

## **Julien de La Mettrie (1709–1751): The Human Machine**

From a personal standpoint I should admit that I unfairly rejected de La Mettrie without having read him. I was prejudiced by the title of his work and the implied mechanistic materialism. I was frankly shocked therefore when I finally read him. If anything, what he offered was an early version of emergent materialism and evolutionary thinking, well before evolutionary thinking was taking hold; he also anticipated cultural evolution. His work was far from simplistic reductionism and mechanism and, even though now considerably dated, is worth giving a read for its historical significance. The full text is available online at [www.marxists.org/reference/archive/la-mettrie/1748/man-machine.htm](http://www.marxists.org/reference/archive/la-mettrie/1748/man-machine.htm) and is not a long read but fascinating in its glimpse into the future.

The scientific findings in physiological research had refined Descartes' notion of the reflex and had shown it to be a useful concept in the study of physiological processes (Herrnstein and Boring, 1965). It would culminate in the completion of the mechanistic account of human action by Julien de La Mettrie (1709–1751). In his article *L'Homme machine* (1748), the uniqueness of humans would be considered to be due to a matter of complexity of biological processes rather than an infusion of some incorporeal soul. "Let us then conclude boldly," he suggested, "that man is a machine, and that in the whole universe there is but a single substance differently modified" (La Mettrie, 1748/2004, p. 28). La Mettrie was spurred to this as a medical officer when he found himself ruminating on the effects of fever upon a person's thoughts. He concluded that thought must be a bodily process (Riskin, 2000). The faculties of the soul, he proposed, depended upon the organization of the brain and the notion of the soul was but an empty term (Herrnstein and Boring, 1965).

the soul is but a principle of motion or a material and sensible part of the brain, which can be regarded, without fear of error, as the mainspring of the whole machine, having a visible influence on all parts. The soul seems even to have been made for the brain, so that all other parts of the system are but a kind of emanation from the brain. (La Mettrie, 1748/2004, p. 22)

The results of a number of experiments made it clear to him that no immaterial soul was inducing movement in a body.

The flesh of lizards and serpents, and other animals, had been found to palpitate after death (little machines within the larger machine). Muscles that had been removed from a body would contract upon stimulation. Injections of hot water had been found to animate (reanimate) the muscles and heart. An extricated frog's heart had been found to beat for an hour after liberation from the body. A decapitated chicken would run about and, most impressive, a man, for treasonous acts, was cut open and had his heart removed, while alive, and his heart was found to leap up several times with decreasing height with each successive venture. These were all automatic, mechanical motions, pure and simple. Organized matter contained within it a principle of motion and all depended on how the physical body was organized.

To La Mettrie, matter has the capacity for motion and feeling and thinking which, like other bodily processes, are mechanical acts (Riskin, 2000); thought was simply a property of matter (Herrnstein and Boring, 1965). The soul, he argued, could be identified completely with bodily functions (Wellman, 1998). Sometimes in diseases of the body, e.g., coma, the soul is hidden, apparently without life (de La Mettrie, 1748/2004). The soul sleeps when the body

does. Nourish the body and the soul is strengthened but deprive the body of food and madness ensues in the soul, and, eventually, death. The human body is simply a self-winding machine. What are called ideas have their origins in sensations (Riskin, 2000) and, due to the physical nature of thought, thought was considered to be within the province of physicians, not theologians. It is the brain, the size of the brain, and the complexity of the brain, and education (i.e., experience) that underlies intelligence. Humans and animals differ from each other only in degree. The brain of quadrupeds has similar form and structure to the human brain but the human brain is the largest and most convoluted. Apes, he observed, demonstrate intelligence but it is unlikely that they could learn language. That said, just as Amman had trained the deaf, why not train the ape in sign language. Given the similarity between ape and human in external and internal organs, there is no reason to think that apes could not learn to communicate—something that would be explored 150 years later. The long-held special status of humans, in comparison to the beasts, was being challenged.

Anticipating Darwin's natural selection and the later emphasis on cultural factors in psychological growth, de La Mettrie (1748/2004) proposed that nature and humans helped each other in achieving the current level of human functioning. There was a time when the human soul was in infancy and the universe was nearly dumb. From the smallest of beginnings, he surmised, incremental increases occurred. Of paramount importance in the developmental process were the discovery of signs and the invention of language. Lost in time was what he called a splendid genius who invented language. What its roots may have been were lost but it was clearly of great significance. It was through signs that humans accomplished something great. Words and languages, the arts and sciences polished the rough diamond that is the human mind. Signs were imprinted on the brain and the soul examined their relations. In the end, however, for this materialist, the soul was just an empty expression that signified that part of the body that thinks. As de la Mettrie expressed it, "since all the faculties of the soul depend to such a degree on the proper organization of the brain and the whole body, that apparently they are but this organization itself, the soul is clearly an enlightened machine" (p. 19). The human is merely a machine and the universe is composed of a single substance that is modified in different ways. What he didn't say, but which is implicit in his writing, is the recognition of qualitative changes and the emergence of new phenomena, including cultural phenomena like language and sign systems.

Something further that he introduced was the importance of societal life to human intelligence and the development of understanding and consciousness. According to de la Mettrie, like the body, the mind can catch contagious diseases. We pick up, from those with whom we are in contact, gestures, accents, etc. (prejudices, beliefs, values, traditions). Furthermore, the mind can grow rusty, in unintelligent society, from a lack of exercise. I know for myself, when I returned from summer vacation and began to prepare for the coming term I had to reinvigorate my mind as it had grown somewhat sluggish after lack of exercise. The significance of education was not lost on him either. The rough diamond that is the mind, he wrote, is polished by words, languages, sciences, and arts and it is all accomplished through signs (a very Vygotskian-sounding proposition). Through signs, humans acquired symbolic knowledge.

## References

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