Man a Machine

By Julien Offray de La Mettrie

Julien Offray de La Mettrie (1709 – 1751)
For biographical information on de la Mettrie, click here.

Introduction to the Reading

While we might think that our own fascination with automatons, Terminators, and artificially intelligent computers is a recent, high-tech phenomenon, in fact this fascination goes back many centuries. We have already seen that Descartes was motivated by his philosophical meditations to consider what distinguishes human beings from machines, as well as animals. For Descartes, animals were mere automatons, biological machines which work like a clockwork mechanism. The human body itself as a machine, but housed in that machine was a mind or soul or self, something that serves to distinguish us human beings from animals and machines. Descartes is a dualist who argues that there are two kinds of substances in the cosmos, physical substances like bodies and mental substances like bodies. The human being is the unity of these two kinds of substances.
On all these matters, de La Mettrie presents a challenge to Cartesian philosophy. Writing in 1748 de La Mettrie was already arguing that man is merely a complicated machine. Thus the title of his book L’homme machine, Machine Man. De La Mettrie rejects Descartes’ emphasis on reason, his dualism, and his analysis of the human being. One of his more fascinating insights has to do with the effect of food and drink on the brain, and therefore indirectly on the mind. In this regard, de la Mettrie may have been ahead of his time. SEED Magazine reports in their September, 2010 edition that the foods you eat affect your neurons and ultimately your thoughts and feelings. To read Gary Wenk’s essay “This is Your Brain on Food,” click here.

**Selection from *Man a Machine* (1748), by Julien Offray de La Mettrie.**

Man is so complicated a machine that it is impossible to get a clear idea of the machine beforehand, and hence impossible to define it. For this reason, all the investigations have been vain, which [the greatest philosophers have made à priori], that is to say, in so far as they use, as it were, the wings of the spirit. Thus it is only à posteriori or by trying to disentangle the soul from the organs of the body, so to speak, that one can reach the highest probability concerning man’s own nature, even though one can not discover with certainty what his nature is.

Let us then take in our hands the staff of experience, paying no heed to the accounts of all the idle theories of the philosophers. TO be blind and to think one can do without this staff is the worst kind of blindness. How truly a contemporary writer says that the only vanity fails to gather from secondary causes the same lessons as from primary causes! One can and one even ought to admire all these fine geniuses in their most useless works, such men as Descartes, Malebranche, Leibnitz, Wolff and the rest, but what profit, I ask, has any one gained from their profound meditations, and from all their works? Let us start out then to discover not what has been thought, but what must be thought for the sake of repose in life.

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 the convalescence of an idiot produces a wise man. Sometimes, again, the greatest genius becomes imbecile and looses the sense of self. Adieu then to all that fine knowledge, acquired at so high a price, and with so much trouble! Here is a paralytic who asks is his leg is in bed with him; there is a soldier who thinks that 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 this illusion, and of this kind of delirium. The mere mention of the member which he has lost is enough to recall it to his mind, and to make him feel all its motions; and this causes him an indefinable and inexpressible kind of imaginary suffering. This man cries like a child at death's approach, while this other jests. What can I add to the stories already told of those who imagine themselves transformed into wolf-men, cocks or vampires, or of those who think that the dead feed upon them? Why should I stop to speak of the man who imagines that his nose or some other member is of glass? The way to help this man to regain his faculties and his own flesh-and-blood nose is to advise him to sleep on hay, lest he beak the fragile organ, and then to set fire to the hay that he may be afraid of...
being burned - a far which has sometimes cured paralysis. But I must touch lightly on facts which everybody knows.

Neither shall I dwell long on the details of the effects of sleep. Here a tired soldier snores in a trench, in the middle of the thunder of hundreds of cannon. His soul hears nothing; his sleep is as deep as apoplexy. A bomb is on the point of crushing him. He will feel this less perhaps than he feels an insect which is 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 freshest and most calming drinks are alike useless to one who has not freed his heart from the torment of passion.

**The soul and the body fall asleep together.** As the motion of the blood is calmed, a sweet feeling of peace and quiet spreads through the whole mechanism. The soul feels itself little by little growing heavy as the eyelids droop, and loses its tenseness, as the fibres of the brain relax; thus little by little it becomes as if paralyzed and with it 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; it is in sleep as if it were not.

Is the circulation too quick? the soul cannot sleep. Is the soul too much excited? the blood cannot be quieted: it gallops through the veins with an audible murmur/ Such are the two opposite causes of insomnia. A single fright in the midst of our dreams makes the heart beat at double speed and snatches us from needed and delicious repose, as a real grief or an urgent need would do. Lastly as the mere cessation of the functions of the soul produces sleep, there are, even when we are awake (or at least when we are half awake), kinds of very frequent short naps of the mind, vergers' 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 not far from sleep, since it cannot point out a single object to which it has attended, among the uncounted number of confused ideas which, so to speak, fill the atmosphere of our brains like clouds.

**Opium** is too closely related to the sleep it produces, to be left out of consideration here. This drug intoxicates, like wine, coffee, etc., each in its own measure and according to the dose. It makes a man happy in a state which would seemingly be the tomb of feeling, as it is the image of death. How sweet is this lethargy! The soul would long never to emerge from it. For the soul has been a prey to the most intense sorrow, but now feels only the joy of suffering past, and of sweetest peace. Opium alters even the will, forcing the soul which wished to wake and to enjoy life, to sleep in spite of itself. I shall omit any reference to the effect of poisons.

Coffee, the well-known antidote for wine, by scourging the imagination, cures our headaches and scatters our cares without laying up for us, as wine does, other headaches for the morrow. But let us contemplate the soul in its other needs.

**The human body is a machine which winds its own springs.** It is the living image of perpetual movement. Nourishment keeps up the movement which fever excites. Without food, the soul pines away, goes mad, and dies exhausted. The soul is a taper whose light flares up the moment before it goes out. But nourish the body, pour into its veins life-giving juices and strong liquors,
and then the soul grows strong like them, as if arming itself with a proud courage, and the soldier whom water would have made to flee, grows bold and runs joyously to death to the sound of drums. Thus a hot drink sets into stormy movement the blood which a cold drink would have calmed.

What power there is in a meal! Joy revives in a sad heart, and infects the souls of comrades, who express their delight in the friendly songs in which the Frenchman excels. The melancholy man alone is dejected, and the studious man is equally out of place [in such company].

Raw meat makes animals fierce, and it would have the same effect on man. This is so true that the English who eat meat red and bloody, and not as well done as ours, seem to share more or less in the savagery due to this kind of food, and to other causes which can be rendered ineffective by education only. This savagery creates in the soul, pride, hatred, scorn of other nations, indocility and other sentiments which degrade the character, just as heavy food makes a dull and heavy mind whose usual traits are laziness and indolence.

... In Switzerland we had a bailiff by the name of M. Steigner de Wittghofen. When he fasted he was a most upright and even a most indulgent judge, but woe to the unfortunate man whom he found on the culprit's bench after he had had a large dinner! He was capable of sending the innocent like the guilty to the gallows.

We think we are, and in fact we are, good men, only as we are gay or brave; everything depends on the way our machine is running. One is sometimes inclined to say that the soul is situated in the stomach, and that Van Helmont, who said that the seat of the soul was in the pylorus, made only the mistake of taking the part for the whole.

To what excesses cruel hunger can bring us! We no longer regard even our own parents and children. We tear them to pieces eagerly and make horrible banquets of them; and in the fury with which we are carried away, the weakest is always the prey of the strongest.

... Let us pause to contemplate the varying capacities of animals to learn. Doubtless the analogy best framed leads the mind to think that the causes we have mentioned produce all the difference that is found between animals and men, although we must confess that our weak understanding, limited to the coarsest observations, cannot see the bonds that exist between cause and effect. This is a kind of harmony that philosophers will never know.

Among animals, some learn to speak and sing; they remember tunes, and strike the notes as exactly as a musician. Others, for instance the ape, show more intelligence, and yet cannot learn music. What is the reason for this, except some defect in the organs of speech? But is this defect so essential to the structure that it could never be remedied? In a word, would it be absolutely impossible to teach the ape a language? I do not think so.

I should choose a large ape in preference to any other, until by some good fortune another kind should be discovered, more like us, for nothing prevents there being such a one in regions unknown to us. The ape resembles us so strongly that naturalists have called it "wild man" or "man of the woods." I should take it in the condition of the pupils of Amman, that is to say, I...
should not want it to be too young or too old; for apes that are brought to Europe are usually too old. I would choose the one with the most intelligent face, and the one which, in a thousand little ways, best lived up to its look of intelligence. Finally not considering myself worthy to be his master, I should put him in the school of that excellent teacher whom I have just named, or with another teacher equally skillful, if there is one.

... The transition from animals to man is not violent, as true philosophers will admit. What was man before the invention of words and the knowledge of language? An animal of his own species with much less instinct than the others. In those days, he did not consider himself king over the other animals, nor was he distinguished from the ape, and from the rest, except as the ape itself differs from the other animals, i.e., by a more intelligent face. Reduced to the bare intuitive knowledge of the Leibnizians he saw only shapes and colors, without being able to distinguish between them: the same, old as young, child at all ages, he lisped out his sensations and his needs, as a god that is hungry or tired of sleeping, asks for something to eat, or for a walk. Words, languages, laws, sciences, and the fine arts have come, and by them finally the rough diamond of our mind has been polished. Man has been trained in the same way as animals. He has become an author, as they have become beasts of burden. A geometrician has learned to perform the most difficult demonstrations and calculations, as a monkey has learned to take his little hat off and on, and to mount his tame dog. All has been accomplished 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.

... In spite of all these advantages of man over animals, it is doing him honor to place him in the same class. For, truly, up to a certain age, he is more of an animal than they, since at birth he has less instinct. What animal would die of hunger in the midst of a river of milk? Man alone. Like that child of olden time whom a modern writer refers, following Arno-bius, he knows neither the foods suitable for him, nor the water that can drown him, nor the fire that can reduce him to ashes. Light a wax candle for the first time under a child's eyes, and he will mechanically put his fingers in the flame as if to find out what is the new thing that he sees. It is at his own cost that he will learn of the danger, but he will not be caught again. Or, put the child with an animal on a precipice, the child alone falls off; he drowns where the animal would save itself by swimming. At fourteen or fifteen years the child knows hardly anything of the great pleasures in store for him, in the reproduction of his species; when he is a youth, he does not know exactly how to behave in a game which nature teaches animals so quickly. He hides himself as if he were ashamed of taking pleasure, and of having been made to be happy, while animals frankly glory in being Cynics. Without education, they are without prejudices. For one more example, let us observe a dog and a child who have lost their master on a highway: the child cries and does not know to what saint to pray, while the dog, better helped by his sense of smell than the child by his reason, soon finds his master.

Thus nature made us to be lower than animals or at least to exhibit all the more, because of that native inferiority, the wonderful efficacy of education which alone raises us from the level of the animals and lifts us above them. But shall we grant this same distinction to the deaf and to the blind, to imbeciles, madmen, or savages, or to those who have been brought up in the woods with animals; to those who have lost their imagination through melancholia, or in short to all
those animals in human form who give evidence of only the rudest instinct? No, all these, men of body but not of mind, do not deserve to be classed by themselves.

We do not intend to hide from ourselves the arguments that can be brought forward against our belief and in favor of a primitive distinction between men and animals. Some say that there is in man a natural law, a knowledge of good and evil, which has never been imprinted on the heart of animals.

But is this objection, or rather this assertion, based on observation? Have we ever had a single experience which convinces us that man alone has been enlightened by a ray denied all other animals? If there is no such experience, we can no more know what goes on in animals' minds or even in the minds of other men, than we can help feeling what affects the inner part of our own being. We know that we think, and we feel remorse - an intimate feeling forces us to recognize this only too well; but this feeling in us is insufficient to enable us to judge the remorse of others. That is why we have to take others at their words, or judge them by the sensible and external signs we have noticed in ourselves when we experienced the same accusations of conscience and the same torments.

In order to decide whether animals which do not talk have received the natural law, we must, therefore, have recourse to those signs to which I have just referred, if any such exist. The facts seem to prove it. A dog that bit the master who was teasing it, seemed to repent a minute afterwards; it looked sad, ashamed, afraid to show itself, and seemed to confess its guilt by a crouching and downcast air. History offers us a famous example of a lion which would not devour a man abandoned to its fury, because it recognized him as its benefactor. How much might it be wished that man himself always showed the same gratitude for kindnesses, and the same respect for humanity! Then we should no longer fear either ungrateful wretches, or wars which are the plague of the human race and the real executioners of the natural law.

But a being to which nature has given such a precocious and enlightened instinct, which judges, combines, reasons, and deliberates as far as the sphere of its activity extends and permits, a being which feels attachment because of benefits received, and which leaving a master who treats it badly goes to seek a better one, a being with a structure like ours, which performs the same acts, has the same passions, the same griefs, the same pleasures, more or less intense according to the sway of the imagination and the delicacy of the nervous organization - does not such a being show clearly that it knows its faults and ours, understands good and evil, and in a word, has consciousness of what it does? Would its soul, which feels the same joys, the same mortification and the same discomfiture which we feel, remain utterly unmoved by disgust when it saw a fellow-creature torn to bits, or when it had itself pitilessly dismembered this fellow-creature? If this be granted, it follows that the precious gift now in question would not have been denied to animals: for since they show us sure signs of repentance, as well as of intelligence, what is there absurd in thinking that beings, almost as perfect machines as ourselves, are, like us, made to understand and to feel nature?

Let no one object that animals, for the most part, are savage beasts, incapable of realizing the evil that they do; for do all men discriminate better between vice and virtue? There is ferocity in our species as well as in theirs. Men who are in the barbarous habit of breaking the natural law are not tormented as much by it, as those who transgress for the first time, and who have not been
hardened by the force of habit. The same thing is true of animals as of men - both may be more
or less ferocious in temperament, and both become more so by living with others like
themselves. But a gentle and peaceful animal which lives among other animals of the same
disposition and of gentle nurture, will be an enemy of blood and carnage; it will blush internally
at having shed blood. There is perhaps this difference, that since among animals everything is
sacrificed to their needs, to their pleasures, to the necessities of life, which they enjoy more than
we, their remorse apparently should not be as keen as ours, because we are not in the same state
of necessity as they. Custom perhaps dulls and perhaps stifles remorse as well as pleasures.

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But since all the faculties of the soul depend to such a degree on the proper organization of the
brain and of the whole body, that apparently they are but this organization itself, the soul is
clearly an enlightened machine. For finally, even if man alone had received a share of natural
law, would he be any less a machine for that? A few more wheels, a few more springs than in the
most perfect animals, the brain proportionally nearer the heart and for this very reason receiving
more blood - any one of a number of unknown causes might always produce this delicate
conscience so easily wounded, this remorse which is no more foreign to matter than to thought,
and in a word all the differences that are supposed to exist here. Could the organism then suffice
for everything? Once more, yes; since thought visibly develops with our organs, why should not
the matter of which they are composed be susceptible of remorse also, when once it has acquired,
with time, the faculty of feeling?

The soul is therefore but an empty word, of which no one has any idea, and which an enlightened
man should only use to signify the part in us that thinks. Given the least principle of motion,
animated bodies will have all that is necessary for moving, feeling, thinking, repenting, or in a
word for conducting themselves in the physical realm, and in the moral realm which depends
upon it.

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The human body is a watch, a large watch constructed with such skill and ingenuity, that if the
wheel which marks the second happens to stop, the minute wheel turns and keeps on going its
round, and in the same way the quarter-hour wheel, and all the others go on running when the
first wheels have stopped because rusty or, for any reason, out of order. Is it not for a similar
reason that the stoppage of a few blood vessels is not enough to destroy or suspend the strength
of the movement which is in the heart as in the mainspring of the machine; since, on the
contrary, the fluids whose volume is diminished, having a shorter road to travel, cover the
ground more quickly, borne on as by a fresh current which the energy of the heart increases in
proportion to the resistance it encountering at the ends of the blood-vessels? And is not this the
reason why the loss of sight (caused by the compression of the optic nerve and its ceasing to
convey the images of objects) no more hinders hearing, than the loss of hearing (caused by the
obstruction of the functions of the auditory nerve) implies the loss of sight? In the same way,
finally, does not one man hear (except immediately after his attack) without being able to say
what he hears, while another who hears nothing, but whose lingual nerves are uninjured in the
brain, mechanically tells of all the dreams which pass through his mind? These phenomena do
not surprise enlightened physicians at all. They know what to think about man's nature (and more
accurately to express myself in passing) of two physicians, the better one and the one who
deserves more confidence is always, in my opinion, the one who is more versed in the physique
or mechanism of the human body, and who, leaving aside the soul and all the anxieties which this chimera gives to fools and to ignorant men, is seriously occupied only in pure naturalism. Therefore let the pretended M. Charp deride philosophers who have regarded animals as machines. How different is my view! I believe that Descartes would be a man in every way worthy of respect, if, born in a century that he had not been obliged to enlighten, he had known the value of experiment and observation, and the danger of cutting loose from them. But it is none the less just for me to make an authentic reparation to this great man for all the insignificant philosophers --- poor jesters, and poor imitators of Locke --- who instead of laughing impudently at Descartes, might better realize that without him the field of philosophy, like the field of science without Newton, might perhaps be still uncultivated.

This celebrated philosopher, it is true, was much deceived, and no one denies that. But at any rate he understood animal nature, he was the first to prove completely that animals are pure machines. And after a discovery of this importance demanding so much sagacity, how can we without ingratitude fail to pardon all his errors!

In my eyes, they are all atoned for by that great confession. For after all, although he extols the distinctness of the two substances, this is plainly but a trick of skill, a ruse of style, to make theologians swallow a poison, hidden in the shade of an analogy which strikes everybody else and which they alone fail to notice. For it is this, this strong analogy, which forces all scholars and wise judges to confess that these proud and vain beings, more distinguished by their pride than by the name of men however much they may wish to exalt themselves, are at bottom only animals and machines which, though upright, go on all fours. They all have this marvelous instinct, which is developed by education into mind, and which always has its seat in the brain (or for want of that when it is lacking or hardened, in the medulla oblongata) and never in the cerebellum; for I have often seen the cerebellum injured, and other observers have found it hardened, when the soul has not ceased to fulfil its functions.

To be a machine, to feel, to think, to know how to distinguish good from bad, as well as blue from yellow, in a word, to be born with an intelligence and a sure moral instinct, and to be but an animal, are therefore characters which are no more contradictory, than to be an ape or a parrot and to be able to give oneself pleasure…. I believe that thought is so little incompatible with organized matter, that it seems to be one of its properties on a par with electricity, the faculty of motion, impenetrability, extension, etc.

Let us then conclude boldly that man is a machine, and that in the whole universe there is but a single substance differently modified. This is no hypothesis set forth by dint of a number of postulates and assumptions; it is not the work of prejudice, nor even of my reason alone; I should have disdained a guide which I think to be so untrustworthy, had not my senses, bearing a torch, so to speak, induced me to follow reason by lighting the way themselves. Experience has thus spoken to me in behalf of reason; and in this way I have combined the two.