Man a Machine

Julien Offray de la Mettrie

The French physician and philosopher la Mettrie (1709-1751) developed a totally mechanistic and materialistic theory of the human mind and of the brain's functioning. The book from which this selection is taken, Man a Machine *(1747), shocked even some of the most irreligious of his fellow* philosophes.

A wise man should do more than study nature and truth; he should dare state the truth for the benefit of the few who are willing and able to think. As for the rest, who are the willing slaves of prejudice, they can no more attain truth than frogs can fly.

I reduce to two the systems of philosophers on the subject of man's soul. The first and older system is materialism; the second is spiritualism.

The metaphysicians who hinted that matter may well be endowed with the faculty of thought did not perhaps reason too badly. Why? Because they had the very real advantage in this case of not expressing their true meaning. For to ask whether matter can think, without considering it otherwise than in itself, is like asking whether matter can tell time. It may be foreseen that we shall avoid this reef on which Locke had the bad luck to founder.

The Leibnitzians with their monads set up an unintelligible hypothesis. They rather spiritualized matter than materialized the soul. How can we define a being whose nature is absolutely unknown to us?

Descartes and all the Cartesians, among whom the followers of Malebranche have long been numbered, made the same mistake. They recognized two distinct substances in man, as if they had seen them, and actually counted them....

Experience and observation should here be our only guides. They are to be found throughout the records of physicians who were philosophers, and not in the works of philosophers who were not physicians. The former have traveled through and illuminated the labyrinth of man; they alone have exposed for us those vital elements hidden beneath the skin, which hides from us so many wonderful things. They alone, tranquilly contemplating our soul, have surprised it, a thousand times, both in its wretchedness and its glory, and have no more despised it in the first state, than admired it in the second. Once again we see that only physicians have the right to speak on this subject. What could the others, especially the theologians, have to tell us? Is it not ridiculous to hear them shamelessly dogmatize on a subject which lies completely out of their

province and from which on the contrary they have been completely turned aside by obscure studies that have led them to a thousand prejudiced opinions, in a word, to fanaticism, which only increases their ignorance of the mechanism of the body?

But even though we have chosen the best guides, we shall still find many thorns and obstructions in our path.

Man is such a complicated machine that it is impossible to form a clear idea of it beforehand, and hence impossible to define it. For this reason, all the investigations which the greatest philosophers have conducted a *priori,* that is to say, by attempting in a way to use the wings of the spirit, have been fruitless. Thus it is only a *posteriori* or by seeking to discover the soul through the organs of the body, so to speak, that we can reach the highest probability concerning man's own nature, even though one can not discover with certainty what that nature is.

Let us lean then on the staff of experience and pay no attention to the history of all idle philosophical theories. To be blind and to think that we can do without this staff is the worst kind of blindness. How truly a modern writer has said that through vanity alone do we fail to draw from secondary causes the same conclusions as from primary causes! We even should admire all these fine geniuses in their most useless works, Descartes, Malebranche, Leibnitz, Wolff, and the rest, but what profit, I ask, has anyone gained from their profound meditations, and from all their works? Let us start afresh then and discover not what has been thought, but what must be thought for the sake of repose in life.

There are as many different minds, characters, and customs, as there are different temperaments. Even Galen knew this truth, which Descartes carried so far as to claim that medicine alone could change minds and morals, along with bodies. It is true that melancholy, bile, phlegm, blood, etc., and the nature, abundance and diverse combinations of these humors, make one man different from another.

In disease the soul is sometimes hidden, showing no sign of life; sometimes it is so inflamed by fury that it seems to be doubled; sometimes imbecility vanishes and convalescence turns a fool into a wit. Sometimes the greatest genius becomes imbecile and no longer recognizable. Farewell then to all that fine knowledge, acquired at so high a price, and with so much trouble! Here is a paralytic, who asks if his leg is in bed with him; there is a soldier, who thinks he still has the arm which has been cut off. The memory of his old sensations, and of the place to which they were referred by his soul, is the cause of his illusion and kind of delirium. The mere mention of the member which he has lost is enough to make him remember and feel all its motions; and this produces an indefinable and inexpressible kind of imaginary suffering.

This man cries like a child at death's approach, while this other jests. What was needed to change the bravery of Caius Julius, Seneca or Petronius into faintheartedness or cowardice? An obstruction in the spleen, in the liver, an impediment in the portal vein. Why? Because the imagination is obstructed

along with the viscera, and this gives rise to all those strange phenomena of hysteria and hypochondria.

What could I add to what has been told of those who imagine themselves transformed into wolf-men, cocks or vampires, or those who think that the dead suck their blood? Why should I stop to speak of those who imagine that their noses or some other members are made of glass and who must be advised to sleep on straw to keep from breaking them, so that they may recover the use of their flesh-and-blood organs by setting the straw afire and scaring them—a fright that has sometimes cured paralysis? I must not tarry over facts that are common knowledge.

Nor shall I dwell at length on the effects of sleep. Take this tired soldier. He snores in a trench, to the sound of a hundred cannon. His soul hears nothing; his sleep is perfect apoplexy. A bomb is about to wipe him out. He will feel the shock less perhaps than an insect under his foot.

On the other hand, this man who is devoured by jealousy, hatred, avarice, or ambition, can never find any rest. The most peaceful spot, the coolest and most calming drinks, all have no effect on a man whose heart is a prey to the torment of passion.

The soul and the body fall asleep together. As the pulse gradually slows down, a sweet feeling of peace and quiet spreads throughout the whole machine. The soul feels itself gently sinking along with the eyelids and relaxing along with the fibers of the brain; thus little by little it becomes as if paralyzed along with all the muscles of the body. These can no longer sustain the weight of the head, and the soul can no longer bear the burden of thought; in sleep it is as if it did not exist.

Is the pulse too quick? the soul cannot sleep. Is the soul too agitated? the pulse cannot be quieted: the blood gallops through the veins with an audible murmur. Such are the two interacting causes of insomnia. A simple fright in our dreams makes the heart beat twice as fast and snatches us from needed or delightful repose, as a sharp pain or dire necessity would do. Lastly, just as the cessation of the functions of the soul induces sleep, the mind, even when we are awake (or in this case half awake), takes very frequent short naps, or day dreams, which show that the soul does not always wait for the body to sleep. For if the soul is not fast asleep, it surely is almost so, since it cannot point out a single object to which it has paid attention, among the countless confused ideas which, like so many clouds, so to speak, fill the atmosphere of our brains....

The human body is a machine which winds itself up, the living image of perpetual motion. Food nourishes the movements which fever excites. Without food, the soul pines away, goes mad, and dies exhausted. It is a candle whose light flares up the moment before it goes out. But nourish the body, pour into its veins invigorating juices and strong liquors; then the soul, taking on their strength, arms itself with a proud courage, and the soldier whom water would have made

flee, now made bold, runs joyously to death to the sound of drums. Thus a warming drink excites the blood which a cold drink would have calmed.

What power there is in a meal! Joy is born again in a sad heart; it infects the souls of table-companions, who burst into the friendly songs in which the French excel. The melancholy man alone is dejected, and the studious man is likewise out of place....

In general, the form and structure of the brains of quadrupeds are almost the same as in man; the same shape, the same arrangement everywhere, but with this essential difference, that of all the animals man has the largest brain, and, in proportion to its mass, the brain with the most convolutions. Then comes the monkey, the beaver, the elephant, the dog, the fox, the cat, etc., animals which are the most like man; for among them, too, the same progressive analogy can be seen in relation to the corpus callosum, in which Lancisi established the seat of the soul—anticipating the late M. de la Peyronie, who illustrated the theory with a great many experiments.

After all the quadrupeds, birds have the most brains. Fish have large heads, but these are void of sense, like the heads of many men. Fish have no corpus *callosum,* and very little brain, while insects entirely lack brain....

The imbecile may not lack brain, as commonly observed, but its consistency will be faulty, for instance, in being too soft. The same thing is true of the insane; the defects of their brains do not always escape our investigation; but if the causes of imbecility, insanity, etc., are not perceptible, how can we hope to discover the causes of the diversity of minds in general? They would escape the eyes of a lynx and an Argus. A mere nothing, a tiny fiber, something that the most delicate dissection cannot discover, would have made two idiots of Erasmus and Fontenelle, and Fontenelle himself makes this observation in one of his best dialogues....

From animals to man, the transition is not violent, as good philosophers will admit. What was man before the invention of words and the knowledge of tongues? An animal of his species, who, with much less native instinct than the others, whose king he then considered himself to be, could not be distinguished from the ape and from the rest, except as the ape itself differs from the other animals; which means, by a face giving promise of more intelligence. Reduced to the bare "intuitive knowledge" of the Leibnitzians he saw only shapes and colors, without being able to distinguish between them; the same, old as young, child at all ages, he stammers out his feelings and needs, like a dog who asks for food when he is hungry or, tired of sleeping, wants to be let out.

Words, languages, laws, sciences, and the fine arts, have come, and by them our rough diamond of a mind has been polished. Man has been trained in the same way as animals; he has become an author, as they become beasts of burden. A geometrician has learned to perform the most difficult demonstrations and calculations, as a monkey has learned to take off or put on his little hat to mount his tame dog. All this has been done through signs, every species has

learned what it could understand, and in this way men have acquired "symbolic knowledge," still so called by our German philosophers....

All this knowledge, which blows up the balloon-like brains of our proud pedants, is therefore but a huge mass of words and figures, which form in the brain all the marks by which we distinguish and recall objects. All our ideas are awakened in the same way that a gardener who knows plants recalls, at the sight of them, all the stages of their growth. These words and the objects designated by them are so connected in the brain that it is comparatively rare to imagine a thing without the name or sign that is attached to it.

I always use the word "imagine," because I think that everything is imagined and that all the faculties of the soul can be correctly reduced to pure imagination, which gives form to them all. Thus judgment, reason and memory, are in no wise absolute parts of the soul, but real modifications of the kind of medullary screen upon which images of the objects painted in the eye are reflected as by a magic lantern.

But if such is the marvelous and incomprehensible result of the structure of the brain, if everything is perceived and explained by imagination, why should we divide the sensitive principle which thinks in man? Is not this clearly an inconsistency on the part of those who uphold the simplicity of the mind? For a thing that can be divided can no longer without absurdity be regarded as indivisible. This is where we come to through the abuse of language and those fine words "spirituality," "immateriality," etc., used haphazardly and not understood even by the most intelligent....

We were not originally made to be learned; we have become so perhaps by a sort of abuse of our organic faculties, and at the expense of the State, which nourishes a host of loafers whom vanity has adorned with the name of "philosophers." Nature created us all solely to be happy—yes, all, from the crawling worm to the eagle that soars out of sight in the clouds. That is why she has given all animals some share of natural law, a share of greater or less delicacy according to the needs of each animal's organs when in good condition.

Now how shall we define natural law? It is a feeling which teaches us what we should not do, because we would not wish it to be done to us. Would I dare add to this common idea, that this feeling seems to me but a kind of fear or dread, as salutary to the race as to the individual? For perhaps we respect the purses and lives of others only to save our own possessions, our honor, and our own lives; like those "Ixions of Christianity" who love God and embrace *so* many fantastic virtues, merely because of their fear of hell.

You see that natural law is nothing but an intimate feeling which belongs also to the imagination like all other feelings, thought included. Consequently it evidently does not presuppose education, revelation or legislator, unless we confuse it with civil laws, in the ridiculous fashion of the theologians.

The arms of fanaticism may destroy those who maintain these truths, but they

will never destroy the truths themselves.

Not that I call in question the existence of a supreme being; on the contrary it seems to me that the greatest degree of probability is in favor of this belief But since the existence of this being does not prove that one form of worship is more necessary than any other, it is a theoretic truth with very little practical value. Therefore, since we may say, after such long experience, that religion does not imply exact honesty, we are authorized by the same reasons to think that atheism does not exclude it.

Furthermore, who knows whether the reason for man's existence is not simply the fact that he exists? Perhaps he was thrown by chance on some spot of the earth's surface, nobody knows how or why, but simply that he must live and die, like mushrooms that appear from one day to the next, or like the flowers which border ditches and cover walls....

Let us conclude boldly then that man is a machine, and that in the whole universe there is but a single substance with various modifications. This is no hypothesis set up by dint of proposals and assumptions. It is not the work of prejudice, nor even of my reason alone; I would have disdained a guide which I believe so untrustworthy, had not my senses held the torch, so to speak, and induced me to follow reason by lighting the way. Experience has thus spoken to me in behalf of reason; and in this way I have combined the two.

But it must have been noticed that I have not allowed myself even the most forceful and immediately deduced reasoning, except as it followed a multitude of observations which no scholar will contest; and furthermore, I recognize only scientists as judges of the conclusions which I draw, and I hereby challenge every prejudiced man who is not an anatomist, or acquainted with the only philosophy which is to the purpose, that of the human body. Against such a strong and solid oak, what could the weak reeds of theology, metaphysics and scholasticism, avail; childish weapons, like our foils, which may well afford the pleasure of fencing, but can never wound an adversary. Need I say that I refer to the hollow and trivial notions, to the trite and pitiable arguments that will be urged, as long as the shadow of prejudice or superstition remains on earth, for the supposed incompatibility of two substances which meet and interact unceasingly? Such is my system, or rather the truth, unless I am very much mistaken. It is short and simple. Dispute it now who will.