whole object would enter through the sensitive organ, and present itself before the mind, by reason all objects are not perceived in parts, but many in whole: And since the exterior figure of the object is only perceived by the senses, then the bare figure would enter into the brain, without the body or substance of the object; which how it could be, I am not able to conceive: nay, if it were possible, truly, it would not be hidden from the mind's officers, the sensitive spirits, except they did carry it veiled or covered; but then they would know, at least, from whence they had it, and to whom, and how they were to carry it. Wherefore it is absurd, in my opinion, to say, that the senses bring all knowledge of exterior objects to the mind, and yet have none themselves; and that the mind chiefly resides but in one part of the body; so that when the heel is touched, the sensitive spirits, who watch in that place, do run up to the head, and bring news to the mind. Truly, if the senses have no knowledge of themselves, how comes it that a man born blind, cannot tell what the light of sun is, or the light of a candle, or the light of a glow-worm's tail? For, though some objects of one sense may be guessed by the perception of another sense, as we may guess by touch, the perception of an object that belongs to sight, etc. yet we cannot perfectly know it, except we saw it, by reason the perception of sight belongs only to the optic sense. But some may ask, If a man be so blind, that he cannot make use of his optic sense; what is become of the sensitive motions in that same part of his body, to wit, the optic sensorium? I answer, The motions of that part are not lost, because the man is blind, and cannot see; for a privation or absence of a thing, doth not prove that it is quite lost; but, the same motions which formerly did work to the perception of sight, are only changed, and work now to some other action than the perception of sight; so that it is only a change or alteration of motions in the same parts, and not an annihilation: for, there's no such thing as an annihilation in nature, but all the variety in nature, is made by change of motions. Wherefore, to conclude, the opinion of sense and reason, or a sensitive and rational knowledge in all parts of nature, is, in my judgment, more probable and rational, than the opinion which confines all knowledge of nature to a man's brains or head, and allows none neither to the senses, nor to any part of nature.