**The Plasticities of Human Nature: From Trivial to Horrendous**

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**Abstract**

This paper critically examines the concept of ‘human nature’ and its inherent plasticities, navigating the terrain between traditional existentialist concerns and contemporary transhumanist ideas. It begins by addressing the precarious nature of defining human nature, highlighting the potential risks of essentialist and authoritarian misuse, and the need to recognize human evolutionary change. A moderate definition of ‘human nature’ is proposed, emphasizing the sum of typical properties, structures, and capabilities of humans. Insights from classical philosophy, particularly the Aristotelian-Scholastic tradition, are explored to illustrate the inherent flexibility and potential for development in human nature. Contemporary perspectives on human evolution, genetic variation, and medical technologies are also discussed, underscoring the dynamic nature of human existence. The paper concludes with a critical analysis of transhumanism, acknowledging its ethical concerns and the potential risks associated with technological and genetic interventions in human nature. In sum, the paper advocates a balanced approach to understanding human nature, one that embraces its plasticities while also considering the ethical implications of altering it.

**Keywords**  *Human Nature, Transhumanism, Evolutionary Biology, Ethical Implications, Classical Philosophy, Habitus, Natural Law, Genetic Intervention*

## **1. “Human Nature” – a problematic notion?**

Talk of a “human nature” might seem problematic and precarious in our day because it is questioned from two directions: *On the one hand*, it is suspected of being potentially suppressive or authoritarian: it seems to represent an “essentialism” and a rigid, inflexible account of the human being that endangers not only human possibilities for development, but also the individual responsibility for our actions. This is the traditional concern of existentialists like Sartre and Camus, but also to some extent of Critical Theory or postmodernist thinkers such as Michel Foucault.

*On the other hand*, the notion seems under attack from more theoretical viewpoints. There are for sure, so one could admit, certain obvious regularities in human needs, capacities and ways of behavior that would be foolish to ignore, especially regarding our planning and acting; nobody would deny that. But any further-going claims of a timeless, static “human nature” would be problematic for at least three reasons, or so the objection goes.

*Firstly*, a static human nature would conflict with scientific knowledge, insofar as evolutionary biology teaches us that the evolutionary changes of us human beings has not stopped, but continues.

*Secondly*, examples from the past should be a warning that familiarity and customariness can easily be mistaken for “naturalness”: The times when, for example, women’s suffrage was considered “unnatural” were not too long ago. Proposals of natural law doctrines have been criticized time and again for falling prey to this confusion. And in recent years, a bundle of problematic, right-wing populist and identitarian narratives has gained ground politically, which is actually highly heterogeneous, but whose common denominator seems to include a coding of “(good) naturalness vs. (bad) unnaturalness”.Think, e.g., of anti-vaxxing, especially the rejection m-RNA vaccines (instead, this is often accompanied by an emphatic trust in the strong natural immune system); skepticism on experts and belief in large-scale betrayal by modern media (“common sense has it better”); fear of asylum and migration movements as unnatural processes; fear of abolishment of cash as the natural way of payment; fear of genetically manipulated food; belief in the “Great Reset conspiracy”, “population exchange” etc.; fear of “gender craze” that questions the purportedly exceptionless and natural male/female dichotomy; fear of “transhumanism”; narratives of a (natural) “localism” versus an (unnatural) “globalism”; disbelief in anthropogenic climate disaster (and instead, reference to natural climate shifts); preference of alternative/complementary medicine, “traditional European medicine”, old esoteric knowledge (purportedly suppressed by modern artificial medicine), etc. – Seen as such, these opinions seem very heterogeneous in their content. And one might therefore perhaps seek a more proximate explanation for their bundling: they belong to the propaganda of certain political groups. But such a propagandistic bundling would hardly work if there were not certain connections regarding their content. And I suggest that “naturalness versus unnaturalness” is one of these connections.

*Thirdly*, one could ask for the source of insights into a purported human nature: and here, history shows a problematic temptation to try to answer questions about nature by merely thinking about definitions, or by “armchair reasoning” (i.e. an experience-independent way of theoretical reasoning). As an example, gender debates have long been burdened by the prejudice that there simply *could not* be persons who are not either unambiguously male or unambiguously female – a simple prejudice that was based on purported *a priori* insights into “human nature”, but which is today rejected by biology.

So should – in the light of such questions – the concept of human nature perhaps be discarded and abandoned altogether, as outdated or too prone to ideology?

However, not only the aforementioned regularities in human life speak against such a radical solution. There also other conditions by which the things in the world set obvious constraints to our actions. In a way, hence, talk about a “nature of things”, human beings included, seems to be indispensable. In section 2, therefore, a moderate and plausible proposal of a definition of “nature” in the philosophical sense will be made, on the basis of which it is also possible to analyze and do justice to the plasticities in human nature (these will be sketched in sections 3 and 4). Some brief reflections on what might follow from all this for the assessment of current claims about “transhumanism” (section 5) conclude the essay.

## **2. “Human Nature” – a modest proposal of definition**

## I suggest the following general definition:

## The “Nature of *x*” =DEF the sum of typical properties, structures, processes, abilities, potentialities, patterns of activities / reactions of *x*.

This definition, of course, immediately suggests the question for the sources from which one could recognise such a nature of things. It has already been mentioned that one should not place too much trust in a mere analysis of ideas or in philosophical or theological “decrees” about the nature of man and other things. A (neo-Aristotelian[[1]](#footnote-1)) approach seems more promising: according to this view, the practical dealings with things and the empirical sciences that have arisen from them are the main source of our insights into the nature of things. To take up our example from above: whether or not there are persons who are neither clearly a man nor clearly a woman is an empirical question that is essentially to be answered by some biological or medical sciences, such as genetics, physiology and anatomy, and not by conceptual reasoning.

However, in order to avoid an ideologization of the notion of nature and a kind of epistemological arrogance or hybris, it seems useful to point out two typical mistakes or confusions that can occur when using the word “nature”.

*Firstly*, “nature” is not to be confused with “*fully/comprehensively understood* nature”. Whoever speaks of the “nature” of a thing or of a human being does not necessarily claim to have already fully understood this nature. On the contrary, we can usually still learn something about the nature of things, and the primary source for this is the natural sciences. Since science is not resistant to error, it can also happen that we are temporarily mistaken in our judgements about the nature of human beings, and we may be surprised or taught better by later research.

*Secondly* - and related to this - it is again necessary to warn against obvious confusions: “the familiar/entrenched/usual” – especially when it comes to human nature – is not necessarily “the natural”. Human beings and their behavior are to some extent also culturally malleable; and cultural regularities can sometimes be so strong that they are taken for “natural” (one might recall some professions like lorry-driver or soldier that used to be considered “naturally inaccessible” for women, but which are now as a matter of course also practiced by women). Moreover, it can happen that certain sections of human nature are seen as particularly striking or characteristic, so that other aspects of human nature fade into the background. In this context, it is worth recalling a certain intellectualization that has long characterized the Western image of man (“zoon logon echein”) and made other, more bodily, affective or animalic aspects of it seem irrelevant, embarrassing or even morally problematic.

## **3. Plasticities in human nature: insights from classical philosophy**

However, it is probably just based on a cliché or on certain interpretations of this tradition that the classical philosophical tradition as a whole represented a static image of man. The Aristotelian tradition in particular has also strong resources to integrate flexibilities and plasticities in the nature of man into its conception of man. Some of these “built-in” flexibilities and potentials for development will be recalled here.

## (1) For Aristotelian-Scholastic anthropology and ethics, the concept of *habitus (hexis*) as “second nature” is crucial.[[2]](#footnote-2) Somewhat simplified, *habitus* are acquired, trainable abilities and dispositions of a thing. The “first nature” of a thing (i.e., its essence, or the kind of thing it is) defines which habitus a thing could acquire and which it could not; in this respect, humans are presumably the most “malleable” of all beings, able to acquire a particularly wide range of habitus, from sporting and manual skills to foreign languages and musical virtuosity. These acquired abilities or habitus are called “second nature” because they determine the individual’s repertoire of agency in much the same way that first nature does. Philosophically important and well-known habitus are the intellectual virtues (like knowledge and prudence) and the moral virtues (like helpfulness and politeness). These virtues (and the intellectual and moral vices opposed to them, such as gullibility and aggressiveness) can be partly influenced by people themselves, and they can be cultivated in them – that is the reason why these virtues and vices are also the object of moral evaluation. The classical philosophical tradition therefore sees human beings not only as capable of, but also as called to, general intellectual and moral development. In the context of theology, it deserves mentioning that Christian faith was also seen as a habitus (however, a supernatural habitus, i.e. a habitus that cannot fully be produced by human efforts alone, but needs Divine support); faith is the habitus to assent to Christian doctrines and to act in the discipleship of Jesus.

## (2) Especially in the Christian variants of classical philosophy, this call to further development is also embedded in a larger interpretation: Further development in the life of man is manifestation of a deeper dynamic toward God.[[3]](#footnote-3) Hence, if the human being cultivates and realizes its best dispositions, this is at the same time the best path towards reaching the vision of God in the afterlife.

## (3) It is little known that, according to the most influential Aristotelian-Scholastic philosopher Thomas Aquinas (1224/5-1274), the *lex naturalis* / law of nature (ontologically and morally understood, not so much in the modern scientific sense) also has “statistical” character. That is, it is valid for *most* and only for *standard* cases, and it can also change in principle.[[4]](#footnote-4) This plasticity and flexibility of human nature is, by the way, also a point that Christian anthropologies must take into account and integrate into their theories: Even if we are created “in God’s image” and God is immutable, but there is still a categorial difference between God and his creatures. So (1) God's immutability does not seem to simply “transfer” to us humans; and (2) “Imago Dei” anthropologies do not imply a non-dynamic account of human nature.

## In sum, then, human nature according to the classical view appears to be neither static nor timeless. This would in principle be a point where contemporary transhumanists could connect to the classical tradition (whether they do so in a justified or unjustified way is, however another question, see section 5).

**4. Plasticities in human nature: contemporary dimensions**

After this look at the classical philosophical tradition, let us consider some plasticities of human nature as seen from today's scientific and medical-technical point of view. (Behind the few keywords to which I must limit myself here, there are of course broad fields of research with their respective accompanying philosophical discussions).

(1) The permanent evolution of humans has already been mentioned; co-evolution with the symbionts of humans (e.g., in the microbiome of the digestive tract) and the potentials for comparatively fast “epigenetic” change could be added here. (2) Studies in population genetics have shown that in humans (as in most other organisms) genetic variation within the gene pool of populations is far greater than previously suspected. These variations are partly statistically neutralized over the course of time, but they can also be the source of changes. (3) The huge field of new medical technologies (including occasional genetic interventions also in the therapeutic field) enables new ways and forms of human living despite existing health handicaps and has led to a significant statistical prolongation of life in most countries. (4) The field of possible forms of enhancement and optimization of the human body and its conditions has broadened. However, the boundary between therapy and enhancement is still unclear and therefore much discussed: not every state of health or mind that is perceived as undesirable is already a case for therapy. However, it can be observed that the social standards for this can change; this can be seen, among other things, in the discussions about which forms of treatment should be publicly financed (dental braces and plastic surgery provide illustrative examples here). (5) There is an increasingly broad spectrum of ways in which people live their lives as a sort of “compounds” of natural and non-natural components. Familiar cases are people who are dependent on eyeglasses, hearing aids or walking aids, but also, for example, on blood pressure tablets and other permanent medication, without which a longer-term continuation of life would not be possible at all. More recent forms are e.g. people with transplanted organs or artificial limbs, insulin pumps, heart pacemakers, “brain pacemakers” in cases of epilepsy, Parkinson and other diseases, cochlear implants etc. (6) Some philosophers would also consider e.g. smartphones (and their use as “extended memory”, means of communication etc.) or even our reliance on the stock of knowledge of our social environment as a case of such compounds, but here the connection to the human body is less dense. [[5]](#footnote-5)

All in all, there is a basis to see here certain analogies to a “second nature” in the sense of classical philosophy: A human being which is living as such a compound extends its range of possible actions, and the use of some of these aids must be learned or can be cultivated and improved – the athletes in “Paralympics” provide remarkable examples, but learning to manoeuvre with a rolling chair is a more familiar one. Many of these modifications of human nature are completely unproblematic, at least as far as their anthropological aspects are concerned.[[6]](#footnote-6) As a side remark, one could add that some of these devices have high costs and sometimes also consequences for the lives of their users that are worthy of ethical and social-ethical consideration. For example, there is debate about whether cochlear implants, in addition to their undisputed benefits, may also contribute to deaf people’s losing certain cultural techniques and connections to their communities.

What may raise special concerns, however, are some extrapolations, visions and promises for the future, as they are sometimes expressed, especially under the term “transhumanism” – but also some exaggerated demonising of transhumanism in the style of conspiracy theories. That brings me to my fifth point.

**5. A short word on transhumanism: Where the problem really lies**

The talk of “transhumanism” is in itself problematic and in need of clarification, among other things because the word has been used in the context of populist rhetoric and conspiracy theories to mark an enemy image. Thus, the false impression has been created that we are dealing here with a clearly definable group of doctrines and the people who represent them, i.e., a kind of philosophical school and/or socio-political actors close to it. But this is not true in this simplicity. It is true that the word has been around since the late 1950s, and that since the 1980s there have been some philosophers, scientists, historians and writers (e.g., Nick Bostrom, Ray Kurzweil, Stefan Laurenz Sorgner, Max Tegmark, Yuval Noah Harari etc.) who call themselves transhumanists or sympathize with transhumanist ideas. In professional academic philosophy they have little overall influence and are (despite of their professional web appearance https://www.humanityplus.org) little noticed. They are rather players in a wider intellectual audience in the borderline area between science, journalism, politics and business. In addition, there are activists who approach the public with more or less eccentric technological and social ideas or technical modifications to their own bodies, for example by staging themselves as “cyborgs”, and who thus attract a certain amount of media attention. And of course, there are people in various fields of society who de facto propagate transhumanist ideas; the borderline between full-blown transhumanism and mere exaggerated ideologies of progress is sometimes fuzzy.

Due to this vagueness and fuzziness, one can also only delineate a vague doctrinal core of transhumanism; first, it is about the thesis that humans, their bodies and social coexistence could be optimized in various directions by a wide range of technical, medical and other measures. The result of these measures is not only the fight against known problems (such as diseases, aging and scarcity of resources), but also the realization of various ideals and desires, such as the prolongation of life, freedom from pain, combating poverty, more social justice, etc. Secondly, this factual thesis is connected with the normative thesis that such measures would also be ethically demanded, among other things because one could increase happiness and enjoyment of life of humans, and in this way reduce existing discriminations.[[7]](#footnote-7) “Transhumanism” is the name of this thinking insofar as it explicitly also considers and approves of changes in human nature. One can characterize transhumanism as a general emphatic ideology of progress with an underlying ethical concern; such a style of thinking can, of course, be found in broader circles (i.e., beyond avowed “transhumanists”) – this is one of the reasons why the impression of a broad, socially powerful movement has been created in some eyes.

Some eccentric theses or visions of some declared individual “transhumanists” have received special media attention, and they shape the broader public perception of transhumanism to a probably great extent: for example, that of copying/uploading the “program” of the human mind onto a sort of huge server for later survival. Leaving aside the complete lack of clarity how such a process could ever function technically and on which theoretical basis (although the small-scale processes in the brain, for example at the synapses, and also the functions of the large brain regions are comparatively well understood, there is still very little known about the “medium-scale” processes and the emergence of consciousness in the brain!), such visions are rather a part of science fiction and do not belong to the core of transhumanism, but they are also used as external attributions to discredit it. It is no wonder that the perceived distance of such ideas to entirely absurd conspiracy theories (for example to the bizarre thesis that the world is already ruled by transhuman “reptiloids”) is not too large.

My partial defense of “transhumanism” against some of its caricatures should not conceal that transhumanist views are indeed inherently problematic.[[8]](#footnote-8) The problem, however, is not so much the idea of interventions into human nature in itself: As we have seen in the previous sections, there have always been and still are smaller and larger plasticities and modifications in human nature. Some of these are unproblematic, some of them are not. There may be expansions of these plasticities here and there, there may even be surprisingly big onses in the future. All that is a gradual problem and must be evaluated in each individual case. There are no simple “sacred boundaries” or fixed “red lines” here; in particular, interventions in the genome do not constitute, per se, “red lines”. To declare the genome as an absolute limit would even be an implausible ethical biologism. (Among other things, it should be pointed out that there are already some successful forms of somatic gene therapy, which would then also be reprehensible per se – which is implausible). Some modifications, however, would indeed be horrendous. The problem, however, is not so much the modification of human nature, but the associated uncertainties, dangers, risks and fairness problems. In short, then, the issue is one of ethics (and especially social responsibility) rather than metaphysics. Concerns about hard-to-foresee consequences and collateral consequences of new medical and technological possibilities are well founded: They involve not only questions of safety, but also questions of fair cost-sharing for these (often costly) technologies and fair distribution of access to these possibilities-for the people affected now, but also for future generations.

Based on such considerations, the concern that many people intuitively have about genetic interventions can even be partially justified: Because of the complex structure and functioning of the genome, the full consequences of interventions are often not precisely known, but they are irreversible, can be drastic, and may in some cases be passed on to future generations. Thus, they then affect people who were not involved in the decision to use such agents in the first place. And some of these intervention procedures are costly and raise questions of distributive justice – how access to them could be implemented for all is difficult to see.

So even if transhumanist theses were developed partly out of ethical concerns, they are questionable especially from an ethical point of view. The ethical problems lurking in the background are often obscured behind diffuse, gloryfing and apparently humanist visions of progress. This is problematic. To give just one example, the hope of simple disease control and disease eradication through genetic manipulation, for example, is in most cases exaggerated: Indeed, the simplistic correlation scheme of “one trait of the organism – one section on the DNA” does not apply in most cases. Only relatively few diseases are monogenic, but they are related to a complex combination of DNA regions, regions which can then also have other functions. Moreover, in the outbreak of diseases, the genetic basis interacts with environmental influences in a complex way. The hope of eliminating diseases through simple genome editing is therefore unfounded in many cases, even in the age of the CRISPR-Cas9 “gene scissors”. The same applies to physical and mental characteristics that one might want to favour through genetic intervention (the “designer baby”): these characteristics, too, are generally not determined by a single DNA segment.

Transhumanist promises of progress should hence be critically questioned for their factual viability. But they should also be questioned from another, ethical point of view: In some authors, an ideology of quasi-Nietzschean superhumanity is discernible, which too much ignores the need for self-restraint and solidarity. To be sure, no one will reasonably deny that reducing suffering and enabling people to live as long and as well as possible are in principle ethically good tasks, as is the use of intelligent advanced technologies to achieve these goals. But the suggested vision of an elimination of all suffering and of the optimization of all life circumstances is arguably an illusion: limitations, failure, and the experience that some desires turn out to be unfulfillable are all part of human life – starting with the knowledge of its temporal finitude. Above all, the effort and the price of such optimizations must always be considered from a socio-ethical point of view: Where transhumanist ideas turn out to be a luxury ideology for the economically privileged, which could not be implemented in solidarity for all (one thinks, for example, of the fantasies of stopping the aging process, which would inevitably lead to the overcrowding of the planet) or whose consequential costs are outsourced to other groups of people, there they should be rejected from an ethical point of view.

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1. For a broader survey of philosophical notions of “nature” and “human nature” see, e.g. (Roughley 2021). [↑](#footnote-ref-1)
2. The systematic elaboration of this doctrine – on Aristotelian fundaments – is however, a product of the middle ages. See, e.g., (Nederman 1989-1990). [↑](#footnote-ref-2)
3. This idea was especially developed, on the basis of Thomas Aquinas and Kant, by the school of Joseph Maréchal (1878-1944). Up to my knowledge, his opus magnum *Le point de départ de la métaphysique: leçons sur le développement historique et théorique du problème de la connaissance* (Maréchal 1922–47, see especially volume V (1926)) was never translated, but there is a selection: (Maréchal 1970). [↑](#footnote-ref-3)
4. See (Weingartner 1997). [↑](#footnote-ref-4)
5. The exact distinction, however, is surprisingly difficult: after all, eyeglasses, hearing aids and walking sticks are also removable from the body. One might be tempted to say that they serve life functions in a more direct way than, for example, a smartphone; but on the other hand, communication is demonstrably important for health and well-being, so the difference between glasses, hearing aids, and smartphones again seems only gradual. [↑](#footnote-ref-5)
6. Some of these devices have costs and also consequences for the lives of their users that are worthy of ethical consideration. For example, there is debate about whether cochlear implants, in addition to their undisputed benefits, may also contribute to deaf people losing certain cultural techniques and connections to their communities. [↑](#footnote-ref-6)
7. See the beginning of the “Transhumanist Declaration” of 1998 (under <https://www.humanityplus.org/the-transhumanist-declaration>): “1. Humanity stands to be profoundly affected by science and technology in the future. We envision the possibility of broadening human potential by overcoming aging, cognitive shortcomings, involuntary suffering, and our confinement to planet Earth. - 2. We believe that humanity’s potential is still mostly unrealized. There are possible scenarios that lead to wonderful and exceedingly worthwhile enhanced human conditions. […]”. [↑](#footnote-ref-7)
8. See, e.g., the Anti-Transhumanist manifesto by Georg Franck, Sarah Spiekermann et al. (2023). [↑](#footnote-ref-8)