

# Man: Natural or Self-Fabricated?

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What is humanity? I do not claim to answer this question; more simply, I will seek to bring to light the now-problematic character of the very concept of humanity. I will start from a basic established fact: today we cannot conceive the notion of humanity without starting from a dual tension, between a distant past and a future which is either more or less near or very remote. In whatever direction one turns, the concept of humanity is confused. It is still more confused if we seek to embrace past and future together.

## **The process of hominization**

From the distant past, we can at least keep the broad outlines of what we call hominization, from our distant cousins, *Homo habilis*, to ourselves, *sapiens sapiens*. We must grant special importance to the long history specific to *sapiens*. Béatrice Pelligrini has demonstrated the difficulty we have in dating the appearance of *sapiens*. It is still more important to record the extraordinary leaps forward which have punctuated *sapiens'* history, and consequently our own.

The technical explosion of the Aurignacian period, some 50,000 years ago, was one of these leaps. Stone implements, appreciably greater in number and with what were now clearly identifiable functions, made their appearance. Other materials, such as ivory, horn, bone, or wood, also made it possible for technical skills to thrive. Ultimately, a whole world of implements and diverse objects saw the light of day, while varying considerably from one place to another: bows, spears, harpoons, hooks, cabins made of wood and skins, clothes contrived from skins and furs, sewing needles, and so on. Everything happened as if it were a matter of so many distinct technical cultures. It is possible that this cultural and technical explosion paralleled the diversification of language, itself relative to the geographical diffusion of modern man. This is the theory defended by Merritt Ruhlen.

The Neolithic revolution was another great leap forward in the history of modern man. The ecological perspective contributes towards shedding new light on its importance. Thanks to the 'invention' of agriculture and animal husbandry, man's relations with the environment were to experience a radical transformation. Humanity was to become the only species capable of changing its ecological niche virtually on demand, and without morphological change; it also became the only species capable of exploiting almost all other niches. This is certainly the case if what we mean by 'ecological niche' is the role a species plays within an ecosystem; depending on the type of plants we cultivate, the animals we rear, or the type of pressure exerted on the environment depending on

such-and-such an industrial activity, the role we play actually changes profoundly. From now on, moreover, we can exploit to our advantage a large part of the solar energy received by the biosphere.

We can draw a primary conclusion from these facts. From the perspective of the long sweep of the history of hominization, the concept of humanity, in the sense of the human genus, seems very loose and is applied to human realities that are contrasting, to say the least. The concept of humanity in the sense of human nature, related to the same history, on the other hand, becomes too narrow and limited. The search for perennial characteristics throughout this development proves vain or insignificant: either they were undiscoverable or they were trivial. Restoring the human race from the depths of its history thus blurs the very notion of humanity; the evidence for it which the Enlightenment apparently possessed seems to have disappeared.

Things are hardly any clearer if we turn to the near-future, and further beyond. Consider some statistics. Some speak of the death of death, in other words, of a humanity that has become almost immortal. We can then witness something other than the gradual increase in average longevity which we have experienced in recent decades, namely, a veritable explosion of the limits of existence. Imagine that you are a thousand years old, weary from your hundred-and-fortieth job, deeply affected by the adolescent crisis of your fortieth son, and so on. From such fantasies, and more exactly their literal comprehension, translated into very significant research budgets, whether directed towards nanotechnologies and nanomedicine, so dear to the cryogenicists, or towards computer engineering looking for the transfer of our cerebral information into a more dependable medium, or towards the promises in treatment of stem-cell therapy.

Others conceive a modification of human nature, in the biological sense of the term, through the creation of new genes, to which biological functions no less new would correspond. Such was, for example, the dream of the geneticist, R.L. Sinsheimer.

Others, finally, speak of a transformation of our sensory, motor, or intellectual faculties, the arrival of 'cyborgs', that is to say, beings formed from an association between the brain and one or more implanted microprocessors. Then some people start to hope, for example, for a development of the sound and light spectrums which are accessible to us, or, of the speed with which we could process or transmit information. If we take Fodor's cognitive psychology literally, we can imagine an exchange of information and calculations between the central module of the brain, talking in neural language, and an integrated computer. Then one would find oneself in reality at an intellectual level analogous to that of the fifties, when food composed essentially of pills was envisaged; or, again, the understanding of the information contained in any book or encyclopaedia could be reduced to an ultra-rapid transmission of bytes. In the end, the very concept of conversation would lose all relevance. Babel would undoubtedly be conquered, but how boring! These perspectives are excellently summarized in the slogan which will direct a whole branch of literature from now on: 'beyond humanity!'

### **'Beyond humanity!'**

We can imagine this 'beyond the human' in three different ways at least. The first is a radical transformation of our own humanity, which could take place either in a brutal and

rapid way so that we were more or less aware of it or, by contrast, in a slow and imperceptible fashion.

The second way would be a fusion of our humanity in a kind of 'cybercivization' brought about by a growing population of 'cyber-beings', as suggested by G.S. Paul and E.D. Cox.

Finally, the third possibility is the scenario dreaded by Theodore Kaczynski, alias 'Unabomber', the destruction of humanity by the said 'cyber-beings', in the way that the Neanderthals disappeared.

What should we note from this rapid survey of both the distant past and the indefinite future? The inadequacy of a single notion of humanity, and the need for a richer conceptual interplay, in order to understand this shifting reality which is the future of the human race; without it, we shall be unable to construct norms with which to judge this future. Today, however, such criteria and such norms are sadly lacking. I therefore propose to rely on the four following notions: those of genus, species, environmental context (*être-au-monde*) and human condition. The a priori limits and the risks which can attend our efforts to go beyond what is human should become apparent. In doing so, we may be able to define another original category of risk, symbolic risk.

Let us start with the concept of race. I must state once again that it no longer has the clarity it must have possessed in the eyes of the Enlightenment. On the one hand, the very concept of the human race could become lose its consistency; this is the theory defended by the anthropologist, Jared Diamond; Diamond is a very distinctive socio-biologist, different from E.O. Wilson and others, in so far as he accords no normative value to the illumination of human behaviour through their animal foundations. In *The Third Chimpanzee*, Diamond defends the notion that there is, strictly speaking, no human race. There is, on the other hand, a genus of chimpanzee, regrouping the following species: common and pygmy chimpanzees, and the third chimpanzee, namely man, to which should be added the gorilla. This classification is based in particular upon the close relation of the DNA in each of these species: the difference between the DNA of chimpanzees and our own is only 1.6 per cent. The way in which Diamond names the species in question does, however, express a degree of hesitation: *homo troglodytes* for the common chimpanzee, and *homo paniscus* for the pygmy chimpanzee.

On the other hand, if this time we no longer look to the past but to the future, the concept of the human race can seem just as loose. Let us actually imagine cybernetic beings passing the Turing test with a success beyond all expectation: in other words, conscious, sensitive beings, capable of varied exchange, notably linguistic and co-operative, capable of recognizing their errors, subject to great emotions and so on. Should they be excluded from the human race? Probably not.

We should note that the way of defining the human race to which we have just referred (relative to certain behavioural and communication abilities) makes the desire for a solution of continuity and the desire for sudden change risky. Instead, the concept of anything 'beyond' the human race becomes pointless. There is, therefore, a primary limit: the impossibility from where we are, in a manner of speaking, of leaving the human race. Nevertheless, understood in this way, the concept of the human race loses all normative power. Let us turn to that of the species.

The concept of species gives rise to different definitions. We can give it a morphological definition in the sense that Linnaeus did, namely, an ideal-type destined for a work

of classification. There are two biological definitions, the classical definition via interfertility of individuals, and the more recent, based on DNA comparison. A third definition is still possible, linked to evolution theory: a species then constitutes a line evolving differently from other lines and presenting a unified evolutionary role.

Let us keep the classical biological definition, interfertility. The race-species interplay can then conceal a normative value. This would be the case if the scenario envisaged by the American geneticist, Lee Silver, came to be realized. We know about the very widespread belief in the United States that our genes directly determine our behaviour. Whence the temptation of numerous parents to endow their children with enhanced genetic capital, in the expectation of results on both the physical and the behavioural level. It can be imagined that these parents, who would have invested, in all senses of the word, in their child's genetic capital, would have only one fear: that it would marry somebody who had not benefited from a comparable enhancement, which would then be completely lost. Lee Silver resolves the problem by suggesting that there would be intervention in the molecules bonding sperm and ova in such a way that all children who had benefited from such genetic enhancement would not be interfertile with those who had not benefited from it. The WASP, white, Protestant, from the East Coast and fairly well-off, would no longer risk having a fertile union with a Puerto Rican woman or any other disadvantaged individual. Satisfying this demand, made possible by the available technology and the market, would result in a profound alteration of our real and symbolic situation. Since the disappearance of *homo sapiens neandertalensis*, there has actually been a single human race and a single human species. With the hypothesis envisaged, after a few generations we would arrive at the following situation: one human race with two species. Our concept of humanity, inseparable from its indivisible and universal character, would be overturned by this. We would leave the circle formed by the assertion of the unity of the human race, on which both the rights of man and the principle of the equality of citizens before the law are based. The problem would no longer be that of the cost of such-and-such a right, but that of the very nature of right and of humanity. This scenario illustrates what I call a 'symbolic risk': namely, a risk whose corresponding threat cannot be apprehended in physical or economic terms but which refers to a possible profound alteration in fundamental representations underlying institutions or significant patterns.

The third concept, that of environmental context (*être-au-monde*), is more difficult to delineate. I propose to define it by going by the great changes which have affected the relationship of the human race with the environment. We have already mentioned the Aurignacian period and the Neolithic revolution; one might add the mastery of fire and, later, the industrial revolutions. Each time it was in the first place our relationships with the environment and with other living creatures which were profoundly modified. It would be impossible to separate these changes from those which simultaneously affected the relationships among humankind. The simple – if we can so call it – mastery of fire made it possible to open up the first gap between man and the other animals, making it possible for the former to make entire ecosystems disappear, and *a fortiori* some species; the consequences following the appearance of doubly articulated language has given rise to all kinds of speculations. If we imagine that the increased possibilities of molecular engineering (nanotechnologies) and computer and genetic engineering were realized and that we became capable, among other things, by means of a myriad molecular assemblers, to use Eric Drexler's phrase, of transforming matter exactly as a living person does, in

other words, no longer by extraction then 'hot' transformation but at the quasi-atomic level and 'cold', following paths close to those of cellular division and so on. We would be witnessing an industrial revolution surpassing in importance those that have preceded it, substantially modifying relationships among ourselves and with the world around us. Our way of conceiving and inhabiting the world would be profoundly affected by it.

With a scenario of the Lee Silver type, by contrast, we would undoubtedly be dealing with two species within the same human genus, but they would continue to share the same environmental context (*être-au-monde*).

We can ask what would happen if we succeeded in extending the visual or sound spectrum of all humankind. Would it perhaps be followed by a modification of our environmental context (*être-au-monde*)? On the other hand, this would probably be the case if we succeeded in instantly exchanging huge flows of information in neural language. Then it would be possible to have an overview of world physics or literature in a few seconds. I fear that the result would not be an increase in the number of physicists and writers of genius, but a kind of universal boredom, indeed, an acute distaste for the things of the mind etc.

Whatever the case, it seems hazardous to want to develop as intensively as possible a position of systematic denial of all development of our environmental context (*être-au-monde*). But it is probably impossible to know in advance what such shifts might mean. We must also exercise the very greatest prudence in wishing knowingly to bring about such changes.

## **The human condition**

Our final concept, that of the 'human condition', seems to be the most difficult to grasp. It presents two appreciably different parts: a biological component and a more general characterization of our modes of existence.

As far as the life-cycle is concerned, there are features peculiar to the human species, like the menopause, and others which are not. Among this set of traits are number of offspring per litter, the existence and type of parental care, the type of social relations between adults, sexual relations and their frequency, modes of partner choice, life expectation and so on. In the biological sense of the phrase, in the sense of the life-cycle, the human condition is therefore theoretically modifiable, at least in some of its characteristics. One could therefore imagine a sort of erosion of the biological aspects of our condition. Whether such a modification would be desirable is another problem.

It is different if we consider the other side of the human condition. The first difficulty is to arrive at characteristics covering the totality of the human race. A Rousseauist perfectibility appears to be one of its characteristics: what is peculiar to human actions seems to be their contingency, namely, that they could have been or not been other than what they were; and finally, they could apparently always have done better. Moreover, it is not clear that this last assertion, the possibility of doing better, has given rise to a universal consciousness. The archaeologist, J. Cauvin, for instance, defends the theory that awareness of our finite nature was the consequence of the invention of an omnipotent god. Whatever the case, perfectibility appears to be the positive face of a structural dissatisfaction associated with our desires.

In still more concrete fashion we could associate a mixture of emotions and categories of behaviour with our condition: emotions like boredom, fear, love, and friendship, emotions associated with forms of conduct (for instance hatred) and aggressive behaviours, forms of conduct (such as parental relations and forms of marriage), aesthetic expression, and so on.

Finally, it seems to me impossible to envisage the human condition without tackling the question of evil. Questioning the legitimate or illegitimate character of our actions is the most important feature of our humanity. Of course, it is quite impossible to know whether such questions already troubled the mind of our most distant cousins in the human race. On the other hand, the idea of a prefiguration of moral consciousness in the great apes can be defended. Frans de Waal, for instance, has done so. Moreover, after the horrors of the last century, there is something intolerable about the optimistic scientific frenzy for what is beyond the human, outside all fundamental thought. The Robert Antelme's thinking on the limits of the human species is of the greatest relevance.

In the perspective of the fundamental characteristics which have just been mentioned, the concept of something beyond humanity is all but evident. The transformations to which we could proceed would themselves be expressions of dissatisfaction specific to the human condition. All the inventions that the Lord Chancellor, Francis Bacon, gave the sages in the House of Solomon already aimed to meet this dissatisfaction. The creations of the contemporary imaginary are cast in the same role, with the awareness of the perennial possibility of the reversal of good to evil at least . . .

In more detailed fashion, one could enquire as to the effects on the human condition of the dramatic rise in average life expectancy anticipated above. What might its consequences be for kin- and marriage-relations, on aggressive behaviours, even on the very awareness of our finite nature? The Dracula myth, for example, underscores the horror and despair connected with the impossibility of dying . . .

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Far be it from me, however, to express the idea of defending a sort of absolute anthropological conservatism. As I have tried to demonstrate elsewhere, the process of hominization and human history have themselves constituted a process of auto-production. But we need to take stock of our limits and the dangers to which we can expose ourselves. In order to do this, we have to highlight the two differences which separate the current situation from the earlier history of human auto-production.

The first is due to the phenomenal acceleration of the techniques underpinning this auto-production. Hundreds of thousands of years, for instance, separated the transition from Oldowan to Acheulian stone techniques; the technical explosion of the Aurignacian period probably escaped its actors because of the very fact of the relative slowness of its pace.

The second follows on from the first. Henceforth, we are aware of the development of our areas of expertise and suddenly others claim to want and to be able to manage this process of auto-production.

However, this is a dangerous trap. What, by contrast, the second half of the twentieth century has taught us is that our techniques only enable us to master phenomena on a spatial level and in a temporal location. In fact, this mastery often produces harmful effects, both foreseeable and probably unforeseeable, in the longer or shorter term. We are

thus in a situation where it is impossible to know all the effects of our powers on our own humanity. This is why we must demonstrate the very greatest prudence and we should, since we cannot positively know the future, at least seek to explore those negative consequences to which our technological choices will continue to give rise.

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