



## [How understanding the five motivators of humankind will help us to improve the world and ourselves](#)



Neurophilosophy is helping us to understand ourselves and improve the world we live in. Image: REUTERS/Toru Hanai

In 1893, at an event in Oxford, biologist Thomas Henry Huxley (and staunch supporter of Darwin's ideas – support which earned him the nickname "Darwin's bulldog") laid out his theory of human nature and morality. His theory posited that the laws of nature were unalterable but if humans managed to keep their nature under some control, the impact of these laws could be eventually softened. He depicted this metaphorically, paralleling humanity to a gardener who struggles to stave off the growth of weeds in his [garden](#). Human ethics was a victory over a nasty, at times unruly and vicious, evolutionary process. Therefore, despite his strong affinity for Darwin's ideas, Huxley essentially argued that it was not evolutionary theory that explained our morality but rather the opposite: we developed morality *by opposing* our nature. An obvious omission here, according to primatologist [Frans de Waal](#), was why and how humanity unearthed the will power and ability to defeat the conditioning of its own nature.

The "Veneer Theory" (coined by De Waal) argues primarily that: morality is nothing but an afterthought, and selfishness and competitiveness is what defines us at our core. [Michael Ghiselin](#) summarized this view of morality shared by many biologists for over a century: "Scratch an 'altruist', and watch a 'hypocrite' bleed". Biologists who shared these views of human nature essentially believed that moral sensibilities were some sort of accidental by-product of a biological process, thus going against the way that biology had hardwired us.

Furthermore, the debate on the history and evolution of moral reasoning has been usually interlaced with specific views of human nature. Some philosophers, such as Thomas Hobbes believed that our social nature was rather artificial. What laid beneath the surface, prior to the birth of the Leviathan, was [a deeply autonomous being](#). However, absolute liberty in the state of nature was extremely dangerous because *all* humans had it, thus making life unpredictable, nasty, brutish and short. Social life did not necessarily come naturally to humans, but when the cost of strife in the state of nature become unbearable, humans had to establish communities by covenant. The [Leviathan](#), however, was an “artificial man”, sovereignty “an artificial soul”, and civil laws “artificial chains” – implying that none of the social and political orderings created by humans were natural, but rather self-imposed. [Frans de Waal refutes these claims](#) in strong terms: there was no one point at which humans became social; instead, humans descended from highly social ancestors and have been group-living forever. We are, according to Waal, profoundly and thoroughly social and nothing in our minds and bodies is designed for life in the absence of others. One testimony to that is that “second to the death penalty, solitary confinement is the most extreme punishment we can think of”.

Before the advent of neurophilosophy in the past four decades, the polemics on human nature and morality juxtaposed such views coming from evolutionary biologists, ethologists (such as de Waal), and many political philosophers who conceptualized their own views of human nature (highly pessimistic – Hobbes, or more optimistic – J.J. Rousseau). These writings have largely shaped the debate but they lacked a fundamental element, which was the insight into the human brain itself. As new tools that permit such access emerged (such as functional magnetic resonance imaging technology, which can map brain activity non-invasively), our understanding of human nature reached new frontiers.

The revisionary view called eliminative materialism (discussed in a [previous post](#)) called out the unscientific, ‘common-sense’ and ‘folk psychology’ that previously served as foundation for theories of human nature. Patricia Churchland’s pioneering [Neurophilosophy](#), published in 1986, bridged the distance between the philosophy of human nature and neuroscience, as a discipline that can feed first-hand accounts of the human mind into attempts to conceptualize and explain human behavior. Insights from neuroscience revealed some surprising perspectives on human emotionality, cognition and morality. These findings have theoretical and practical implications. The theoretical implications are that they open new avenues in the philosophy of the mind and [human existence](#), and understanding what drives and motivates human behavior. Neurophilosophy has practical implications for governance and policy-making: understanding the neurochemical underpinnings of human nature, our frailty and malleability, as well as our hardwiring for survival are critical for devising appropriate governance paradigms that correspond to the attributes of our nature.

### **Neurophilosophy and human nature: emotional, amoral and egoistic**

I have previously coalesced findings from neuroscience into a neurophilosophical account of human nature, which I called [emotional amoral egoism](#). I will briefly revisit them here (they were discussed in my [previous](#) posts too).

Extensive research into the human brain has revealed that *emotionality* is central to decision-making and cognition. While rationality is celebrated too often as a distinctively ‘positive’ trait and emotionality as something that weakens judgment, we are in fact far more emotional than rational. The human amygdala, for example, which is often studied in emotional processes, has a crucial role in acquiring fear-conditioned responses – elements critical for survival. One of the [amygdala’s](#)

[subregions, the lateral nucleus](#), is also the site of synaptic plasticity that links neutral cues and aversive events – it is therefore critical in associating threats with neutral signals (such as the Pavlovian fear conditioning).

*Amorality* is the second defining trait of human nature. Nothing in neuroscience (at least with the evidence acquired thus far) suggests that humans are innately moral or immoral. A more accurate description is of *amorality*, which means we do not possess hardwired understandings or predispositions for good or bad but instead, we are born as a [predisposed tabula rasa](#) and our moral compass will be shaped by conditions in the environment. We are only predisposed insofar as we have a deeply ingrained predisposition for survival and for pursuing actions that have a survival value. After that, we are blank slates ready to be ‘written upon’ during our existence. A wealth of neuroscience research points to the shifting nature of moral decision-making, and that we cannot be consistently moral or immoral irrespective of circumstances. [Research on stress](#) demonstrates that profusely. The neuroendocrine changes caused by stress influence functions in several brain regions that are involved in decision-making. Stress impacts the prefrontal cortex (PFC) and subsequently those activities that are PFC-dependent, including memory. Chronic stress leads to neural atrophy of the medial PFC and the dorsal medial striatum, a circuit that is known to be implicated in setting goals and goal-directed actions. Stress also exaggerates the propensity for discounting future rewards in favor of smaller immediate rewards.

#### **Have you read?**

- [These seven moral rules unite human beings, according to research](#)
- [What can this 17th century philosopher teach us about tolerance?](#)
- [These were Albert Einstein's 5 favourite books](#)

This means that, for example, in a conflict setting and when confronted with extreme deprivation and fear, humans will act with a view to meet immediate needs (such as survival) and be less focused on long-term goals. [Other studies](#) showed that stress is negatively correlated with utilitarian responses in moral decisions and that it is correlated with more [egocentric moral decisions](#). Interestingly, stress is also shown to lead to more [prosocial behavior](#) and trust (as part of a protective mechanism, making it easier to cooperate with and rely on others) but also to less generosity. These examples are not exhaustive but they demonstrate the critical importance of circumstances in shaping human morality. From a governance perspective, it is important to ensure the conditions for the most altruistic and moral traits of our nature to thrive but this cannot be taken for granted. It is only with institutions and policies that foster safety, peace and inclusion that the minimum requirements for human morality can be guaranteed.

The third fundamental feature of human nature is *egoism*. This is primarily linked to the pursuit of survival of the self, which is a basic form of egoism. Egoism, however, is not only about biological survival but also about the attainment of life goals and the opportunity to express one’s authenticity. Revolutions and social movements are not only initiated by those who fear for their physical survival, but also by the disenfranchised and marginalized. (In a previous [post](#), I provided a detailed account of how public policy can mediate between the emotional, amoral and egoistic character of man, and nine fundamental dignity needs.)

This neurophilosophical account of human nature as emotional, amoral and egoistic is strongly premised on the underlying malleability of our nature. The human brain is defined by plasticity and our moral compass will oscillate in the direction dictated by circumstances, personal and political. Having outlined these features of human nature, what can be said about the motivators of our existence? In other words, what is it that drives us in the course of our existence?

### **The Neuro P5: the five motivators of man**

In his [1950 Nobel Lecture, Bertrand Russell](#) asked “What desires are politically important?” and claimed that “political theory takes insufficient account of psychology”. (Although today, we may want to add neuroscience to the list.)

He continued: “if one man offers you democracy and another offers you a bag of grain, at what stage of starvation will you prefer the grain to the vote?” “All human activity is prompted by desire”, he contented, and the desires that are politically important can be divided into a primary and a secondary group. The primary group includes “necessities of life” such as food, shelter and clothing, and when these become scarce, “there is no limit to the efforts that men will make, or to the violence that they will display, in the hope of securing them”. But because man is a more complex creature than animals, with needs that can never be fully gratified, four other desires stand out: acquisitiveness, rivalry, vanity and love of power. Important as other motives may be, the love of power outweighs them all.

Russell’s list resonates significantly with what neuroscience has revealed in recent years. With insights from neuroscience, I theorized about five crucial factors that drive human nature, which I called the *Neuro P5*. These are: *power, pleasure, profit, pride and permanency* (meaning the desire for survival and for extending life). These powerful human motivators are undergirded by the fact that the brain is pre-programmed to ‘feel good’, and it will do everything it takes to attain neurochemical gratification, maintain it and, if possible, enhance it.

This is why, as detailed in my post on [transhumanism](#), we need to apply caution and foresight about emerging neurotechnologies, especially enhancement technologies. As biotechnologies, neurochemical enhancers or other devices appear, which promise to enhance one, more or all of these powerful motivators, we will be immediately drawn to those technologies, even if we recognize they may be deleterious for us in the long run. In the short run, three areas of concern stand out with regards to enhancement (detailed in the previous post) and these are: *fairness, authenticity and meritocracy*. Enhancements can infringe upon our accepted norms of meritocracy and fairness, create hierarchies and divisions between the enhanced and the non-enhanced, as well as bring about ethical concerns regarding accountability and addiction (in some cases). There are also consequences of a different, philosophical nature, particularly concerning the notion of [will power and authenticity of free will](#). If these can be manipulated and enhanced, the meaning and value attached to many human activities could be turned upside down or lost, especially if some activities will be pursued *because* of the mood enhancer itself rather than for the sake of the activity. While pleasure-seeking is naturally characteristic of human nature, it should not take precedence over all other human pursuits and certainly not to the extent that alterations to brain neurochemistry are necessary for the completions of all tasks or to endure one’s circumstances.

In the long run, the risks are also existential, setting us on the path to [transhumanism](#) and posthumanism, leading us to merge our bodies with technology. However, the set of P5 human motivators is politically and philosophically relevant before that stage in evolution.

Recognizing the drivers in our nature, we must strive to create domestic and global governance frameworks that are accountable and can keep these powerful motivators in check. This has been abundantly clear when it comes to political power. Russell was right when he stated that: “love of power is greatly increased by the experience of power” and “in any autocratic regime, the holders of power become increasingly tyrannical with experience of the delights that power can afford”. Neuroscience started to explain this in neurochemical terms. As I mentioned [elsewhere](#), studies in the neurochemistry of power reveal spikes in dopamine levels, the same neurochemical responsible for the neural circuitry of reward and for creating a sense of pleasure. Power is intoxicating, instilling a ‘neurochemical high’ comparable to any strong addiction. And just like in addictive behavior, the more power one has, the more one seeks to increase it or at the very least, maintain it. That makes withdrawal from power extremely difficult and painful, and brutal leaders with unchecked and absolute power will do everything to maintain their status, even when it is clear the odds are set against them, and no matter what the human cost. It is only by consolidating accountable institutions, with checks-and-balances, accountability, transparency, and consensus (in whatever form this may take – the format is less relevant than the substance), that the toxic and extreme manifestations of the drive for power can be limited and their consequences mitigated. The same goes, to a large extent, for all the other forms of the Neuro P5 motivators of pleasure, profit, pride and permanency: it is through accountable and sustainable good governance that excesses of human nature can be kept at bay.

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