

Piketty's Summarized Ideas on Social Inequality in the View of Cosmological Neuroscience

Nandor Ludvig

Abstract

The present article placed in the framework of cosmological neuroscience the book titled "*Nature Culture, and Inequality*" by Thomas Piketty, the French economist and sociologist. According to Piketty, it is culture and politics that explains the diversity, degree, and structure of social inequalities, whereas the importance of natural factors, such as personal talents and reserves of natural resources, is relatively limited. In contrast, this article argued that the perhaps cosmically programmed evolution of the human brain is the real, though hopefully transient, determinant of social inequality. The relevant specific message of this paper is that it is the evil side of the evolutionary force of socialization on the human brain's emotionally and cognitively assisted Motivational system that is responsible for abnormal social inequality across the globe, throughout history. However, agreeing with Piketty, this paper also emphasized that social inequality depends on who controls the government and to what end. The article stood by its author's previously published opinion that just societies with minimized, therefore socially welcomed and never abused, inequalities can be built only via a Government of Earth responsible, besides governing, for running an intercontinental education system able to train social leaders with equal moral and intellectual excellence, disinterest in personal financial gains, and understanding the cosmic contexts of human history.

Key Words: wealth, social inequality, human brain, motivational system, soul, cosmic program

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Introduction

If human brains are the most complex structures of matter and energy in the known space of our Universe, the digitally communicating global civilization these brains are engineering in the 21st century is an even

Corresponding author: Nandor Ludvig, MD, PhD

Address: Translational Neuroscience Consultation, 3525 34th St., Astoria, NY 11106, USA

Email: nandorludvig@gmail.com

incomparably more complex system. No wonder that the diverse social machineries of this global civilization are extremely hard to understand. I am one of the tens of thousands, or perhaps more, who thinks that Thomas Piketty, the French economist and sociologist, is one of the few who does understand the blessings and curses of these societies, especially the injustice of these societies' economic inequality. It is this economic inequality that is the focus of Piketty's newest book, "Nature, Culture, and Inequality", a summary of his thoughts on the history, nature and possible future of this social problem. The back cover of this brief, merely 82-page, but very concentrated book cites the Dutch historian Rutger Bregman: "Through his seminal works, Piketty has become a beacon for those seeking to comprehend and combat economic inequality." Agreeing with this evaluation, I read "Nature, Culture, and Inequality" thoroughly, selecting the below passages as some of the key representations of Piketty's relevant thoughts:

"It is culture in the broadest sense – and more particularly, collective mobilization – that provides an explanation for the diversity, degree, and structure of the social inequalities we observe. In contrast, the importance of so-called natural factors (personal talents, reserves of natural resources, and other factors of this kind) is relatively limited." (p.1-2)

"...we can recognize a basic movement over the course of the past centuries: a tendency toward greater social equality." (p.3.)

"In the case of wealth, the share of the richest 10 percent is between 60 and 90 percent no matter where we look [in the world]." (p.16)

"Everything depends on who controls the government and to what end." (p.37)

"I am trying to develop an approach based on an equal right of access to fundamental goods: education, healthcare, and participation in politics.... I'm also very much thinking about all that pertains to economic democracy, that is, equal participation in the decision-making within businesses" ... It doesn't call for a complete equality of results, because people have diverse aspirations: individuals will develop different plans, and absolute equality doesn't exist..." (p.49-50)

"The factor that leads to greater prosperity is education." (p.58)

"... questions about the economy, about finance, government debt, and wealth distribution are too important to be left in the hands of a small group of economists and experts... We need other social science researchers – historians, sociologists, political scientists, anthropologists, ethnologists – to sink their teeth into these questions, grapple with their technical aspects, and take a stand." (p.81-82)

As impressed I was with these deep observations, it also occurred to me that cosmological neuroscience would see social inequality in a different light, since social inequality is ultimately the product of human decisions formed in brains developed over the ~6-million-year evolution of the Primate hominin line. The next sections of this article argue that this – perhaps cosmically programmed – brain evolution is the real, though hopefully transient, determinant of social inequality, even though this determination is mediated by institutions, which,

according to Piketty, “are themselves the products of different social, cultural, political, and ideological histories”.

Social inequality, as the consequence of the animal origin of the human brain’s emotionally and cognitively assisted Motivational system

The neural Motivation system, unique to the Animal Kingdom, primarily serves to provide the organism’s inner drive to (1) live, that is, exchange matter and energy with the environment in a developmentally ordered manner, (2) maintain this metabolic exchange for the lifespan characteristic to the organism’s species, (3) reproduce mostly sexually, (4) care for the offspring for the period also characteristic to the species, and (5) explore the environment to find the right circumstances to all of these four activities. Each of which costs substantial neural and skeletomuscular energy for its execution, adding the 6th drive of periodic resting – that also offers undisturbed metabolism and information management. In fact, this drive developed as early in evolution as in the genus Hydra (Kanaya et al., 2020) to further evolving into frank sleep/waking cycles from the level of Invertebrates (Rattenborg and Ungurean, 2023).

As someone who studied the neural mechanisms of exploration in rats and monkeys (Ludvig, 1999; Ludvig et al. 2001), I couldn’t miss the expressions of pleasure in these animals – rats’ cozy resting, monkeys’ joyful vocalization – whenever the motivational drive of exploration achieved a satisfactory result (e.g., finding food, sensing clean bedding, etc.). Which points to the important interactions of the brain’s Motivational system with the system of Emotions, but also with the system of Cognition since exploration must create memories to remember. I didn’t miss it either, that these moments of pleasure were always pursued by the animals with the freedom of harming those who competed with them.

What is critical to see is that the nature of this – actually very wide range, physical and mental – inner world of pleasure, pursued by motivational drives with the animalistic freedom of harming others if they compete, not just remained intact in the brain of the *Homo sapiens*, but even gained new significance with the evolutionary force of socialization. This socialization, while moved the human race a step closer to the divine, also let evil effects – hunger for power, obsession with wealth, enjoying exploitation – deform the neural mechanisms of motivational drives.

The message of this article is that it is the evil side of the evolutionary force of socialization on the human brain’s emotionally and cognitively assisted Motivational system that is responsible for abnormal social inequality across the globe, throughout history,

however this brain mechanism is indeed translated to social actions via the institutions of culture and politics.

Figure 1 shows how this Motivational system is integrated in the human brain. The layout of the major neural networks and their functions are consistent with the current concepts of academic neuroscience (see Kandel et al., 2021), although the idea that the prefrontal cortical supercircuitry of Self-Ken, housed in the neural environment of Consciousness and incorporating subdomains Conscience, Mission, Will and Identity, essentially the central medium of the Human Soul, is a cosmological neuroscientific proposal (Ludvig, 2022a, b, 2024a). Note the connection of the Motivational system with the systems of cognition and emotions, as well as the availability of subconscious neural signals to conscious cognitions.

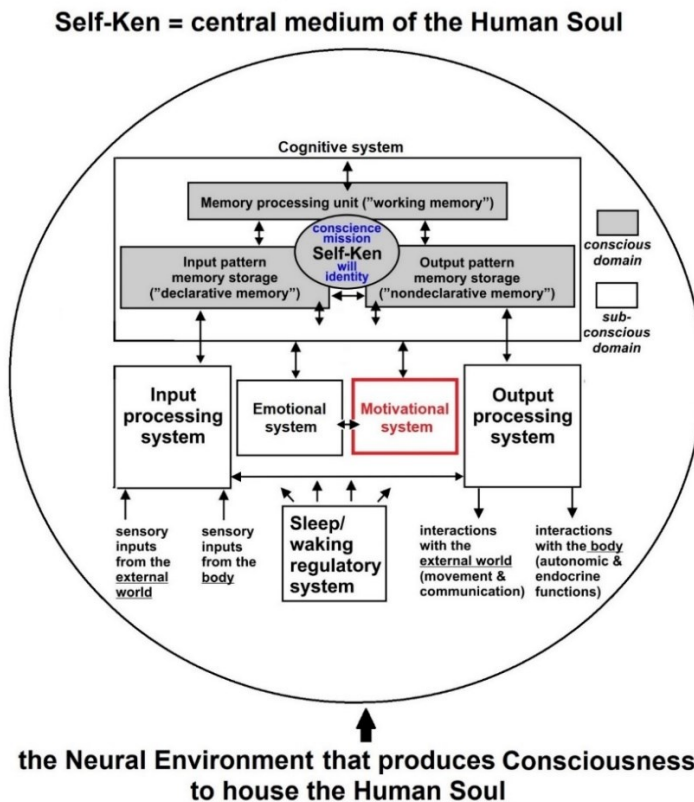


Figure 1. Architecture of the *Homo sapiens* brain after the ~6 million years of evolution of the hominin line. Note the Motivational system interconnected with Emotional and Cognitive systems, with the latter allowing the Motivational system communicating with the prefrontal cortical supercircuitry of Soul. The neuroanatomical structures forming the Motivational system include the prefrontal, cingulate and insular cortices, the limbic system with its hypothalamic, hippocampal and amygdalar circuits, and areas in the midbrain and basal ganglia. It is the Conscience subdomain of this Soul that controls the moral aspects of the host's motivations, that is, his or her inner drives to satisfy the physiological, psychological and social needs and wants of his or her Identity and Mission in life with the mental energy of Will.

Social inequality, organized and maintained by the dysfunctioning Conscience of most social leaders

The International Criminal Court issued arrest warrant for crimes against humanity for the Minister of Foreign Affairs of South Ossetia in 2012; for the head of the Internal Security Agency of Libya in 2013; for the President of Russia in 2023; for the Prime Minister of Israel in 2024; while the man who once served as Vice Minister of State Security in China is currently in prison for corruption; another one who served as Prime Minister in Italy more than once between 1994 and 2011 had Mafia connections; a Hungarian Member of the Parliament went to prison for six years for embezzling state subsidies; at the time of this writing the President-elect of the United States, whose several closest business and political associates spent time in prison, is now himself facing 34 felony counts of violating a New York law on corporate record keeping. Enough!

Would anyone believe that the divine leadership task of creating social justice by minimizing economic inequality ever crossed or crosses the above leaders' mind? Alexandra Tolstoy, once close to those who organized the invasion and destruction of Ukraine in 2022, told in a CNN interview on March 17 of the same year that the predominant intellectual trait of these leaders was the "complete lack of normal human morals". Then, if Patricia Churchland's textbook, a milestone in neuroscience research, defined "Conscience" as "an individual's judgement about what is morally right or wrong" (Churchland, 2019), can't we conclude that social leaders with the "complete lack of normal human morals" have a dysfunctioning Conscience? The evolution of the human brain, with all of its marvels, also allowed the development of all kinds of neural dysfunctions, now known as neurological or psychiatric disorders, in many individuals. The prefrontal cortex, likely home of the Soul's subdomain Conscience (**Figure 1**), cannot be an exception of this evolutionary fact. Indeed, the involvement of this neocortical area in schizophrenia (Wible et al., 2001), personality disorders (Damasio et al., 2019), prefrontal cortical epilepsy (Trebuchon, 2013) and other brain disorders is well known.

As for the nature of social leaders' dysfunctional Conscience, this is obviously not a field of governmentally supported studies, but the best of non-academic neuroscientists, William Shakespeare, captured the depth of this Conscience. Here are some passages from his King Richard the Third:

*Act I, Scene I,
Richard as still Duke of Gloucester:*

*And therefore, since I cannot prove a lover,
To entertain those well-spoken days
I am determined to prove a villain...*

*Act V, Scene III,
Richard as already crowned:*

*My conscience hath a thousand several tongues,
And every tongue brings in a several tale,
And every tale condemns me for a villain.
Perjury, perjury, in the highest degree;
Murder, stern murder, in the direst degree;
All several sins, all used in each degree,
Throng to the bar, crying all "Guilty, guilty!"*

But to diagnose and treat this dysfunctional Conscience, we must have some ideas about its origin. In her cited textbook, Churchland offered powerful observations:

"Martin Luther confidently claimed that the Holy Spirit writes the moral truth on our conscience... The infallibility of conscience that Luther counted on is, unfortunately, a delusion... in the case of the Bolshevik leader Lenin... [his] unflinching conscience endorsed the Red Terror in Russia... Edward Snowden, the CIA employee who publicly released top secret information, claimed to be guarded by a conscience troubled by the government's mass surveillance program... Were he returned to the US now, he would undoubtedly go to jail." (p.8-9).

Cosmological neuroscience, nevertheless, sees the origin of Conscience differently, not discarding the possibility that there may be a Soul of Multiverse, imagined centuries before as Holy Spirit, which had mediated God's love to bring life, evolution, consciousness and soul to Earth: the very environment that let Conscience – indeed "an individual's judgement about what is morally right on wrong" – guide human behavior, however influenced by the brain's Motivational system.

And if so, Conscience – working with the Will -- can indeed empower his or her host with such faith in truth that he or she will stand by this Conscience even at the risks of crucifixion (Jesus), burning at the stake (Joan of Arc), being excommunicated (Spinoza), facing death sentence (Sophie Scholl), experiencing assassination attempts (Navalny), or spending life in asylum in a country 5000 miles from his homeland (Snowden).

While in others, Conscience becomes a deformed, dysfunctional part of the Soul. This is what Trotsky said to justify Lenin's above Red Terror in Russia: "We must put an end for all of the papist-Quaker bubble about the sanctity of human life." (see Sebestyen, 2018, p.418). This is not "unflinching conscience". This is a deformed, dysfunctional Conscience, if not a diseased one – just as the Conscience of our time's social leaders referred to in the beginning of this section.

Here is **Figure 2** with my view on the origin of the blessings and curses of Conscience on Earth:

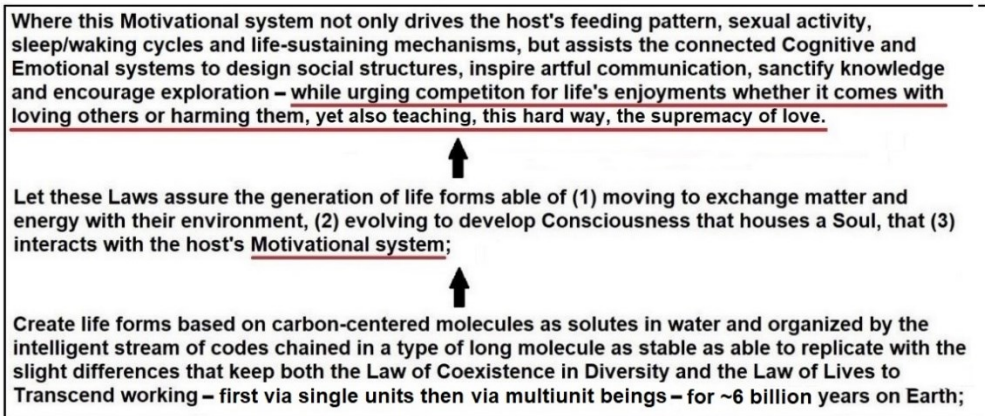


Figure 2. A possible basic algorithm of the cosmic program behind life on Earth: a blueprint for the evolution of the human brain of which Motivational system drives the competition for life's enjoyments in all social areas – leading to the abnormal inequalities of earnings/wealth that bedeviled history and still prevent social justice.

Is this also a “delusion”? Let's see the thoughts of some incomparably higher minds on the possibility that, instead of rising from non-living matter with fortunate physical and chemical reactions as stated by the theory of abiogenesis, life on Earth, including the Conscience it generated, may be the result of a cosmic program, whether or not written by God or other forces of Nature not yet fully understandable for our less than 10,000 years of civilization.

Table 1. Some thoughts by geniuses on the origin of life and evolution on Earth and, as a consequence, on the origin of morals and Conscience.

Author	Quote	Reference
Alfred Russel Wallace	“...a superior intelligence has guided the development of man in a definite direction and for special purpose...”	Wallace AR... 1870... p.359
Rabindranath Tagore	“... the Eternal Spirit of human unity ...inspires in us that are the expressions of a Universal Spirit; it invokes unexpectedly in the midst of a self-centered life a supreme sacrifice. At its call, we hasten to dedicate our lives to the cause of beauty, to unrewarded service of others...”	Tagore R... 1931... p.17-18
Francis Crick, Leslie Orgel	“We conclude that within the foreseeable future we could, if we wished, infect another planet, and hence that it is not out of the question that our planet was infected... * It is a little surprising that organisms with somewhat different codes do not coexist. The universality of the code follows naturally from an “infective” theory of the origins of life.”	Crick FHC, Orgel LE... 1973... p.343-344

Michael Behe	"...there is every reason... to conclude with Joseph Cardinal Ratzinger that "the great projects of the living creation are not the products of chance and error...[They] point to a creating Reason and show us a creating Intelligence..."	Behe MJ... 2000... p.128
Alan Turing	"Hyperboloids of wondrous Light / Rolling for aye through Space and Time / Harbor those Waves which somehow might / Play out God's holy pantomime" (Written on a postcard to colleague and friend Robin Gandy in 1954.)	Turing D... 2015... p.244
James D. Watson	I may not be religious, but I still see much in scripture that is profoundly true. In the first letter to the Corinthians, for example, Paul writes: "And though I... understand all mysteries and all knowledge... so that I could remove mountains, but have not love I am nothing." Paul has in my judgement and proclaimed rightly the essence of our humanity."	Watson JD... 2017... p.439-440
Thomas Cech	Researchers were building a strong case that life on Earth could have originated in an RNA world, but they still had a major problem that needed to be resolved. A bunch of molecules in a drop of liquid is, of course, not an organism..."	Cech TR ... 2024... p.122, 124

*In fact, astrobiologists at Arizona State University already started to work on "seeding biochemistry" on Saturn's water-rich moon Enceladus (Smith et al., 2021).

Social inequality to be corrected by humankind's move to its cosmically programmed next evolutionary phase

Piketty is correct in saying in his examined book that "...we can recognize a basic movement over the course of the past centuries: a tendency toward greater social equality." (p.3.) It must be this way if cosmological neuroscience is also right when hypothesizes that a Cosmic Intelligence "permeates the cosmos with mystery, love, order, direction and morals". (Ludvig, 2023a).

Though the exceptional historian Yuval Noah Harari's views are more pessimistic: On Earth "... the richest one hundred people together own more than the poorest four billion... This situation could get far worse... bioengineering coupled with the rise of AI – might therefore result in the separation of humankind into a small class of superhumans and a massive underclass of useless *Homo sapiens*." (Harari, 2019, p.76).

Still, cosmological neuroscience agrees with the few that Life's 4.1 billion years of history on Earth, which has evolved with unceasing determination whatever asteroids, ice ages, world wars worked against it, must have a destiny, however this destiny will be shared with us by

the Cosmic Intelligence, or even by God, only when we prove worthy of it as a benevolent spacefaring community with a just social background on Earth finally free of inequality, war and dictatorship.

How can this happen? Piketty is correct yet again by reminding us in his book that *“Everything depends on who controls the government and to what end.”* (p.37) But will we ever have leaders with the intellect of the philosopher and sage Confucius? This is what he wrote in his *“Analects”*: *“The superior man thinks of virtue; the small man thinks of comfort...The mind of the superior man is conversant with righteousness; the mind of the mean man is conversant with gain.”* Will we ever have leaders who know what the aristocrat mathematician Bertrand Russell knew? This is what he wrote in one of his influential philosophical books: *“A good world needs knowledge, kindness, and courage.”* (Russell, 1957, p.23). Will we ever have leaders dedicated to follow the guide of Alfred Russel Wallace? *“Whenever we depart from the great principles of truth and honesty, of equal freedom and justice to all men whether in our relations with other states, or in our dealings with our fellow-men, the evil that we do surely comes back to us, and the suffering and poverty and crime of which we are the direct or indirect causes, help to impoverish ourselves.”* (Wallace, 1885, p. 117.).

A Government of Earth, respecting the Russell-type atheists while inspired by the ultimate source of cosmic laws named or not God (Ludvig, 2023a, 2023b, 2024a, b, c), could help selecting these leaders. First, by teaching them in their childhood and youth via this Government of Earth’s Intercontinental Education System run by the new noble class of extraordinary teachers and child care professionals devoted to teach every child on the planet about the beauty and usefulness of lifelong learning, tolerance, duty, honor, cooperation and artful communication. And second – if their morals and intellect proven until 30 years of age let them admitted to the Government’s School of Global Leadership – by teaching them the complexity of humankind’s Big History, lessons from the succeeding and failing societies, the bright and dark sides of economic, engineering, scientific and artistic human achievements along with the cosmic laws that cannot be ignored. Then, the democratically elected councils of the best of these men and women from all cultures would very likely meet the standards of leadership in a just global society. To finally solve the problem of social inequality in the way that also understands the differences between people in terms of contribution to social prosperity and happiness, with these differences acknowledged in their accordingly different earnings, yet in a manner that is welcomed by all and not abused by anyone. Which is likely one of the prerequisites of humankind’s move to its next evolutionary phase.

Conclusions

The present article placed in the framework of cosmological neuroscience the book titled “Nature Culture, and Inequality” by Thomas Piketty, the French economist and sociologist. The book is a summary of this influential author’s thoughts on the history, nature and possible future of this social problem. According to Piketty, it is culture and politics that explains the diversity, degree, and structure of social inequalities, whereas the importance of natural factors, such as personal talents and reserves of natural resources, is relatively limited.

In contrast, this article argued that the perhaps cosmically programmed evolution of the human brain is the real, though hopefully transient, determinant of social inequality, even though this determination is ultimately mediated via Piketty’s cultural and political institutions. The relevant specific message of cosmological neuroscience was that it is the evil side of the evolutionary force of socialization on the human brain’s emotionally and cognitively assisted Motivational system that is responsible for abnormal social inequality across the globe, throughout history, however this brain mechanism is indeed translated to social actions via the institutions of culture and politics.

Agreeing with Piketty, this paper also emphasized that social inequality depends on who controls the government and to what end. The article stood by its author’s previously published opinion that just societies with minimized, therefore socially welcomed and never abused, inequalities can be built only via a Government of Earth responsible for running an intercontinental education system also able to train social leaders with equal moral and intellectual excellence, disinterest in personal financial gains, and understanding the cosmic context of human history.

Acknowledgements

I read Piketty’s book while learning about my granddaughter Lucia’s Fruit of the Spirit Award in her last kindergarten year. This montage of experience made it inevitable that I had to write this article.

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