

5.1 | *Intelligence and Understanding*

There are a large number of names for the human faculty, ability, or power that is the subject of this section. Sometimes it is simply called "mind," sometimes "intellect," sometimes "reason," sometimes "wit." The two names in the title of this section are also used. Each of these words has a somewhat different connotation; certain authors are at pains to distinguish reason from understanding, or intellect from intelligence; but all of these words have this common thread of meaning: they designate the power or ability by which men solve problems, make judgments, engage in reasoning or in deliberation, and make practical decisions.

Some modern writers use "mind" or "understanding" more broadly to include man's sensitive abilities as well—his powers of sense perception, memory, and imagination. However, since Sections 5.2, 5.3, and 5.4 are specifically devoted to the consideration of

sense, memory, and imagination, we have restricted the materials included in this section to discussions of mind as the power of thought, judgment, insight, and reasoning. The reader will find related matters treated in Section 6.7 on REASONING, DEMONSTRATION, AND DISPUTATION.

The quotations collected here deal with questions about the relation of mind and body; about the immateriality or spirituality of mind or intellect; about the different acts of the intellect and how they are related; about the role of reason or intelligence in the sphere of action as well as in the sphere of thought; about wit, sagacity, and cunning as aspects of intelligence; and about human speech as indicative and expressive of the power and processes of human rationality. In this last connection, the reader is referred to related material in Section 7.1 on THE NATURE OF LANGUAGE.

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- 1 For as he thinketh in his heart, so is he.
Proverbs 23:7
 - 2 The earthy tabernacle weigheth down the mind that museth upon many things.
Wisdom of Solomon 9:15
 - 3 *Socrates.* Tell me, then, are not the organs through which you perceive warm and hard and light and sweet, organs of the body?
Theaetetus. Of the body, certainly.
Soc. And you would admit that what you perceive through one faculty you cannot perceive through another; the objects of hearing, for example, cannot be perceived through sight, or the objects of sight through hearing?
Theaet. Of course not.
Soc. If you have any thought about both of them, this common perception cannot come to you, either through the one or the other organ?
Theaet. It cannot.
Soc. How about sounds and colours: in the first

place you would admit that they both exist?
Theaet. Yes.
Soc. And that either of them is different from the other, and the same with itself?
Theaet. Certainly.
Soc. And that both are two and each of them one?
Theaet. Yes.
Soc. You can further observe whether they are like or unlike one another?
Theaet. I dare say.
Soc. But through what do you perceive all this about them? for neither through hearing nor yet through seeing can you apprehend that which they have in common. Let me give you an illustration of the point at issue:—If there were any meaning in asking whether sounds and colours are saline or not, you would be able to tell me what faculty would consider the question. It would not be sight or hearing, but some other.
Theaet. Certainly; the faculty of taste.
Soc. Very good; and now tell me what is the

power which discerns, not only in sensible objects, but in all things, universal notions, such as those which are called being and not-being, and those others about which we were just asking—what organs will you assign for the perception of these notions?

Theaet. You are thinking of being and not-being, likeness and unlikeness, sameness and difference, and also of unity and other numbers which are applied to objects of sense; and you mean to ask, through what bodily organ the soul perceives odd and even numbers and other arithmetical conceptions.

Soc. You follow me excellently, Theaetetus; that is precisely what I am asking.

Theaet. Indeed, Socrates, I cannot answer; my only notion is, that these, unlike objects of sense, have no separate organ, but that the mind, by a power of her own, contemplates the universals in all things.

Plato, *Theaetetus*, 184B

- 4 Quick wit is a faculty of hitting upon the middle term instantaneously. It would be exemplified by a man who saw that the moon has her bright side always turned towards the sun, and quickly grasped the cause of this, namely that she borrows her light from him; or observed somebody in conversation with a man of wealth and divined that he was borrowing money, or that the friendship of these people sprang from a common enmity. In all these instances he has seen the major and minor terms and then grasped the causes, the middle terms.

Aristotle, *Posterior Analytics*, 89^b10

- 5 If thinking is like perceiving, it must be either a process in which the soul is acted upon by what is capable of being thought, or a process different from but analogous to that. The thinking part of the soul must therefore be, while impassible, capable of receiving the form of an object; that is, must be potentially identical in character with its object without being the object. Mind must be related to what is thinkable, as sense is to what is sensible.

Therefore, since everything is a possible object of thought, mind in order, as Anaxagoras says, to dominate, that is, to know, must be pure from all admixture; for the copresence of what is alien to its nature is a hindrance and a block: it follows that it too, like the sensitive part, can have no nature of its own, other than that of having a certain capacity. Thus that in the soul which is called mind (by mind I mean that whereby the soul thinks and judges) is, before it thinks, not actually any real thing. For this reason it cannot reasonably be regarded as blended with the body: if so, it would acquire some quality, e.g. warmth or cold, or even have an organ like the sensitive faculty: as it is, it has none. It was a good idea to

call the soul 'the place of forms', though (1) this description holds only of the intellective soul, and (2) even this is the forms only potentially, not actually. . . .

Once the mind has become each set of its possible objects, as a man of science has, when this phrase is used of one who is actually a man of science (this happens when he is now able to exercise the power on his own initiative), its condition is still one of potentiality, but in a different sense from the potentiality which preceded the acquisition of knowledge by learning or discovery: the mind too is then able to think *itself*.

Aristotle, *On the Soul*, 429^a13

- 6 Mind is in a sense potentially whatever is thinkable, though actually it is nothing until it has thought. What it thinks must be in it just as characters may be said to be on a writing-tablet on which as yet nothing actually stands written: this is exactly what happens with mind.

Mind is itself thinkable in exactly the same way as its objects are. For (a) in the case of objects which involve no matter, what thinks and what is thought are identical; for speculative knowledge and its object are identical. . . .

Since in every class of things, as in nature as a whole, we find two factors involved, (1) a matter which is potentially all the particulars included in the class, (2) a cause which is productive in the sense that it makes them all (the latter standing to the former, as e.g. an art to its material), these distinct elements must likewise be found within the soul.

And in fact mind as we have described it is what it is by virtue of becoming all things, while there is another which is what it is by virtue of making all things: this is a sort of positive state like light; for in a sense light makes potential colours into actual colours.

Mind in this sense of it is separable, impassible, unmixed, since it is in its essential nature activity (for always the active is superior to the passive factor, the originating force to the matter which it forms).

Actual knowledge is identical with its object: in the individual, potential knowledge is in time prior to actual knowledge, but in the universe as a whole it is not prior even in time. Mind is not at one time knowing and at another not. When mind is set free from its present conditions it appears as just what it is and nothing more: this alone is immortal and eternal (we do not, however, remember its former activity because, while mind in this sense is impassible, mind as passive is destructible), and without it nothing thinks.

Aristotle, *On the Soul*, 429^b30

- 7 The nature of the mind and soul is bodily; for when it is seen to push the limbs, rouse the body from sleep, and alter the countenance and guide

and turn about the whole man, and when we see that none of these effects can take place without touch nor touch without body, must we not admit that the mind and the soul are of a bodily nature? . . .

I will now go on to explain in my verses of what kind of body the mind consists and out of what it is formed. First of all I say that it is extremely fine and formed of exceedingly minute bodies. That this is so you may, if you please to attend, clearly perceive from what follows: nothing that is seen takes place with a velocity equal to that of the mind when it starts some suggestion and actually sets it agoing; the mind therefore is stirred with greater rapidity than any of the things whose nature stands out visible to sight. But that which is so passing nimble, must consist of seeds exceedingly round and exceedingly minute, in order to be stirred and set in motion by a small moving power. . . . The following fact too likewise demonstrates how fine the texture is of which its nature is composed, and how small the room is in which it can be contained, could it only be collected into one mass: soon as the untroubled sleep of death has gotten hold of a man and the nature of the mind and soul has withdrawn, you can perceive then no diminution of the entire body either in appearance or weight: death makes all good save the vital sense and heat. Therefore the whole soul must consist of very small seeds and be inwoven through veins and flesh and sinews; inasmuch as, after it has all withdrawn from the whole body, the exterior contour of the limbs preserves itself entire and not a tittle of the weight is lost. Just in the same way when the flavour of wine is gone or when the delicious aroma of a perfume has been dispersed into the air or when the savour has left some body, yet the thing itself does not therefore look smaller.

Lucretius, *Nature of Things*, III

8 In so far as the mind is stronger than the body, so are the ills contracted by the mind more severe than those contracted by the body.

Cicero, *Philippics*, XI, 4

9 Which of you by taking thought can add one cubit unto his stature?

Matthew 6:27

10 But still, just for the sake of asking,
For the sake of something to give to the chapels,
ritual entrails,
The consecrated mear of a little white pig, pray
for one thing,
Pray for a healthy mind in a healthy body, a spirit
Unafraid of death, but reconciled to it, and able
To bear up, to endure whatever troubles afflict it,
Free from hate and desire, preferring Hercules'
labors

To the cushions and loves and feasts of Sardana-
pallus.

Juvenal, *Satire X*

11 Indeed, for the power of seeing and hearing, and indeed for life itself, and for the things which contribute to support it, for the fruits which are dry, and for wine and oil give thanks to God: but remember that he has given you something else better than all these, I mean the power of using them, proving them and estimating the value of each. For what is that which gives information about each of these powers, what each of them is worth? Is it each faculty itself? Did you ever hear the faculty of vision saying anything about itself? or the faculty of hearing? or wheat, or barley, or a horse or a dog? No; but they are appointed as ministers and slaves to serve the faculty which has the power of making use of the appearances of things. And if you inquire what is the value of each thing, of whom do you inquire? who answers you? How then can any other faculty be more powerful than this, which uses the rest as ministers and itself proves each and pronounces about them? for which of them knows what itself is, and what is its own value? which of them knows when it ought to employ itself and when not? what faculty is it which opens and closes the eyes, and turns them away from objects to which it ought not to apply them and does apply them to other objects? No; but it is the faculty of the will.

Epictetus, *Discourses*, II, 23

12 It must necessarily be allowed that the principle of intellectual operation which we call the soul is a principle both incorporeal and subsistent. For it is clear that by means of the intellect man can know the natures of all corporeal things. Now whatever knows certain things cannot have any of them in its own nature because that which is in it naturally would impede the knowledge of anything else. Thus we observe that a sick man's tongue being vitiated by a feverish and bitter humour, cannot perceive anything sweet, and everything seems bitter to it. Therefore, if the intellectual principle contained the nature of any body it would be unable to know all bodies. Now every body has some determinate nature. Therefore it is impossible for the intellectual principle to be a body. It is likewise impossible for it to understand by means of a bodily organ, since the determinate nature of that bodily organ would prevent the knowledge of all bodies; as when a certain determinate colour is not only in the pupil of the eye, but also in a glass vase, the liquid in the vase seems to be of that same colour.

Therefore the intellectual principle which we call the mind or the intellect has an operation *per se* apart from the body. Now only that which subsists can have an operation *per se*. For nothing can operate except a being in act; hence a thing oper-

ates according as it is. For this reason we do not say that heat imparts heat, but that what is hot gives heat. We must conclude, therefore, that the human soul, which is called the intellect or the mind, is something incorporeal and subsistent.

Aquinas, *Summa Theologica*, I, 75, 2

- 13 The intellectual soul, because it can comprehend universals, has a power extending to the infinite; therefore it cannot be limited by nature either to certain fixed natural judgments, or to certain fixed means whether of defence or of clothing, as is the case with other animals, the souls of which have knowledge and power in regard to fixed particular things. Instead of all these, man has by nature his reason and his hands, which are the organs of organs, since by their means man can make for himself instruments of an infinite variety, and for any number of purposes.

Aquinas, *Summa Theologica*, I, 76, 5

- 14 To say that a thing is understood more by one than by another may be taken in two senses. First, so that the word more be taken as determining the act of understanding as regards the thing understood; and thus, one cannot understand the same thing more than another, because to understand it otherwise than as it is, either better or worse, would entail being deceived, and such a one would not understand it. . . . In another sense the word more can be taken as determining the act of understanding on the part of him who understands; and so one may understand the same thing better than someone else, through having a greater power of understanding, just as a man may see a thing better with his bodily sight, whose power is greater, and whose sight is more perfect. The same applies to the intellect in two ways. First, as regards the intellect itself, which is more perfect. For it is plain that the better the disposition of a body, the better the soul allotted to it, which clearly appears in things of different species. And the reason for this is that act and form are received into matter according to matter's capacity. Hence because some men have bodies of better disposition, their souls have a greater power of understanding. Thus it is said that we see that those who have delicate flesh are of apt mind. Secondly, this occurs in regard to the lower powers of which the intellect has need in its operation, for those in whom the imaginative, cogitative and remembering powers are of better disposition are better disposed to understand.

Aquinas, *Summa Theologica*, I, 85, 7

- 15 There are three classes of intellects: one which comprehends by itself; another which appreciates what others comprehend; and a third which neither comprehends by itself nor by the showing of

others; the first is the most excellent, the second is good, the third is useless.

Machiavelli, *Prince*, XXII

- 16 Heavy thoughts bring on physical maladies; when the soul is oppressed, so is the body.

Luther, *Table Talk*, H645

- 17 Whenever . . . we meet with heathen writers, let us learn from that light of truth which is admirably displayed in their works, that the human mind, fallen as it is, and corrupted from its integrity, is yet invested and adorned by God with excellent talents.

Calvin, *Institutes of the Christian Religion*, II, 2

- 18 Meditation is a powerful and full study for anyone who knows how to examine and exercise himself vigorously: I would rather fashion my mind than furnish it. There is no occupation that is either weaker or stronger, according to the mind involved, than entertaining one's own thoughts. The greatest minds make it their profession, to whom living is thinking [Cicero]. Thus nature has favored it with this privilege, that there is nothing we can do so long, and no action to which we can devote ourselves more commonly and easily. It is the occupation of the gods, says Aristotle, from which springs their happiness and ours.

Montaigne, *Essays*, III, 3,
Three Kinds of Association

- 19 *Hamlet*. What is a man,
If his chief good and market of his time
Be but to sleep and feed? a beast, no more.
Sure, he that made us with such large discourse,
Looking before and after, gave us not
That capability and god-like reason
To fust in us unused.

Shakespeare, *Hamlet*, IV, iv, 33

- 20 *1st Gentleman*. But I much marvel that your lordship, having
Rich tire about you, should at these early hours
Shake off the golden slumber of repose.
'Tis most strange
Nature should be so conversant with pain,
Being thereto not compell'd.

Cerimon. I hold it ever
Virtue and cunning were endowments greater
Than nobleness and riches. Careless heirs
May the two latter darken and expend;
But immortality attends the former,
Making a man a god. 'Tis known, I ever
Have studied physic, through which secret art,
By turning o'er authorities, I have,
Together with my practice, made familiar
To me and to my aid the blest infusions

That dwell in vegetives, in metals, stones;
And I can speak of the disturbances
That nature works, and of her cures; which doth
give me

A more content in course of true delight
Than to be thirsty after tottering honour,
Or tie my treasure up in silken bags,
To please the fool and Death.

Shakespeare, *Pericles*, III, ii, 21

- 21 The mind of man is far from the nature of a clear and equal glass, wherein the beams of things should reflect according to their true incidence; nay, it is rather like an enchanted glass, full of superstition and imposture, if it be not delivered and reduced.

Bacon, *Advancement of Learning*,
Bk. II, XIV, 9

- 22 Our method, though difficult in its operation, is easily explained. It consists in determining the degrees of certainty, whilst we, as it were, restore the senses to their former rank, but generally reject that operation of the mind which follows close upon the senses, and open and establish a new and certain course for the mind from the first actual perceptions of the senses themselves. This, no doubt, was the view taken by those who have assigned so much to logic; showing clearly thereby that they sought some support for the mind, and suspected its natural and spontaneous mode of action. But this is now employed too late as a remedy, when all is clearly lost, and after the mind, by the daily habit and intercourse of life, has come prepossessed with corrupted doctrines, and filled with the vainest idols. The art of logic, therefore, being (as we have mentioned), too late a precaution, and in no way remedying the matter, has tended more to confirm errors, than to disclose truth. Our only remaining hope and salvation is to begin the whole labor of the mind again.

Bacon, *Novum Organum*, Pref.

- 23 The human understanding, from its peculiar nature, easily supposes a greater degree of order and equality in things than it really finds.

Bacon, *Novum Organum*, I, 45

- 24 The greatest and, perhaps, most radical distinction between different men's dispositions for philosophy and the sciences is this, that some are more vigorous and active in observing the differences of things, others in observing their resemblances; for a steady and acute disposition can fix its thoughts, and dwell upon and adhere to a point, through all the refinements of differences, but those that are sublime and discursive recognize and compare even the most delicate and gen-

eral resemblances; each of them readily falls into excess, by catching either at nice distinctions or shadows of resemblance.

Bacon, *Novum Organum*, I, 55

- 25 Examining attentively that which I was, I saw that I could conceive that I had no body, and that there was no world nor place where I might be; but yet that I could not for all that conceive that I was not. On the contrary, I saw from the very fact that I thought of doubting the truth of other things, it very evidently and certainly followed that I was; on the other hand if I had only ceased from thinking, even if all the rest of what I had ever imagined had really existed, I should have no reason for thinking that I had existed. From that I knew that I was a substance the whole essence or nature of which is to think, and that for its existence there is no need of any place, nor does it depend on any material thing; so that this "me," that is to say, the soul by which I am what I am, is entirely distinct from body, and is even more easy to know than is the latter; and even if body were not, the soul would not cease to be what it is.

Descartes, *Discourse on Method*, IV

- 26 What of thinking? I find here that thought is an attribute that belongs to me; it alone cannot be separated from me. I am, I exist, that is certain. But how often? Just when I think; for it might possibly be the case if I ceased entirely to think, that I should likewise cease altogether to exist. I do not now admit anything which is not necessarily true: to speak accurately I am not more than a thing which thinks, that is to say a mind or a soul, or an understanding, or a reason, which are terms whose significance was formerly unknown to me. I am, however, a real thing and really exist; but what thing? I have answered: a thing which thinks.

Descartes, *Meditations on First Philosophy*, II

- 27 By *virtues intellectual* are always understood such abilities of the mind as men praise, value, and desire should be in themselves; and go commonly under the name of a *good wit*; though the same word, *wit*, be used also to distinguish one certain ability from the rest.

These virtues are of two sorts; *natural* and *acquired*. By *natural*, I mean not that which a man hath from his birth: for that is nothing else but sense; wherein men differ so little one from another, and from brute beasts, as it is not to be reckoned amongst virtues. But I mean that wit which is gotten by use only, and experience, without method, culture, or instruction. This *natural wit* consisteth principally in two things: *celerity of imagining* (that this, swift succession of one thought to

another); and *steady direction* to some approved end. On the contrary, a slow imagination maketh that defect or fault of the mind which is commonly called *dullness, stupidity*, and sometimes by other names that signify slowness of motion, or difficulty to be moved.

And this difference of quickness is caused by the difference of men's passions; that love and dislike, some one thing, some another: and therefore some men's thoughts run one way, some another, and are held to, and observe differently the things that pass through their imagination. And whereas in this succession of men's thoughts there is nothing to observe in the things they think on, but either in what they be like one another, or in what they be unlike, or what they serve for, or how they serve to such a purpose; those that observe their similitudes, in case they be such as are but rarely observed by others, are said to have a *good wit*; by which, in this occasion, is meant a *good fancy*. But they that observe their differences, and dissimilitudes, which is called *distinguishing*, and *discerning*, and *judging* between thing and thing, in case such discerning be not easy, are said to have a *good judgement*: and particularly in matter of conversation and business, wherein times, places, and persons are to be discerned, this virtue is called *discretion*.

Hobbes, *Leviathan*, I, 8

- 28 The secret thoughts of a man run over all things holy, profane, clean, obscene, grave, and light, without shame, or blame; which verbal discourse cannot do, farther than the judgement shall approve of the time, place, and persons.

Hobbes, *Leviathan*, I, 8

- 29 There are then two kinds of intellect: the one able to penetrate acutely and deeply into the conclusions of given premises, and this is the precise intellect; the other able to comprehend a great number of premises without confusing them, and this is the mathematical intellect. The one has force and exactness, the other comprehension. Now the one quality can exist without the other; the intellect can be strong and narrow, and can also be comprehensive and weak.

Pascal, *Pensées*, I, 2

- 30 I can well conceive a man without hands, feet, head (for it is only experience which teaches us that the head is more necessary than feet). But I cannot conceive man without thought; he would be a stone or a brute.

Pascal, *Pensées*, VI, 339

- 31 All our dignity consists . . . in thought. By it we must elevate ourselves, and not by space and time

which we cannot fill. Let us endeavour, then, to think well; this is the principle of morality.

Pascal, *Pensées*, VI, 347

- 32 *A thinking reed.*—It is not from space that I must seek my dignity, but from the government of my thought. I shall have no more if I possess worlds. By space the universe encompasses and swallows me up like an atom; by thought I comprehend the world.

Pascal, *Pensées*, VI, 348

- 33 *Satan.* The mind is its own place, and in it self Can make a Heav'n of Hell, a Hell of Heav'n.

Milton, *Paradise Lost*, I, 254

- 34 *Belial.* For who would loose, Though full of pain, this intellectual being, Those thoughts that wander through Eternity, To perish rather, swallowd up and lost In the wide womb of uncreated night, Devoid of sense and motion?

Milton, *Paradise Lost*, II, 146

- 35 Man thinks.

Spinoza, *Ethics*, II, Axiom 2

- 36 The body cannot determine the mind to thought, neither can the mind determine the body to motion nor rest, nor to anything else, if there be anything else. . . . That is to say, that the mind and the body are one and the same thing, conceived at one time under the attribute of thought, and at another under that of extension. For this reason, the order or concatenation of things is one, whether nature be conceived under this or under that attribute, and consequently the order of the actions and passions of our body is coincident in nature with the order of the actions and passions of the mind. . . .

Although these things are so, and no ground for doubting remains, I scarcely believe, nevertheless, that, without a proof derived from experience, men will be induced calmly to weigh what has been said, so firmly are they persuaded that, solely at the bidding of the mind, the body moves or rests, and does a number of things which depend upon the will of the mind alone, and upon the power of thought.

Spinoza, *Ethics*, III, Prop. 2; Schol.

- 37 The more perfect a thing is, the more reality it possesses. . . .

Hence it follows that that part of the mind which abides, whether great or small, is more perfect than the other part. For the part of the mind which is eternal is the intellect, through which alone we are said to act, but that part which, as we have shown, perishes, is the imagination itself, through which alone we are said to suffer. There-

fore that part which abides, whether great or small, is more perfect than the latter.

These are the things I proposed to prove concerning the mind, insofar as it is considered without relation to the existence of the body, and from these . . . it is evident that our mind, insofar as it understands, is an eternal mode of thought, which is determined by another eternal mode of thought, and this again by another, and so on *ad infinitum*, so that all taken together form the eternal and infinite intellect of God.

Spinoza, *Ethics*, V, Prop. 40

- 38 Dim as the borrow'd beams of moon and stars
To lonely, weary, wand'ring travelers,
Is Reason to the soul.

Dryden, *Religio Laici*, 1

- 39 Insofar as the concatenation of their perceptions is due to the principle of memory alone, men act like the lower animals, resembling the empirical physicians whose methods are those of mere practice without theory. Indeed, in three-fourths of our actions we are nothing but empirics. For instance, when we expect that there will be daylight to-morrow, we do so empirically, because it has always so happened until now. It is only the astronomer who thinks it on rational grounds.

But it is the knowledge of necessary and eternal truths that distinguishes us from the mere animals and gives us *Reason* and the sciences, raising us to the knowledge of ourselves and of God. And it is this in us that is called the rational soul or mind.

It is also through the knowledge of necessary truths, and through their abstract expression, that we rise to *acts of reflexion*, which make us think of what is called *I*, and observe that this or that is within us: and thus, thinking of ourselves, we think of being, of substance, of the simple and the compound, of the immaterial, and of God Himself, conceiving that what is limited in us is in Him without limits. And these acts of reflexion furnish the chief objects of our reasonings.

Leibniz, *Monadology*, 28–30

- 40 The other fountain from which experience furnisheth the understanding with ideas is,—the perception of the operations of our own mind within us, as it is employed about the ideas it has got;—which operations, when the soul comes to reflect on and consider, do furnish the understanding with another set of ideas, which could not be had from things without. And such are *perception, thinking, doubting, believing, reasoning, knowing, willing*, and all the different actings of our own minds;—which we being conscious of, and observing in ourselves, do from these receive into our understandings as distinct ideas as we do from bodies affecting our senses. This source of ideas every man has wholly in himself; and though it be not sense, as having

nothing to do with external objects, yet it is very like it, and might properly enough be called *internal sense*. But as I call the other SENSATION, so I call this REFLECTION, the ideas it affords being such only as the mind gets by reflecting on its own operations within itself. By reflection then, in the following part of this discourse, I would be understood to mean, that notice which the mind takes of its own operations, and the manner of them, by reason whereof there come to be ideas of these operations in the understanding. These two, I say, viz. external material things, as the objects of SENSATION, and the operations of our own minds within, as the objects of REFLECTION, are to me the only originals from whence all our ideas take their beginnings.

Locke, *Concerning Human Understanding*, Bk. II, I, 4

- 41 Follow a child from its birth, and observe the alterations that time makes, and you shall find, as the mind by the senses comes more and more to be furnished with ideas, it comes to be more and more awake; thinks more, the more it has matter to think on. After some time it begins to know the objects which, being most familiar with it, have made lasting impressions. Thus it comes by degrees to know the persons it daily converses with, and distinguishes them from strangers; which are instances and effects of its coming to retain and distinguish the ideas the senses convey to it. And so we may observe how the mind, *by degrees*, improves in these; and *advances* to the exercise of those other faculties of enlarging, compounding, and abstracting its ideas, and of reasoning about them, and reflecting upon all these. . . .

In time the mind comes to reflect on its own operations about the ideas got by sensation, and thereby stores itself with a new set of ideas, which I call ideas of reflection. These are the impressions that are made on our senses by outward objects that are extrinsic to the mind; and its own operations, proceeding from powers intrinsic and proper to itself, which, when reflected on by itself, become also objects of its contemplation—are, as I have said, the original of all knowledge. Thus the first capacity of human intellect is,—that the mind is fitted to receive the impressions made on it; either through the senses by outward objects, or by its own operations when it reflects on them. This is the first step a man makes towards the discovery of anything, and the groundwork whereon to build all those notions which ever he shall have naturally in this world. All those sublime thoughts which tower above the clouds, and reach as high as heaven itself, take their rise and footing here: in all that great extent wherein the mind wanders, in those remote speculations it may seem to be elevated with, it stirs not one jot beyond those ideas which *sense* or *reflection* have

offered for its contemplation.

Locke, *Concerning Human Understanding*, Bk. II, 1, 22–24

- 42 The power of perception is that which we call the *Understanding*. Perception, which we make the act of the understanding, is of three sorts:—1. The perception of ideas in our minds. 2. The perception of the signification of signs. 3. The perception of the connexion or repugnancy, agreement or disagreement, that there is between any of our ideas. All these are attributed to the understanding, or perceptive power, though it be the two latter only that use allows us to say we understand.

Locke, *Concerning Human Understanding*, Bk. II, XXI, 5

- 43 The thoughts that come often unsought, and, as it were, drop into the mind, are the most valuable of any we have, and therefore should be secured, because they seldom return again.

Locke, *Letter to Samuel Bold* (May 16, 1699)

- 44 Some truths there are so near and obvious to the mind that a man need only open his eyes to see them. Such I take this important one to be, viz., that all the choir of heaven and furniture of the earth, in a word all those bodies which compose the mighty frame of the world, have not any subsistence without a mind, that their *being* is to be perceived or known; that consequently so long as they are not actually perceived by me, or do not exist in my mind or that of any other created spirit, they must either have no existence at all, or else subsist in the mind of some Eternal Spirit—it being perfectly unintelligible, and involving all the absurdity of abstraction, to attribute to any single part of them an existence independent of a spirit. To be convinced of which, the reader need only reflect, and try to separate in his own thoughts the *being* of a sensible thing from its *being perceived*.

Berkeley, *Principles of Human Knowledge*, 6

- 45 Far as Creation's ample range extends,
The scale of sensual, mental pow'rs ascends:
Mark how it mounts, to Man's imperial race,
From the green myriads in the peopled grass:
What modes of sight betwixt each wide extreme,
The mole's dim curtain, and the lynx's beam:
Of smell, the headlong lioness between,
And hound sagacious on the tainted green:
Of hearing, from the life that fills the flood,
To that which warbles thro' the vernal wood:
The spider's touch, how exquisitely fine!
Feels at each thread, and lives along the line:
In the nice bee, what sense so subtly true
From pois'nous herbs extracts the healing dew:
How Instinct varies in the grov'ling swine,
Compar'd, half-reas'ning elephant, with thine:
'Twixt that, and Reason, what a nice barrier;

For ever sep'rate, yet for ever near!

Remembrance and Reflection how ally'd;
What thin partitions Sense from Thought divide:
And Middle natures, how they long to join,
Yet never pass th' insuperable line!
Without this just gradation, could they be
Subjected these to those, or all to thee?
The pow'rs of all subdu'd by thee alone,
Is not thy Reason all these pow'rs in one?

Pope, *Essay on Man*, Epistle I, 207

- 46 Love, Hope, and Joy, fair pleasure's smiling train,
Hate, Fear, and Grief, the family of pain;
These mix'd with art, and to due bounds confin'd,
Make and maintain the balance of the mind.

Pope, *Essay on Man*, Epistle II, 117

- 47 We may divide all the perceptions of the mind into two classes or species, which are distinguished by their different degrees of force and vivacity. The less forcible and lively are commonly denominated *Thoughts* or *Ideas*. The other species want a name in our language, and in most others; I suppose, because it was not requisite for any, but philosophical purposes, to rank them under a general term or appellation. Let us, therefore, use a little freedom, and call them *Impressions*; employing that word in a sense somewhat different from the usual. By the term *impression*, then, I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will. And impressions are distinguished from ideas, which are the less lively perceptions, of which we are conscious, when we reflect on any of those sensations or movements above mentioned.

Hume, *Concerning Human Understanding*, II, 12

- 48 Nothing, at first view, may seem more unbounded than the thought of man, which not only escapes all human power and authority, but is not even restrained within the limits of nature and reality. To form monsters, and join incongruous shapes and appearances, costs the imagination no more trouble than to conceive the most natural and familiar objects. And while the body is confined to one planet, along which it creeps with pain and difficulty; the thought can in an instant transport us into the most distant regions of the universe; or even beyond the universe, into the unbounded chaos, where nature is supposed to lie in total confusion. What never was seen, or heard of, may yet be conceived; nor is anything beyond the power of thought, except what implies an absolute contradiction.

But though our thought seems to possess this unbounded liberty, we shall find, upon a nearer examination, that it is really confined within very narrow limits, and that all this creative power of the mind amounts to no more than the faculty of compounding, transposing, augmenting, or diminishing the materials afforded us by the senses

and experience. When we think of a golden mountain, we only join two consistent ideas, *gold*, and *mountain*, with which we were formerly acquainted. A virtuous horse we can conceive; because, from our own feeling, we can conceive virtue; and this we may unite to the figure and shape of a horse, which is an animal familiar to us. In short, all the materials of thinking are derived either from our outward or inward sentiment: the mixture and composition of these belongs alone to the mind and will. Or, to express myself in philosophical language, all our ideas or more feeble perceptions are copies of our impressions or more lively ones.

Humc. *Concerning Human Understanding*, II, 13

- 49 It is the nature of an hypothesis, when once a man has conceived it, that it assimilates every thing to itself, as proper nourishment; and, from the first moment of your begetting it, it generally grows the stronger by every thing you see, hear, read, or understand. This is of great use.

Sterne, *Tristram Shandy*, II, 19

- 50 A feeble body makes a feeble mind.

Rousseau, *Emile*, I

- 51 Such is the delight of mental superiority that none on whom nature or study have conferred it would purchase the gifts of fortune by its loss.

Johnson, *Rambler No. 150*

- 52 Reason never has an immediate relation to an object; it relates immediately to the understanding alone. It is only through the understanding that it can be employed in the field of experience. It does not *form* conceptions of objects, it merely *arranges* them and gives to them that unity which they are capable of possessing when the sphere of their application has been extended as widely as possible. Reason avails itself of the conception of the understanding for the sole purpose of producing totality in the different series. This totality the understanding does not concern itself with; its only occupation is the connection of experiences, by which *series* of conditions in accordance with conceptions are established. The object of reason is, therefore, the understanding and its proper destination. As the latter brings unity into the diversity of objects by means of its conceptions, so the former brings unity into the diversity of conceptions by means of ideas; as it sets the final aim of a collective unity to the operations of the understanding, which without this occupies itself with a distributive unity alone.

Kant, *Critique of Pure Reason*,
Transcendental Dialectic

- 53 Reason is not to be considered as an indefinitely extended plane, of the bounds of which we have only a general knowledge; it ought rather to be

compared to a sphere, the radius of which may be found from the curvature of its surface—that is, the nature of a *priori* synthetical propositions—and, consequently, its circumference and extent. Beyond the sphere of experience there are no objects which it can cognize; nay, even questions regarding such supposititious objects relate only to the subjective principles of a complete determination of the relations which exist between the understanding-conceptions which lie within this sphere.

Kant, *Critique of Pure Reason*,
Transcendental Method

- 54 I should be inclined . . . to consider the world and this life as the mighty process of God, not for the trial, but for the creation and formation of mind, a process necessary to awaken inert, chaotic matter into spirit, to sublimate the dust of the earth into soul, to elicit an ethereal spark from the clod of clay.

Malthus, *Population*, XVIII

- 55 He gave man speech, and speech created thought,
Which is the measure of the universe;
And Science struck the thrones of earth and heaven,
Which shook, but fell not; and the harmonious mind
Poured itself forth in all-prophetic song;
And music lifted up the listening spirit
Until it walked, exempt from mortal care,
Godlike, o'er the clear billows of sweet sound.

Shelley, *Prometheus Unbound*, II, 72

- 56 What Exile from himself can flee?

To zones, though more and more remote,
Still, still pursues, where-e'er I be,
The blight of life—the demon Thought.

Byron, *Childe Harold's Pilgrimage*, I, To Inez

- 57 The history of mind is its own act. Mind is only what it does, and its act is to make itself the object of its own consciousness. In history its act is to gain consciousness of itself as mind, to apprehend itself in its interpretation of itself to itself. This apprehension is its being and its principle, and the completion of apprehension at one stage is at the same time the rejection of that stage and its transition to a higher. To use abstract phraseology, the mind apprehending this apprehension anew, or in other words returning to itself again out of its rejection of this lower stage of apprehension, is the mind of the stage higher than that on which it stood in its earlier apprehension.

The question of the perfectibility and *Education of the Human Race* arises here. Those who have maintained this perfectibility have divined something of the nature of mind, something of the fact that it is its nature to have self-knowledge as the law of its being, and, since it apprehends that

which it is, to have a form higher than that which constituted its mere being. But to those who reject this doctrine, mind has remained an empty word, and history a superficial play of casual, so-called "merely human," strivings and passions. Even if, in connexion with history, they speak of Providence and the plan of Providence, and so express a faith in a higher power, their ideas remain empty because they expressly declare that for them the plan of Providence is inscrutable and incomprehensible.

Hegel, *Philosophy of Right*, 343

58 In the course of this work of the world mind, states, nations, and individuals arise animated by their particular determinate principle which has its interpretation and actuality in their constitutions and in the whole range of their life and condition. While their consciousness is limited to these and they are absorbed in their mundane interests, they are all the time the unconscious tools and organs of the world mind at work within them. The shapes which they take pass away, while the absolute mind prepares and works out its transition to its next higher stage.

Hegel, *Philosophy of Right*, 344

59 Will without freedom is an empty word, while freedom is actual only as will, as subject. . . . Mind is in principle thinking, and man is distinguished from beast in virtue of thinking. But it must not be imagined that man is half thought and half will, and that he keeps thought in one pocket and will in another, for this would be a foolish idea. The distinction between thought and will is only that between the theoretical attitude and the practical. These, however, are surely not two faculties; the will is rather a special way of thinking, thinking translating itself into existence, thinking as the urge to give itself existence.

Hegel, *Philosophy of Right*, Additions, Par. 4

60 When a hypothesis has once come to birth in the mind, or gained a footing there, it leads a life so far comparable with the life of an organism, as that it assimilates matter from the outer world only when it is like in kind with it and beneficial; and when, contrarily, such matter is not like in kind but hurtful, the hypothesis, equally with the organism, throws it off, or, if forced to take it, gets rid of it again entire.

Schopenhauer, *Some Forms of Literature*

61 Great intellectual gifts mean an activity pre-eminently nervous in its character, and consequently a very high degree of susceptibility to pain in every form.

Schopenhauer, *Personality*

62 Thought, true labour of any kind, highest virtue itself, is it not the daughter of Pain? Born as out of

the black whirlwind;—true effort, in fact, as a captive struggling to free himself: that is Thought.

Carlyle, *The Hero as Poet*

63 One should not think slightly of the paradoxical; for the paradox is the source of the thinker's passion, and the thinker without a paradox is like a lover without feeling: a paltry mediocrity. But the highest pitch of every passion is always to will its own downfall; and so it is also the supreme passion of the Reason to seek a collision, though this collision must in one way or another prove its undoing. The supreme paradox of all thought is the attempt to discover something that thought cannot think.

Kierkegaard, *Philosophical Fragments*, III

64 How can we speak of the action of the mind under any divisions, as of its knowledge, of its ethics, of its works, and so forth, since it melts will into perception, knowledge into act? Each becomes the other. Itself alone is.

Emerson, *Intellect*

65 What is the hardest task in the world? To think.

Emerson, *Intellect*

66 There is one mind common to all individual men. Every man is an inlet to the same and to all of the same. He that is once admitted to the right of reason is made a freeman of the whole estate. What Plato has thought, he may think; what a saint has felt, he may feel; what at any time has befallen any man, he can understand. Who hath access to this universal mind is a party to all that is or can be done, for this is the only and sovereign agent.

Emerson, *History*

67 The brain is only one condition out of many on which intellectual manifestations depend; the others being, chiefly, the organs of the senses and the motor apparatuses, especially those which are concerned in prehension and in the production of articulate speech.

T. H. Huxley, *Relations of Man to the Lower Animals*

68 The spontaneous process which goes on within the mind itself is higher and choicer than that which is logical; for the latter, being scientific, is common property, and can be taken and made use of by minds who are personally strangers, in any true sense, both to the ideas in question and to their development.

Newman, *Essay on the Development of Christian Doctrine*, Pt. II, V, 4

69 The action of thinking may incidentally have other results; it may serve to amuse us, for example, and among *dilettanti* it is not rare to find those

who have so perverted thought to the purposes of pleasure that it seems to vex them to think that the questions upon which they delight to exercise it may ever get finally settled; and a positive discovery which takes a favorite subject out of the arena of literary debate is met with ill-concealed dislike.

C. S. Peirce, *How to Make Our Ideas Clear*

70 Consciousness . . . does not appear to itself chopped up in bits. Such words as "chain" or "train" do not describe it fitly as it presents itself in the first instance. It is nothing jointed; it flows. A "river" or a "stream" is the metaphor by which it is most naturally described. *In talking of it hereafter, let us call it the stream of thought, of consciousness, or of subjective life.*

William James, *Psychology*, IX

71 The mind is at every stage a theatre of simultaneous possibilities. Consciousness consists in the comparison of these with each other, the selection of some, and the suppression of the rest by the reinforcing and inhibiting agency of attention. The highest and most elaborated mental products are filtered from the data chosen by the faculty next beneath, out of the mass offered by the faculty below that, which mass in turn was sifted from a still larger amount of yet simpler material, and so on. The mind, in short, works on the data it receives very much as a sculptor works on his block of stone. In a sense the statue stood there from eternity. But there were a thousand different ones beside it, and the sculptor alone is to thank for having extricated this one from the rest. Just so the world of each of us, howsoever different our several views of it may be, all lay embedded in the primordial chaos of sensations, which gave the mere *matter* to the thought of all of us indifferently. We may, if we like, by our reasonings unwind things back to that black and jointless continuity of space and moving clouds of swarming atoms which science calls the only real world. But all the while the world *we* feel and live in will be that which our ancestors and we, by slowly cumulative strokes of choice, have extricated out of this, like sculptors, by simply rejecting certain portions of the given stuff. Other sculptors, other statues from the same stone! Other minds, other worlds from the same monotonous and inexpressive chaos! My world is but one in a million alike embedded, alike real to those who may abstract them. How different must be the worlds in the consciousness of ant, cuttle-fish, or crab!

William James, *Psychology*, IX

72 What happens in the brain after experience has done its utmost is what happens in every material mass which has been fashioned by an outward force,—in every pudding or mortar, for example, which I may make with my hands. The fashion-

ing from without brings the elements into collocations which set new internal forces free to exert their effects in turn. And the random irradiations and resettlements of our ideas, which *supervene upon experience*, and constitute our free mental play, are due entirely to these secondary internal processes, which vary enormously from brain to brain, even though the brains be exposed to exactly the same "outer relations." The higher thought-processes owe their being to causes which correspond far more to the sourings and fermentations of dough, the setting of mortar, or the subsidence of sediments in mixtures, than to the manipulations by which these physical aggregates came to be compounded.

William James, *Psychology*, XXVIII

73 The causes of our mental structure are doubtless natural, and connected, like all our other peculiarities, with those of our nervous structure. Our interests, our tendencies of attention, our motor impulses, the æsthetic, moral, and theoretic combinations we delight in, the extent of our power of apprehending schemes of relation, just like the elementary relations themselves, time, space, difference and similarity and the elementary kinds of feeling, have all grown up in ways of which at present we can give no account. . . . And the more sincerely one seeks to trace the actual course of *psychogenesis*, the steps by which as a race we may have come by the peculiar mental attributes which we possess, the more clearly one perceives "the slowly gathering twilight close in utter night."

William James, *Psychology*, XXVIII

74 The man who listens to Reason is lost: Reason enslaves all whose minds are not strong enough to master her.

Shaw, *Man and Superman*,
Maxims for Revolutionists

75 Real life is, to most men, a long second-best, a perpetual compromise between the ideal and the possible; but the world of pure reason knows no compromise, no practical limitations, no barrier to the creative activity embodying in splendid edifices the passionate aspiration after the perfect from which all great work springs. Remote from human passions, remote even from the pitiful facts of Nature, the generations have gradually created an ordered cosmos, where pure thought can dwell as in its natural home, and where one, at least, of our nobler impulses can escape from the dreary exile of the actual world.

Russell, *Study of Mathematics*

76 The power of reason is thought small in these days, but I remain an unrepentant rationalist. Reason may be a small force, but is constant, and works always in one direction, while the forces of

unreason destroy one another in futile strife. Therefore every orgy of unreason in the end strengthens the friends of reason, and shows afresh that they are the only true friends of humanity.

Russell, *Sceptical Essays*, IX

77 Mental activity, which works its way from the memory-image to the production of identity of perception via the outer world, merely represents a roundabout way to wish-fulfilment made necessary by experience. Thinking is indeed nothing but a substitute for the hallucinatory wish; and if the dream is called a wish-fulfilment, this becomes something self-evident, since nothing but a wish can impel our psychic apparatus to activity. The dream, which fulfils its wishes by following the short regressive path, has thereby simply preserved for us a specimen of the primary method of operation of the psychic apparatus, which has been abandoned as inappropriate. What once prevailed in the waking state, when our psychic life was still young and inefficient, seems to have been banished into our nocturnal life; just as we still find in the nursery those discarded primitive weapons of adult humanity, the bow and arrow.

Freud, *Interpretation of Dreams*, VII, C

78 The first of these displeasing propositions of psycho-analysis is this: that mental processes are essentially unconscious, and that those which are conscious are merely isolated acts and parts of the whole psychic entity. Now I must ask you to remember that, on the contrary, we are accustomed to identify the mental with the conscious. Consciousness appears to us as positively the characteristic that defines mental life, and we regard psychology as the study of the content of consciousness. This even appears so evident that any contradiction of it seems obvious nonsense to us, and yet it is impossible for psycho-analysis to avoid this contradiction, or to accept the identity between the conscious and the psychic. The psycho-analytical definition of the mind is that it comprises processes of the nature of feeling, thinking, and wishing, and it maintains that there are such things as unconscious thinking and unconscious wishing. But in doing so psycho-analysis has forfeited at the outset the sympathy of the sober and scientifically minded, and incurred the suspicion of being a phantastic cult occupied with dark and unfathomable mysteries. You yourselves must find it difficult to understand why I should stigmatize an abstract proposition, such as "The psychic is the conscious," as a prejudice; nor can you guess yet what evolutionary process could have led to the denial of the unconscious, if it does indeed exist, nor what advantage could have been achieved by this denial. It seems like an empty wrangle over words to argue whether mental life is to be regarded as co-extensive with consciousness or whether it may be said to stretch

beyond this limit, and yet I can assure you that the acceptance of unconscious mental processes represents a decisive step towards a new orientation in the world and in science.

Freud, *General Introduction to Psycho-Analysis*, I

79 Our best hope for the future is that the intellect—the scientific spirit, reason—should in time establish a dictatorship over the human mind. The very nature of reason is a guarantee that it would not fail to concede to human emotions, and to all that is determined by them, the position to which they are entitled. But the common pressure exercised by such a domination of reason would prove to be the strongest unifying force among men, and would prepare the way for further unifications. Whatever, like the ban laid upon thought by religion, opposes such a development is a danger for the future of mankind.

Freud, *New Introductory Lectures on Psycho-Analysis*, XXXV

80 Demand for the solution of a perplexity is the steady and guiding factor in the entire process of reflection. Where there is no question of a problem to be solved or a difficulty to be surmounted, the course of suggestions flows on at random; we have the first type of thought described. If the stream of suggestions is controlled simply by their emotional congruity, their fitting agreeably into a single picture or story, we have the second type. But a question to be answered, an ambiguity to be resolved, sets up an end and holds the current of ideas to a definite channel. Every suggested conclusion is tested by its reference to this regulating end, by its pertinence to the problem in hand. This need of straightening out a perplexity also controls the kind of inquiry undertaken. A traveler whose end is the most beautiful path will look for other considerations and will test suggestions occurring to him on another principle than if he wishes to discover the way to a given city. *The problem fixes the end of thought and the end controls the process of thinking.*

Dewey, *How We Think*, Pt. I, I, 3

81 Thinking is stoppage of the immediate manifestation of impulse until that impulse has been brought into connection with other possible tendencies to action so that a more comprehensive and coherent plan of activity is formed. Some of the other tendencies to action lead to use of eye, ear, and hand to observe objective conditions; others result in recall of what has happened in the past. Thinking is thus a postponement of immediate action, while it effects internal control of impulse through a union of observation and memory, this union being the heart of reflection.

Dewey, *Experience and Education*, V

82 Reason is experimental intelligence, conceived af-

ter the pattern of science, and used in the creation of social arts; it has something to do. It liberates man from the bondage of the past, due to ignorance and accident hardened into custom. It projects a better future and assists man in its realization. And its operation is always subject to test in experience. The plans which are formed, the principles which man projects as guides of reconstructive action, are not dogmas. They are hypotheses to be worked out in practice, and to be rejected, corrected and expanded as they fail or succeed in giving our present experience the guidance it requires. We may call them programmes of action, but since they are to be used in making our future acts less blind, more directed, they are flexible. Intelligence is not something possessed once for all. It is in constant process of forming, and its retention requires constant alertness in observing consequences, an open-minded will to learn and courage in re-adjustment.

Dewey, *Reconstruction in Philosophy*, IV

- 83 If we could rid ourselves of all pride, if, to define our species, we kept strictly to what the historic and the prehistoric periods show us to be the constant characteristic of man and of intelligence, we should say not *Homo sapiens*, but *Homo faber*. In short, intelligence, considered in what seems to be its original feature, is the faculty of manufacturing artificial objects, especially tools to make tools, and of indefinitely varying the manufacture.

Bergson, *Creative Evolution*, II

- 84 Knowledge and action are . . . only two aspects of one and the same faculty. . . .

If instinct is, above all, the faculty of using an organized natural instrument, it must involve innate knowledge (potential or unconscious, it is true), both of this instrument and of the object to which it is applied. Instinct is therefore innate knowledge of a *thing*. But intelligence is the faculty of constructing unorganized—that is to say artificial—instruments. If, on its account, nature gives up endowing the living being with the instruments that may serve him, it is in order that the living being may be able to vary his construction according to circumstances. The essential function of intelligence is therefore to see the way out of a difficulty in any circumstances whatever, to find what is most suitable, what answers best the question asked. Hence it bears essentially on the relations between a given situation and the means of utilizing it. What is innate in intellect, therefore, is the tendency to establish relations, and this tendency implies the natural knowledge of certain very general relations, a kind of stuff that the activity of each particular intellect will cut up into more special relations. Where activity is directed toward manufacture, therefore, knowledge necessarily bears on relations. But this entirely *formal* knowledge of intelligence has an immense advan-

tage over the *material* knowledge of instinct. A form, just because it is empty, may be filled at will with any number of things in turn, even with those that are of no use. So that a formal knowledge is not limited to what is practically useful, although it is in view of practical utility that it has made its appearance in the world. An intelligent being bears within himself the means to transcend his own nature.

He transcends himself, however, less than he wishes, less also than he imagines himself to do. The purely formal character of intelligence deprives it of the ballast necessary to enable it to settle itself on the objects that are of the most powerful interest to speculation. Instinct, on the contrary, has the desired materiality, but it is incapable of going so far in quest of its object; it does not speculate. Here we reach the point that most concerns our present inquiry. The difference that we shall now proceed to denote between instinct and intelligence is what the whole of this analysis was meant to bring out. We formulate it thus: *There are things that intelligence alone is able to seek, but which, by itself, it will never find. These things instinct alone could find; but it will never seek them.*

Bergson, *Creative Evolution*, II

- 85 In the higher reaches of human nature, as much as in the lower, rationality depends on distinguishing the excellent; and that distinction can be made, in the last analysis, only by an irrational impulse. As life is a better form given to force, by which the universal flux is subdued to create and serve a somewhat permanent interest, so reason is a better form given to interest itself, by which it is fortified and propagated, and ultimately, perhaps, assured of satisfaction. The substance to which this form is given remains irrational; so that rationality, like all excellence, is something secondary and relative, requiring a natural being to possess or to impute it. When definite interests are recognised and the values of things are estimated by that standard, action at the same time veering in harmony with that estimation, then reason has been born and a moral world has arisen.

Santayana, *Life of Reason*, I, 1

- 86 Reason, as Hume said with profound truth, is an unintelligible instinct. It could not be otherwise if reason is to remain something transitive and existential; for transition is unintelligible, and yet is the deepest characteristic of existence. Philosophers, however, having perceived that the function of thought is to fix static terms and reveal eternal relations, have inadvertently transferred to the living act what is true only of its ideal object; and they have expected to find in the process, treated psychologically, that luminous deductive clearness which belongs to the ideal world it tends to reveal. The intelligible, however, lies at the periphery of experience, the surd at its core;

and intelligence is but one centrifugal ray darting from the slime to the stars. Thought must execute a metamorphosis; and while this is of course mysterious, it is one of those familiar mysteries, like motion and will, which are more natural than

dialectical lucidity itself; for dialectic grows cogent by fulfilling intent, but intent or meaning is itself vital and inexplicable.

Santayana, *Life of Reason*, I, 3

5.2 | *The Senses and Sense Perception*

Whether mind, intellect, or the rational faculty is material or immaterial has long been debated and is still an issue in dispute. The reader will find indications of this controversy in Section 5.1. In contrast, he will find no disagreement here about the bodily or corporeal character of the senses.

From the very beginning of Western psychology, special sense-organs have been the recognized seats of man's power to see, hear, touch, taste, and smell. Modern anatomical and physiological investigations have discovered additional sense-organs and increased our knowledge of such organs as the eye and the ear. In consequence, the traditional enumeration of the five senses has been enlarged to include other modes of sensitivity. But while the study of the senses thus falls within the sphere of anatomy and physiology, the discussion of sensation and sense perception deals with questions that are psychological or philosophical in their basic terms.

For example, all the knowledge we have of the structure and functioning of the sense-organs does not fully explain how sensation takes place; nor does it help us to decide which of several competing theories of sense perception is the best account of that pro-

cess. The reader will find these matters disputed in the quotations below. He will also find the consideration of such questions as the difference between sense-knowledge and intellectual knowledge, the relation of percepts to concepts, and the distinction between primary and secondary qualities; or between such things as size and motion which are perceptible by two or more senses and such things as color which is perceptible by the eye alone, or sound which is perceptible only by the ear.

Another problem that is discussed in a number of quotations is the problem of the trustworthiness and fallibility of the senses and of sense perception. Sensory deceptions, illusions, and hallucinations are often cited by the skeptic to support his case. On the other hand, it is said that the senses themselves make no mistakes; the errors attributed to the senses are errors of judgment, not of sense perception. For the discussion of related matters, the reader is referred to several sections in Chapter 6 on KNOWLEDGE, SECTION 6.2 ON EXPERIENCE, SECTION 6.4 ON ERROR, IGNORANCE, AND THE LIMITS OF HUMAN KNOWLEDGE, and SECTION 6.6 ON DOUBT AND SKEPTICISM.