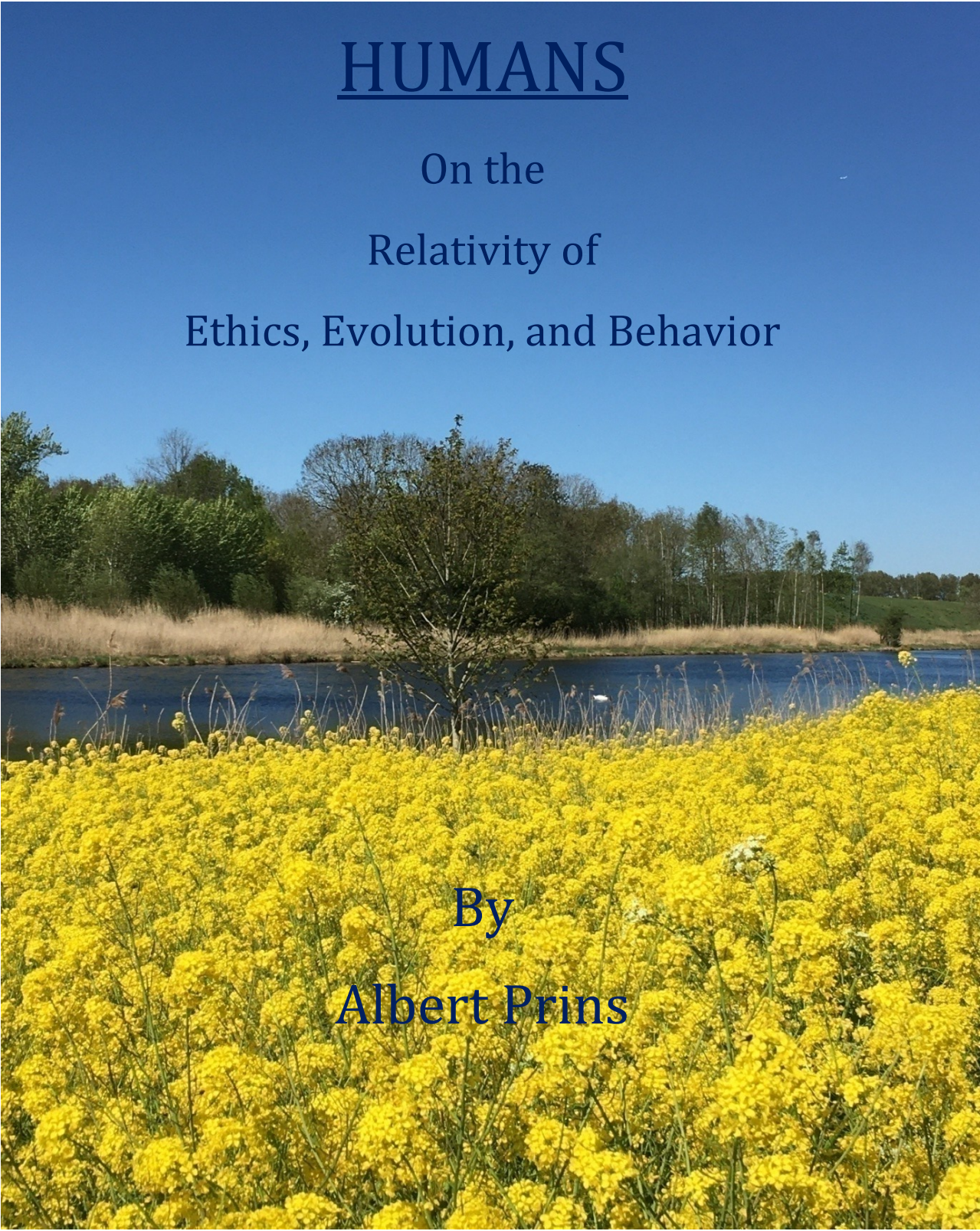




# HUMANS

On the  
Relativity of  
Ethics, Evolution, and Behavior

By  
Albert Prins

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## 1. Summary

This document explores the relativity of ethics through a philosophical dialogue between Alex and Trebla. Central to the discussion is the question of whether ethics is universal or relative, and how human morality relates to evolution, culture, and religion.

Using scientific insights, practical examples, and reflections on literature, it is argued that moral values are not absolute truths but arise from human needs for survival and social cooperation.

The text calls for a neutral attitude, self-reflection, and openness toward different views of good and evil.

### **Main themes:**

- The need for neutrality when studying ethics
- The role of evolution and biology in human behavior
- The influence of religion and culture on moral norms
- The tension between the individual and the group
- Practical dilemmas concerning overpopulation, sustainability, and collective action

### **Conclusion:**

Ethics is a human construct that continuously evolves. By distancing ourselves from personal and cultural biases, space emerges for a broader and more inclusive vision of morality and what it means to be human.

What is presented here in concise form, however, calls for a broader and more personal explanation: how do such questions arise, and why do they continue to engage us?

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## 2. Preface

Sometimes I hear discussions about ethics framed in terms of what is considered “right” or “wrong” and what is not. I am often surprised by the certainty with which people claim to know the grounds on which something belongs to one of those two categories.

Is ethics relative, dependent on the culture in which one lives, or is it absolute and universal?

In the following essay, I would like to share several reflections on this tension between relative and universal ethics. In doing so, we will limit ourselves primarily to a descriptive approach: we will attempt to understand how ethics arises and functions, without immediately prescribing rules of behavior (prescriptive ethics).

To explore these questions not only in a theoretical but also in a vivid way, a dialogical form has been chosen, in the tradition of the Greek philosophers. In such a form, different perspectives can challenge and deepen one another.

Although the starting point is descriptive, we cannot always avoid touching upon normative implications.

Albert Prins

Comments are welcome via [aprins@hotmail.com](mailto:aprins@hotmail.com)

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# HUMANS

*On the*

*Relativity of*

*Ethics, Evolution, and Behavior*

By

Albert Prins

[Begin](#)



### 3. Introduction

**Key sentence:**

A philosophical dialogue explores whether moral reasoning is possible without human biases and cultural frameworks.

**Start:**

**TREBLA:**

Good morning, Alex.

**ALEX:**

Good morning, Trebla.

**TREBLA:**

How are you? I'm glad you want to join me on my daily walk.

**ALEX:**

It's a beautiful day. Let's enjoy the yellow landscape filled with blooming rapeseed fields.

**TREBLA:**

During my daily walks, I often listen to podcasts about philosophy, science, and evolution. Afterward, I reflect on what I have heard. Would you find it interesting to think about these subjects together while we walk?

**ALEX:**

That sounds very interesting to me.

**TREBLA:**

One of the things that caught my attention was the discussion about good and evil, especially in relation to human beings. Shall we first discuss how we might best approach the concepts of good and evil, Alex?

**ALEX:**

Yes, that seems like an interesting challenge.

**TREBLA:**

Do you not think that one of the problems with this subject is that it is difficult to remain objective, because we ourselves belong to the human species and therefore tend to think from a human perspective? In other words: we call something good when we believe that it benefits us as a human species.

**ALEX:**

That seems to be true, but what can we do about it, since we cannot escape our human identity for the moment?

**TREBLA:**

I think it might be possible if we first mentally place ourselves at a great distance from our species. We would need to zoom out in order to view the entire universe as one total system. But first, to keep things manageable, let us limit ourselves to the subsystem: planet Earth.

**ALEX:**

Yes, that seems like a reasonable starting point.

**TREBLA:**

On Earth we find animals, human beings, vegetation, various landscapes, and so on. Consider it as though someone had built a large model railway layout with trees, ski lifts, and railroads, and is now trying to determine whether everything functions properly. And by “properly,” we mean here that the system functions in such a way that it continues to exist and does not destroy itself.

We must look at this system as an observer looks at a model: with attention to the whole, without making directly moral judgments about the individual components.

**ALEX:**

That seems like a good starting point to me.

**TREBLA:**

So our main goal is to understand the functioning of this subsystem “Earth.” Therefore we should not place humanity at the center, but rather the subsystem itself, of which humanity is only one part of it. It does not matter if one component functions less well, as long as the whole remains sufficiently balanced to continue functioning.

So a fundamental question immediately presents itself: **from which perspective are we actually observing?**

## 4. Be Neutral

**Key sentence:**

True objectivity requires letting go of human standards and observing behavior as part of a larger, amoral system.

**TREBLA:**

Our starting point is existing reality: the phenomena of the world, in line with the phenomenology of thinkers such as Edmund Husserl (1859–1938). As already emphasized, we must suspend our biases and observe the interaction of everything on Earth as neutrally as possible.

That is difficult, because we ourselves are part of the system we are studying. Our thoughts are shaped by culture, upbringing, and experience.

We must therefore attempt to detach ourselves from our own image of humanity and view the world as though we were not part of it; like an observer watching an ant colony.

This is similar to the way the Stoic philosopher **Epictetus** (c. AD 50–135) viewed the world: with calm detachment and acceptance of whatever unfolds. Although Epictetus presented this primarily as a way of living rather than a scientific method, he touched upon the same essential principle: the suspension of immediate judgment.

We can observe living systems in which individuals cooperate to survive, just as we can observe systems in which individuals kill one another in order to survive. If we seek genuine understanding, we must resist the temptation to judge such systems according to our own human values.

Our purpose is not to praise, condemn, or intervene, but to observe. Only then can we begin to understand how the system developed into what it is today.

**ALEX:**

That sounds simple, but probably difficult in practice.

**TREBLA:**

Indeed. Many thinkers hold preconceived views of humanity. Some share the perspective of Thomas Hobbes (1588–1679), who argued that human beings are naturally self-centered and only sympathetic toward others because they realize they cannot survive without them, the basis of the social contract. Others hold a view more similar to that of Jean-Jacques Rousseau (1712–1778), namely that human beings are naturally compassionate and fundamentally benevolent. They often attempt to strongly defend either the first or the second approach.

But if we truly wish to be objective, we must regard human beings as merely one of many animal species within a larger system.

**ALEX:**

So not judging, but observing?

**TREBLA:**

Exactly. Understanding rather than condemning.

The Earth system, nature and living beings, is constantly changing, yet as a whole it continues to exist. Therefore, if a system succeeds in continuing to function, there must be regulating mechanisms that influence the system in such a way that balance is maintained or restored. This may occur through human intervention or through natural processes. Yet the outcome of such natural processes may indeed produce a new equilibrium without necessarily including humanity within it.

**ALEX:** Wait, are you saying that nature could simply... make us obsolete?

**TREBLA:** That is exactly what history suggests. More than 99 percent of all species that have ever existed are now extinct—not because the system failed, but because the system continued. A new equilibrium is not necessarily a human equilibrium.

**ALEX:** That's a sobering thought.

**TREBLA:** Sobering, yes. But also liberating. Because once we stop treating humanity as the center of everything, we can finally begin to see reality as it is, rather than as we would like it to be. That is the first step toward genuine understanding.

**But before we can speak about good and evil, we must first understand how human beings came to be what they are today.**

## **5. How Did Humans Become What They Are Today?**

**Key sentence:**

Humans evolved as a species driven by genetic survival, variation, and social cooperation.

**TREBLA:**

To understand how humans have become who they are today, we can follow this line of reasoning, which is primarily based on evolutionary theory.

There may have been various paths in the evolution of humans, following different unconscious strategies. Only those strategies, like carrying genes that favor survival, would have led to today's result. The others would have gone extinct.



Here, we must distinguish between the individual human and the human species. An individual's life is temporary, but the species still survives. The species, therefore, has proven to be more enduring than the individual. So to be as successful as the species, there must be an inherent strategy aimed at its continuation. But the species itself is not a tangible thing, it's a concept. The species consists only of individual humans, who are continuously replaced over time. This principle also applies to all other species, including animals and plants. The mechanisms might differ, but let's focus now on the human species.

There are several options:

1. Each individual's main purpose is the survival of the group.
2. Each individual primarily aims to survive personally, with the side effect that the group also survives.
3. The group is a mixture of the two types above.

With the first option, if every person sacrifices themselves for the group, it's likely that they will die early, have fewer or no offspring, and the group will shrink or go extinct.

Rationally speaking, it's more likely that there is a system that "programs" each individual to seek their own survival, while also understanding, perhaps unconsciously, that helping the group improves their own survival chances. A side effect of that is that the group is preserved.

We know that a person's life span is limited, and the survival strategy of each person is not just about physical survival but also about leaving a legacy, for example, their children. These are not conscious actions but part of the motivational system that evolved over time through species selection. It is not a teleological system (with a goal), but one that evolves through random variation.

**ALEX:**

So it seems that evolution works in the direction of passing on genes to ensure the survival of the species.

**TREBLA:**

Exactly. And to do that optimally, the main "task" of the individual is to survive and pass on their genes. For that, a partner is needed. Once a person finds a partner to pass on their genes, they may (perhaps unconsciously) realize they must also care for that partner, otherwise, reproduction won't happen. Furthermore, the individual may also, to a lesser degree, care for siblings, since helping them survive also helps preserve related genes.

Even more distant individuals may be important to the individual's survival, and therefore there is a natural obligation to ensure those others function well. The sense of responsibility starts with self-preservation and diminishes the further others are from the individual, all to maximize the chance of passing on the individual's genetic material.

All of this happens unconsciously and is an innate or evolutionarily developed drive within each individual.

This describes the average human, but of course, it differs per person. That's a core feature of evolution: variation between individuals. When conditions change, those most suited to the new situation will thrive and become the new average. Evolution will then proceed along that new line.

If we try to produce "perfect" people through DNA manipulation or breeding for current traits, we create an inbred species doomed to extinction. It might be perfectly adapted to current conditions but vulnerable to change. Nature, left to itself, produces many types of people with different traits, ensuring preparedness for a range of future circumstances. Diversity is essential for continuity.

**ALEX:**

I see what you mean. But don't you think that when a child is born, their main evolutionary drive is to survive, and to do whatever their instinct tells them is necessary to achieve that? So this "selfish" behavior is innate (nature), but the child

quickly learns, through interaction with other children and adults (nurture), to be part of a group. They develop empathy and adapt to social life. The child's behavior is guided by feelings of happiness or unhappiness, those feelings steer them in the "right" direction. These feelings aren't transcendent but chemical reactions in the brain, triggered by the release of dopamine.

**TREBLA:**

Yes, Alex, that's exactly how I see it too.

## 5.1. The Term Good or Evil

**Key sentence:**

Good and evil exist only from the perspective of the organism, the ecosystem itself holds no judgment.

**Start:**

As humans, we view certain events or actions by others as good or bad. We use our own moral standards to evaluate these events. Below, we will examine this act of judgment.

### 5.1.1. The Migration of the Wildebeest

**Key sentence:**

Nature operates in a functional balance where suffering and death are meaningless outside of human evaluation.

**Start:**

An example of an ecosystem is shown in the BBC documentary about the migration of wildebeests on the Serengeti in Africa ("The Great Migration"). We see a large herd moving from one place to another in search of enough grass to eat. During this migration, there is constant danger from predators such as lions and hyenas. It is explained that if there were no threats, the wildebeests would eat the grass down so far that it would take a long time to regrow. This would also threaten other grazers. When the grass is too short, it becomes difficult even for the wildebeests themselves to find enough food. So with the continuous threat from predators, the wildebeests are eventually driven away and move on to another area. Thus, they are constantly in motion.

By eating grass, the wildebeests absorb nutrients that are also useful to predators who cannot eat grass themselves due to their digestive system. In this way, lions, crocodiles, hyenas, and others obtain the necessary nutrients indirectly through the grazers. The herd of wildebeests, then, acts like a migrating pantry. This gives us a sense of how the system functions: the wildebeests mow the grass to a manageable level, and the lions drive them off, unwittingly giving the grass time to regrow. In the meantime, the lions get enough meat with the right nutrients. The same applies to all predators involved in the process.

Eventually, the wildebeests return, and the ecological cycle continues. It appears to be a "beautiful" continuous system, maintaining equilibrium. The fact that wildebeests provide meat and nutrients to predators, and that predators hunt and kill grazers, is not a matter of good or evil. It can simply be viewed as an effective system. That said, we might ask whether a mother wildebeest would be just as impressed by this "beautiful" system when her baby is devoured.

So, from the ecosystem's point of view, everything is fine. But from the grazers' point of view, there may be serious doubts. "Beautiful," "good," and "evil" are all relative terms.

When the system works well, there is balance across the whole. But for the subsystems, like the wildebeests or the lions, each wildebeest calf devoured, or each lion cub that starves, represents a disruption. These subsystems, too, try to regain balance. For example, after losing her cub, the lioness becomes fertile again and the cycle continues.

If we now scale this system up to the entire world, including humanity, we can reflect on the following:

To ensure the continuation of the world as it is, balance is necessary. In the past century, this balance seems to be in danger. The world population is growing enormously and starts to exert a large influence on that balance, due to the increasing need for food, energy, raw materials, and the resulting pollution. In earlier centuries, wars or pandemics helped control the human population, preserving balance. It appears that evolution did not 'anticipate' that humans would develop traits like negotiation, compromise, and the ability to cure diseases. But if humanity fails to reach a peaceful solution to limit population growth, then eventually the natural consequences of overpopulation, such as war, famine, or pandemics, may restore the necessary balance.

As Nietzsche (1844–1900) said, there is no universal good or evil. Moral values such as good and bad are human constructs.

## 5.2. Pandemic and Diversity

### 5.2.1. A World in Confusion

In 2019–2020, a pandemic broke out that shook the world to its foundations: COVID-19, a virus that presumably originated in China and spread across the globe at a staggering pace. The early images from Italy were shocking, dozens, then hundreds of people dying every day, as the virus steadily moved northward through Europe.

What followed was a unique experiment in crisis management. Nobody knew how to deal with this virus. There was no medicine, no vaccine, no playbook. European cooperation seemed the obvious path, yet even at that level, people were groping in the dark. And so a remarkable situation emerged: every country chose its own course. Some governments shut down everything that was not strictly necessary, restaurants, cinemas, shops, and asked citizens to stay home. Other countries opted for a freer approach and largely allowed social life to continue.

### 5.2.2. Unity or Diversity of Approach?

One can debate this. A central, coordinated approach carries the strength of unity and consistency. But if that approach turns out to be wrong, the consequences are enormous and universal. The fragmented approach we witnessed in reality could, in hindsight, also be read differently: as a series of national laboratories, each with its own method, each with its own results.

Only in hindsight do we know which approach saved the most lives, and that is precisely the tragedy, because decisions had to be made in the heat of battle, not from the comfort of retrospect.

Here we see what we described earlier: the system as a whole strives for equilibrium, but for the subsystems, countries, peoples, individuals, every disruption causes its own shock. Just as with the migration of wildebeest on the Serengeti, where lions and grazers each experience the system from their own perspective, no country in a pandemic can stand neutral toward the choices it makes. And yet: the whole benefits from variation.

*"If the system works well, there is balance across the entire system, but for the subsystems, every loss causes a disruption."*

### 5.2.3. The Vaccine and the Unexpected Opponents

When vaccines were eventually developed that appeared to be effective, something remarkable arose: a considerable group of people refused to be vaccinated. Some believed in conspiracy theories; others had religious or principled objections. Many people found this frustrating. If we all pull together, people reasoned, we can suppress this virus more quickly. Why won't everyone cooperate?

But upon further reflection, a different perspective presented itself. One that is not political or ideological in nature, but evolutionary.

### 5.2.4. The Evolutionary Logic Behind Stubbornness

Imagine that a vaccine, despite all due diligence, despite all testing, contains an unforeseen, fatal flaw. A flaw that only manifests itself years later. If the entire world population takes this vaccine, the outcome is catastrophic: humanity goes extinct. No individual, no system of quality control is infallible enough to completely exclude that risk.

Evolution, however, is not a system that targets individuals, it operates at the level of the species. And the species does not survive through uniformity, but through diversity. Through variation. Through the fact that not everyone ever does the same thing.

This connects precisely to our proposition: that when one strives, through DNA manipulation or other techniques, for a uniform, 'optimized' species, a vulnerable system is created instead. A species that is perfected for current conditions, but becomes fragile the moment those conditions change. Variety and diversity are of the utmost importance for continuity.

*"If we strive to make every person perfectly suited to the prevailing average characteristics, an inbred species emerges that is doomed to disappear."*

Seen from this perspective, the group that refused to be vaccinated, for whatever reason, well-founded or not, was unwittingly an insurance policy for humanity as a whole. If the vaccine works perfectly, the vaccinated survive and protect society. If the vaccine proves fatally flawed, it is precisely the unvaccinated who preserve the species from extinction, those who can reproduce and continue the human line.

Evolution has, over the centuries, planted within us a drive to survive, not as individuals, but as a species. And perhaps skepticism, distrust, stubbornness even, is one of the instruments through which that drive expresses itself. Not elegantly, not consciously, but effective in the most fundamental sense of the word.

### 5.2.5. Good and Evil Are Human Constructs

This brings us to a deeper question: was it 'wrong' of anti-vaccination advocates to resist? From a medical perspective, the answer seems clear. But we must be wary of exactly that self-evidence. Ethical judgments such as 'good' and 'bad' are, as argued in the tradition of Nietzsche, human constructs. They do not exist as universal truths, but flow from what at any given moment appears beneficial to the survival of the individual and the group.

Nietzsche held that no universal good or evil exists. And we can add: moral values are contextual, pragmatic, and variable. What in one situation is regarded as dangerous obstructionism may, in another situation, prove to be the salvation of the species.

This changes nothing about the science behind vaccines, nor does it justify unfounded conspiracy theories. But it does invite a different kind of understanding, and humility in our moral judgment.

### 5.2.6. The Paradox of Equality, and the Power of Difference

There is yet another dimension that is relevant here, and which we discuss at length below in chapter: the paradox of equality. Humanity continually strives for more uniformity, more consensus, more unity. That striving is understandable and in many respects valuable. But a fundamental law of nature applies here: energy always flows from inequality toward equality. Without difference, no movement. Without tension, no life.

Two rain barrels that are equally full do not flow. Wind arises from differences in air pressure. Rivers flow because one point lies higher than another. Life itself depends on gradients and energy differentials. Complete equality, however noble as an ideal, would in practice mean stagnation.

Seen in this light, the division surrounding the vaccine is not merely a problem. It is also an expression of the fundamental diversity that keeps the species alive. Humanity does not survive in spite of its internal divisions, but sometimes precisely because of them.

*"Perhaps wisdom lies not in achieving equality, but in continuing to strive toward it, consciously and courageously."*

### 5.2.7. Conclusion: Humility in Judgment

The COVID pandemic confronted us with the limits of our knowledge. We did not know which approach was best. We did not know whether the vaccine was absolutely safe. We did not know why people resisted. And yet we had to act, quickly, collectively, under pressure.

What we can perhaps learn from it in retrospect is this: the system as a whole, humanity as a species, has developed mechanisms to protect itself, even when those mechanisms appear irrational or even harmful at first glance. Diversity in behavior, variation in response, resistance to uniformity, these are not shortcomings of human nature. From an evolutionary perspective, they are its most fundamental survival strategies.

We should not judge people who think differently from us solely on the correctness of their reasoning. We may also acknowledge that their deviant behavior, however unintentional, fits a pattern that nature has applied for millions of years: make sure that never all eggs are in one basket.

Humanity does not survive in spite of its internal divisions, but sometimes precisely because of them.

## 5.3. Origin of Ethics and Religion

### Key sentence:

Ethics and religion are cultural strategies that emerge from humanity's need for guidance and group cohesion.

### Start:

Next, we look at the influence of religion on the formation of ethics and moral values. And to what extent, as some claim, religion is the sole source of norms and values, that is, of what is good and bad. That without religion, a good society could not exist.

Plato (427–347 BC) and Aristotle (384–322 BC) lived around the 3rd century BCE and were not influenced by Christianity, which didn't yet exist. Still, Aristotle wrote his work *Ethica*. In this work, virtues and vices are described that closely resemble Christian teachings. This isn't surprising, since Thomas Aquinas (1225–1274 AD), 1500 years later, studied Aristotle's work and tried to integrate those ideas into Christian doctrine, perhaps with the addition of the concept of God, the Trinity, etc. Aristotle based *Ethica* mainly on his view of humanity, apart from religious frameworks.

Plato often refers to a god or gods, but the Greek gods, according to Greek religion, had both good and bad traits. What was good or bad seems to have been determined by Plato himself; he needed gods, and then shaped them to fit his view. He also criticized poets for portraying the gods with both virtues and flaws. Plato believed poets should only show the good side of the gods to set a proper example for the youth. Again, one may ask: by what standard did Plato determine what was "good" or "bad"?

Confucius (551–479 BC, China) also focused on morality without being religiously inspired. His famous saying, "Do not do to others what you would not want done to you", appears in various forms across religions and ethical systems.

This supports the idea that humans have an intrinsic sense of good and evil. Most likely, this is an evolutionary trait, where "good" means beneficial for our survival as individuals and groups, and "bad" means threatening to that survival.

---

#### **Plato:**

"For no one can truly understand how God is to be worshipped and served unless he first knows who and what God is. Nor can we see the Divine Sun unless the sun itself first reveals itself."

According to Plato, we can gain insight into God's laws and rules through Apollo, that is, divine light. "But that insight," he says, "is not obtained through words, but through a pure and serene mind."

---

#### **ALEX:**

Many people believe that a god created the world and humanity. They see the idea of evolution as conflicting with the idea of creation. What's your view on this, Trebla?

#### **TREBLA:**

Even if there is a God who created the universe, I think it's very likely that He also incorporated the mechanism of evolution into creation, because that would simplify the process of generating a variety of living beings. But as Plato already suggested, if we have no clear idea who or what God is, what His influence is on living beings, and what He expects from them, then I think it's better to leave that question aside.

Hume argued in his work *An Enquiry Concerning Human Understanding* (1748) that a rational person adjusts their beliefs according to the available evidence. The more improbable an event is, the stronger the evidence must be in order to believe it.

Benedict de Spinoza (1632–1677) saw God as equivalent to nature, a God without special concern for humanity. Perhaps it would have been better if Spinoza hadn't made that comparison, since the word "God" is so loaded with the historical meaning of a deity who has a direct relationship with living beings. That easily leads to confusion.

#### **ALEX:**

But why do so many people believe in a religion, and why does almost every group worship a god and follow His rules?



**TREBLA:** That is also a mystery to me, but the only logical explanation I can think of is that it is very difficult for most people to accept phenomena they do not understand. So they invent something, such as the idea that it is the work of a god or gods.

Take the phenomenon of thunder and lightning: impressive, unpredictable and sometimes deadly. The Vikings attributed this to Thor, the god of thunder, the Germanic peoples to Donar, the Greeks to Zeus and the Romans to Jupiter. All these peoples lived far apart from one another, yet independently arrived at the same solution: a powerful deity must be behind it. Today we know that thunder and lightning are the result of electrical discharges between clouds and the earth, a phenomenon that is fully explainable without any divine intervention.

The same applies to the northern lights. This overwhelming natural spectacle, in which the sky lights up in waves of green, red and purple, was seen by the Norsemen as the reflection of the shields of the Valkyries, the divine warrior women who carried fallen heroes to Valhalla. The scientific explanation, charged particles from the sun interacting with the earth's atmosphere, is at least equally fascinating, but requires no god.

We see this pattern time and again: earthquakes were attributed by the Greeks to Poseidon, diseases to the wrath of the gods, the position of the stars to divine will. Whenever science found an explanation, the god retreated. The gods thus filled the gaps in human knowledge, which the philosopher Dietrich Bonhoeffer later aptly described as the "God of the gaps." And for leaders it is easier to tell people that they must behave according to the rules of god, than to try to convince people through logic that they must obey the rules of the leader. God is thus used, for practical reasons, as a bogeyman (Thomas Hobbes 1588-1679 used the Leviathan for this purpose). So in essence, religion and God are human constructions.

**ALEX:**

I understand your point. Indeed, if we can't properly define God, what He looks like, what He expects from us, what His intentions are, or what we can expect from Him/Her/It, then if something is so vaguely defined, we're likely to just live our lives without adjusting our behavior to any religious dogma. Especially if there's no empirical evidence for the existence of a higher being.

**TREBLA:**

As far as ethics and morality are concerned, I see these as human constructs as well. There is no universal goodness or badness. It simply depends on the group. It makes sense for a group to try to survive and create rules to that end, but this can be done with many different rules. And those rules change over time. Slavery was once "normal," but now many historical practices are viewed in a completely different light.

Christians have their rules, as do Muslims, Hindus, Buddhists, atheists, and even ISIS followers. "Do not kill fellow humans" seems to be a near-universal rule, though even here there are exceptions, such as euthanasia for people suffering unbearably, or the death penalty in some countries for severe crimes against humanity.

However, if we look at the killing of humans, as in the above examples, from an earthly or holistic perspective, overpopulation with all its negative consequences might be prevented by such actions, and in that sense, they may be considered "good" behavior. We should therefore be careful in seeing our ethical rules as something given by God or universally valid. Rather, they are a social contract that applies only among humans.

Just like driving on the left or right side of the road, it's not inherently good or bad. It is just an agreement to make coexistence easier

## 6. Focus on Group or Individual

### Key sentence:

Humans are evolutionarily driven toward self-preservation, but subconsciously recognize that serving group interests enhances their own survival.

### Start:

### TREBLA:

Earlier, we considered the human species as part of the overall system. Sometimes one gets the impression that human beings are somehow responsible for the entire system. But if we observe human behavior, it seems that, as mentioned before, evolution has merely wired humans to strive for their own survival, and consequently, if everyone does that, for the survival of the group.

### ALEX:

How is the balance struck between striving for individual survival and supporting the group?

### TREBLA:

A person focuses both on themselves and on the group to which they belong. What is their relationship to the group? Do they value the group as a concept or as the individuals within it?

In primary school, a person is part of a group and tries to be accepted by it, meaning, by most of the individuals in it. Then they move to secondary school, where they are part of a new group, and again, they will try to be accepted by its members. Is the bond with the first group, from primary school, still strong enough to last? It could be, but generally, the person will do their best to become an accepted member of the new group. The same happens at university or in the workplace. They might even migrate to another country, and once again, there will be a group they try to integrate into.

Therefore, we can hardly deny that the focus lies on oneself and on being part of, and accepted by, a group, largely independent of the specific individuals in it. The person tries to optimize their survival chances and instinctively “understands” that, as they are wired, they must belong to a group. They are not evolutionarily developed to survive alone, like a tiger; they need a group to assist them. And, of course, this applies mutually to all members of the group.

We must bear in mind that this applies to the average person. Evolutionarily, there is a spectrum of behavior, as some people have more difficulty switching groups than others, or tend toward a more solitary lifestyle.

### ALEX:

And what about their relationship with animals, nature, and the Earth?

### TREBLA:

Let's assume there are more “Earth-like” planets in the universe, with everything necessary to provide humans with a comfortable environment. Do we love Earth and its animals so much that we would never migrate to another Earth, even if conditions here greatly deteriorated? And if we did migrate, would we, like Noah, take all animals with us? In many cases that would be practically impossible, and people would limit themselves to taking only themselves and their closest loved ones. I expect that once conditions worsen, or even before that, people will migrate, perhaps with their loved ones, to the other planet and start over as if they were migrating to another country. And, as we discussed earlier, this would be done despite Earth and its animals. So again, the focus is on the survival of the individual, and secondarily on their desire for a particular group.

### ALEX:

Don't you think that people take animals with them for very different but evolutionarily explainable reasons? Some will take pets; others a collection of reptiles; still others, livestock, for example, as a precaution, as a food reserve. At first

glance, this may seem like personal preference or sentiment, but perhaps everyone is unconsciously playing a role that benefits the group.

Take attachment. The tendency to bond with others gives people the advantage of cooperating and living together in groups. Attachment to animals also had evolutionary value: dogs helped with hunting, domesticated animals made migration unnecessary, and pack animals like horses made agriculture and transport easier.

Even taking a reptile collection may seem strange, but it can be functional. Someone with knowledge of venomous animals might know, for example, that the toxin of a toad can be used to make an arrow more lethal. Such specific knowledge could prove crucial in a survival scenario.

And the people who take livestock? They choose certainty. Risk-averse behavior can, in many circumstances, guarantee the survival of a group, just as in other situations, reckless action might be what makes the difference. Each behavioral variant can offer a survival advantage at the right moment.

**TREBLA:**

You may be right, but ultimately, when a person's survival is at stake, that person will generally make decisions in their own interest. If they don't, they will perish, and only those who make decisions primarily for their own benefit will survive and pass on their genes to the next generation. This will likely cause a shift in the average survival instinct, with self-interest becoming more strongly emphasized.

**ALEX:**

I think we humans have much in common, but on an individual level, we also vary a lot, and are aware of it. In ants, the queen produces different types: caretakers, workers, guards, etc. Physically, the types differ as well, even though they all have the queen as their mother. I think the same applies, more or less, to humans. A number of basic abilities are generic to all humans, such as the ability to imitate behavior, see, hear, speak, walk, and so on. There will be exceptions, of course, since it may have once been useful for someone to be deaf or blind, but I suspect that a group cannot have too many of those individuals, because in most situations that would be more of a disadvantage than an advantage.

## 7. Is the Human Being Also a 'Group'?

**Key sentence:**

What we consider a single human being is, in essence, a cooperative system, just like groups are.

**Start:**

In the previous chapter, we more or less stated that a human is a tangible, physical entity, while the concept of a group is an abstract idea and therefore intangible. But even here, we can add some nuance.

As we will argue later in *"The Mortality of Humans,"* from an evolutionary perspective, the transmission and preservation of genes appears to be more important than the preservation of the individual human being. Humans are mortal and serve primarily as vehicles for passing genes from one generation to the next.

If we examine a human at the microscopic level, we find that a person consists of a collection of organs. All of them serve the purpose of allowing the human vehicle to preserve itself long enough to transmit enough genes. We have legs to flee in times of danger; eyes and hands to obtain and evaluate food; and internally, various organs and systems work together to make the body function. These organs and systems form an integrated whole necessary for the survival and functioning of the individual.

But can we also view a single individual as a system of organs, systems, and limbs that together form a group? Just as we said in the previous chapter that a group is a concept, merely a collection of separate entities, perhaps we should ask to what extent an individual human is also a group composed of elements like organs.

When we look at a large flock of starlings swirling in the sky, they regularly have to evade threats like birds of prey. They use a collision-free strategy: each bird monitors up to seven nearby neighbors and ensures it doesn't crash into them. If a few starlings change direction, that movement ripples through the entire flock as each bird quickly adjusts to its seven closest neighbors. From a distance, the group appears to be one single, flexible organism.

It seems as if there is a force between the starlings that holds the group together. This appears to be a programmed instruction within each bird to stay close to the others, but not too close, to maintain flight. Through the shifting patterns of the flock, a bird may be on the outside one moment and back inside the next. It's unclear whether this is genetically hardwired and evolutionarily developed or whether it's learned behavior, for instance, copied from the mother.

In the case of humans, all internal components at the microscopic level are held together by atomic forces, electrical interactions between atoms. So here we're not talking about virtual forces, but actual physical ones.

Other kinds of virtual forces also exist. Consider two people playing tennis: their movements are largely determined by the ball, which travels back and forth, essentially pulling the players around the court. It looks as if they are connected by an elastic cord.

Or take two separated parents with a child: they remain connected through the existence of the child, another form of mutual, virtual force.

In human groups, there are also virtual, psychological forces that act attractively between members to keep the group cohesive and functional.

All these forces are virtual in nature, mentally programmed through innate or learned behavior. As the English say: "nature or nurture."

The difference between these group forces and the structure of an individual is that within the individual, physical forces exist between the components, electrical, atomic forces. So perhaps we should not view a human as a group of organs, but rather as a singular entity physically bound by internal forces.

By contrast, in groups, two or more individuals, the forces that hold them together are more virtual. These virtual forces stem from an innate or learned drive in humans.

We might define a group as a collection of entities that can also function independently. For instance, if we separate a flock of starlings into individual birds, those birds can still survive. The same applies to a human, who may survive alone, albeit with a reduced survival chance. But if we split a human into separate organs, their survival ends immediately.

Therefore, while it's an interesting analogy, it may be a bit far-fetched to consider the individual human as a group in itself.

## 8. What is a Human Being?

### **Key sentence:**

Being human is primarily defined by the capacity to think, by the brain more than by the physical body.

## Start:

As described above, a human being consists of various organs, systems, and limbs. If one of these organs is removed, does the person remain the same, or do they become slightly different? How do we define what a person is, and what determines one's humanity? Is it defined by behavior or by appearance?

If a person receives an artificial hip, do they change as a person? If they are known as an Olympic athlete, then yes, their athletic performance may change, but do we also consider them to have changed as a human being? The same applies to a heart transplant, and so on. How many body parts and organs can be replaced before someone is no longer the same person?

If something is altered in the brain, through surgery or otherwise, it often leads us to say the person has fundamentally changed. So it depends on what we regard as the defining feature of that individual.

One major difference between animals and humans is often said to lie in how the brain is used. Thanks to the brain, humans can think about the future and the past, perform calculations, write, and communicate in intelligible sounds. In most of these skills, humans are more advanced than other animals. All of these capabilities are first controlled by the brain and then carried out using various organs: arms, hands, voice, eyes, and so on.

So the primary distinction between humans and animals seems to be the brain.

Let's take the example of Stephen Hawking, the British physicist who suffered from amyotrophic lateral sclerosis (ALS), which left almost his entire body paralyzed, except for his cognitive abilities. Even in that condition, Hawking was still regarded as the same person he had been before the illness, apart from, of course, his physical characteristics. Perhaps that is because Hawking's defining feature was his intellect.

Would the same have applied to Usain Bolt, the Jamaican sprinter, if his cognitive function had severely deteriorated but his athletic performance had remained intact?

All things considered, it appears that a person is primarily defined, as a human being, by their brain. Or, as the title of Dutch neuroscientist Swaab's book puts it: *"We are our brain."*

Reflecting on that, I'm reminded of an anecdote told by a philosopher, which goes as follows:

An elderly man, physically weakened to the point that he does not have long to live, but whose mind is still sharp, has a conversation with a young, athletic man. The old man says:

"I don't have much time left to live, but you are still young, strong, attractive, and have your whole life ahead of you. You're almost perfect, except for one small flaw: through no fault of your own, your intellect is not particularly strong. Since I am at the end of my life, my brain is of little further use to me. Therefore, I offer you this proposal: let's transplant my brain into your head, and yours into mine. That way, your quality of life will improve significantly, and for me, it makes no difference anymore."

What the young man replied is unknown, but it's a useful thought experiment (Einstein: *Gedankenexperiment*) for considering the question:

**Who is the person after the transplant?**

## 9. The Mortality, Evolution, and the Temporary Individual

**Key sentence:**

The survival of the species appears evolutionarily more important than the unlimited survival of the individual. After asking what a human being actually is, we are inevitably confronted with a characteristic that defines the entire human condition: mortality.

Why are human beings mortal? And why does nature appear to be organized in such a way that living organisms eventually age and die?

An important part of this process takes place on the cellular level. Throughout life, cells are continuously damaged by internal and external influences. The body attempts to repair this damage by replacing old cells with new ones.

During every cell division, genetic material is copied. However, this copying process is never completely perfect. Small errors, damage, and functional losses gradually accumulate. After enormous numbers of cell divisions, the organism as a whole begins to function less efficiently. The body gradually “wears out.”

More information about the aging process is provided in [\*Appendix 4.2\(The Aging Process in Humans\)\*](#)

Yet this raises an intriguing question.

When a woman gives birth to a child, a new organism emerges that, despite the age of the parents, is once again capable of potentially living a complete life. This seems to suggest that mechanisms exist which are capable of producing relatively “fresh” genetic material.

Why, then, does the body not simply use these mechanisms to continuously renew itself completely?

Perhaps the answer lies in the way evolution functions.

Humanity still exists today because the species has continuously adapted to changing circumstances. This adaptation generally does not occur because a single individual fundamentally transforms itself, but because over many generations new variations continuously arise within the DNA of the population.

When human beings live for long periods in regions with limited sunlight, lighter skin may become evolutionarily advantageous because it allows vitamin D to be produced more efficiently. In regions with intense sunlight, darker skin may provide protection against harmful ultraviolet radiation. In similar ways, countless other traits have emerged or changed throughout evolution.

These changes arise because every new generation consists of new combinations of genetic material. Some of these combinations prove better adapted to prevailing conditions than others. Individuals with relatively advantageous traits generally have a greater chance of reproducing, causing those traits to be passed on more frequently to future generations.

From this perspective, evolution appears less focused on preserving the individual organism and more focused on the survival of the species through continuous variation, selection, and renewal.

Human life, from an evolutionary perspective, is therefore temporary. The species continues to exist because older generations are gradually replaced by new individuals possessing slightly different genetic combinations. Evolution thus operates not primarily through the permanent adaptation of a single individual, but through continuous replacement and selection across successive generations.

Perhaps this is evolutionarily more efficient than maintaining existing individuals indefinitely. Older organisms may become less flexible in behavior, physical adaptation, or reproduction, while new generations introduce new genetic possibilities that may better correspond to changing environmental conditions.

From this perspective, the human being appears not so much as the final goal of the system, but rather as a temporary vehicle for transmitting and renewing genetic information.

In nature, there are also organisms that appear to follow a different evolutionary strategy. Certain species of flatworms, for example (see [Appendix 4.3 \(The Aging Process in Flatworms\)](#)) possess strong regenerative abilities and thereby approach a form of functional immortality.

Human beings do not possess such capabilities on a comparable scale.

This need not be viewed as a deficiency, but may instead relate to an evolutionary system in which continuous genetic renewal proves more important than prolonged individual preservation.

The question therefore may no longer be why human beings die, but why the evolutionary system itself appears dependent upon mortality.

Perhaps mortality is not a flaw within the system, but rather a necessary condition for continuous adaptation, variation, and evolution.

And with that, we once again arrive at a fundamental tension that affects not only biological processes, but ultimately human societies and moral systems as well: the tension between the individual and the whole, between stability and change, between preservation and renewal.

## 10. The Paradox of Equality

### *A Philosophical Reflection*

This chapter touches upon a tension that runs throughout the entire book: **can one embrace moral relativism while still maintaining that justice is preferable to injustice?** Rather than attempting to resolve this tension, the chapter deliberately leaves it open, suggesting that this may be the most intellectually honest position a reflective person can take.

### 10.1. The Dream of Equality

**Key Idea:** Equality is a powerful ideal, but it may also be the source of a profound paradox.

There is hardly an ideal that occupies humanity as deeply as equality. From the French Revolution to modern social movements, everywhere the call for fairness, justice, and equal opportunity resounds. People experience inequality as an injustice, as something that must be corrected. And yet a question arises: what if that very inequality is the engine that sets everything in motion? What if the dream of complete equality, should it ever become reality, would mean the end of everything we strive for?



This reflection is not about justifying injustice or exploitation. It is about something subtler and more paradoxical: the idea that inequality is not merely a problem to be solved, but the primordial source of all human energy, motivation, and life itself.

## 10.2. Nietzsche and the Power of Jealousy

The Bible regards jealousy as a sin. "*You shall not covet,*" declares the Tenth Commandment. Jealousy is commonly viewed as a destructive emotion that undermines relationships and consumes people from within. The German philosopher Friedrich Nietzsche, however, saw such emotions quite differently.

Nietzsche did not regard envy, jealousy, and resentment simply as moral failings that should be suppressed. Instead, he saw them as phenomena that reveal something fundamental about human nature. When a person envies someone else, they implicitly acknowledge that the other person possesses something they themselves consider valuable. Jealousy therefore points to a gap between who we are and who we would like to become.

Nietzsche referred to the embittered form of this response as *ressentiment*: the condition in which a person transforms their inability to attain a certain ideal into hostility toward those who embody it. Rather than striving to improve themselves, they seek to pull others down. *Ressentiment* does not lead to growth but to bitterness. Nietzsche regarded it as a powerful psychological force underlying many moral systems that arise from weakness.

Yet the same confrontation with difference can produce a very different outcome. A successful neighbor, a brilliant scientist, an exceptional athlete, or a gifted artist may initially evoke feelings that resemble jealousy, but these emotions can ultimately develop into admiration and ambition. In such cases, the difference is not denied but embraced as a challenge.

From this perspective, jealousy has a dual nature. It can imprison people in bitterness, but it can also serve as a signal pointing toward opportunities for personal development. In a sense, the emotion says: *There is something I admire—something that I, too, might be capable of achieving.*

Nietzsche would probably not have argued that inequality should be eliminated. On the contrary, he regarded differences in strength, talent, character, and creative ability as an inevitable part of the human condition. According to him, it is precisely these differences that set people in motion. It is not the absence of inequality, but the confrontation with it, that can inspire self-overcoming, personal growth, and creativity.

In this sense, inequality assumes a paradoxical role. Although differences between people can create tension, they also constitute one of the most important sources of human development. Without recognizing that others possess knowledge, skills, or achievements that we have not yet attained, much of our motivation to learn, to work, and to improve ourselves would disappear. It is often our awareness of these differences that drives us forward.

## 10.3. Nature's Lesson: Energy Flows from Unequal to Equal

Nature shows no mercy for abstract ideals, it operates according to relentless laws. And one of those laws states: energy always flows from a state of inequality toward equality. Nowhere is this more simply seen than in the image of two connected rain barrels.

Imagine two rain barrels standing side by side, connected by a hose. One barrel is full, filled to the brim with rainwater. The other is empty. The moment the connection is made, the water begins to flow, from full to empty, from high to low, from more to less. There is movement, there is energy, there is activity. And all that life owes its existence to one thing: the inequality between the two barrels.

Now imagine that both barrels are exactly equally full. Nothing flows. Nothing happens. The stillness is complete. Equality, perfect, absolute equality, means the end of every current, every exchange, every activity. Thermodynamicists call this the state of maximum entropy: everything is distributed, everything is equal, and for that very reason there is no energy left to accomplish anything.

We see the same principle everywhere in nature. Wind arises because air pressure in one place is higher than in another, inequality drives the storm. Rivers flow because one point lies higher than another, inequality carries the water to the sea. Electric current flows because there is a voltage difference between two points, inequality illuminates our homes. Even life itself, in its most basic biological form, depends on chemical gradients and energy differentials.

Nature constantly strives toward equilibrium, toward equality, but it needs the initial inequality to make that journey. The striving is meaningful; the arrival is death.

## 10.4. Inequality Alone Is Not Enough

**Key Question:** Are differences by themselves sufficient to make development and progress possible?

In the previous section, we saw that virtually all movement in nature arises from a difference: a difference in height, pressure, temperature, or electrical potential. Without such differences, nature would come to a standstill. There would be no wind, no flowing rivers, and no electric current.

But that is not the whole story.

A potential difference alone is not sufficient to produce motion. There must also be a means by which that potential can actually be converted into activity.

Consider once again the example of the two rain barrels.

When one barrel is completely full and the other is empty, there is a clear difference in water level and pressure. Yet not a single drop of water will flow as long as the valve connecting the two barrels remains closed. The system possesses potential, but that potential remains completely locked away.

Only when the valve is opened can the water begin to flow, converting stored potential energy into motion.

The same principle appears throughout nature.

A rock resting on top of a wall possesses gravitational potential energy. Yet nothing happens as long as the wall continues to support it. Only when that support is removed is the potential energy converted into kinetic energy, causing the rock to fall.

A battery stores electrical energy. But without a closed electrical circuit, that energy remains stored and no electric current flows.

A seed contains all the genetic information needed to grow into a tree. Yet it will never germinate without water, nutrients, oxygen, and sunlight. The potential exists, but the necessary conditions are absent.

Again and again, we encounter the same fundamental principle:

**Differences alone are not sufficient for development; the conditions that allow those differences to be realized must also be present.**

This principle appears to extend beyond physical systems.

Human development also seems to depend on two essential conditions.

First, people differ from one another. No two individuals are born with exactly the same combination of talents, intelligence, creativity, temperament, interests, and physical abilities. This diversity is one of humanity's greatest strengths.

But these differences alone are not enough.

There must also be an environment in which people are free to develop their unique abilities.

When a society forces everyone into the same profession, the same beliefs, or the same way of life, much of its human potential remains unrealized. Not because the abilities are absent, but because the conditions necessary for their development are missing.

Freedom therefore acquires a meaning that extends beyond a moral ideal.

Freedom is one of the essential conditions that allows differences to be transformed into creativity, innovation, and social progress.

A society that provides room for different talents, ideas, and initiatives greatly increases its ability to solve both present and future challenges.

This does not imply that unlimited freedom is always desirable. As we have seen earlier, complex systems function best when freedom is balanced by responsibility and cooperation. Even a river does not flow in every direction; it follows the paths made available by the landscape.

The goal, therefore, is not unlimited freedom but sufficient freedom for diversity to develop and flourish.

We can summarize this general principle as follows:

**Development requires two conditions:**

**1. Differences or potential must exist.**

**2. The conditions must exist that allow those differences to be realized.**

This principle can be recognized at virtually every level of reality.

- A difference in height combined with an open connection allows water to flow.
- A difference in electrical potential combined with a closed circuit allows electric current to flow.
- Potential energy combined with the removal of an obstacle produces motion.
- Genetic potential combined with a suitable environment enables biological development.
- Human diversity combined with freedom and education fosters creativity, innovation, and progress.

Perhaps this is one of the most profound lessons nature has to offer.

**Differences are the source of change.**

**But only when a system provides the conditions that allow those differences to be expressed can genuine development take place.**

#### 10.4.1. Short-Circuiting or Harnessing Potential

Not every way of eliminating a difference, however, is equally meaningful.

There are two ways to eliminate such a difference. The first is through a broad, direct channel: the water rushes all at once from the full side to the empty side. The difference disappears, movement has occurred, but nothing has been accomplished with it. The energy has been dissipated as friction and noise. No useful work has been performed.

The second approach begins with the same difference, but now the water is first directed through a waterwheel before reaching the other side. Here too, the difference eventually disappears. But along the way, the flowing water drives something: a wheel turns, electricity is generated, and something new comes into existence.

Both processes end at the same destination: equilibrium. Yet the difference itself is not what determines whether the process was valuable. What matters is whether the potential was harnessed along the way to create something, or whether it simply dissipated.

The same distinction seems to apply to the way people deal with inequality.

When wealth is merely transferred without a corresponding process of effort, learning, building, or entrepreneurship, the difference disappears, but nothing new has been created. The system has been short-circuited.

When that same transfer is instead used to create new potential—for example, by providing an education that enables someone to build their own future, tools that allow someone to create, or opportunities that enable someone to start a business—the difference is not merely eliminated; it has been transformed into something productive. A turbine has been installed instead of a short circuit.

The essential question, then, is not whether a difference disappears, but how it disappears. Striving for equality through work, learning, and creation converts potential into productive effort. Simply eliminating the difference without that process allows the potential to drain away without producing anything in return—for the individual or for society as a whole.

**Perhaps this is the deepest lesson that nature teaches us: the central issue is neither the existence of a difference nor its disappearance, but what happens to it along the way.**

#### 10.5. The Great Paradox: Striving for What Would Destroy Us

Here a profound paradox unfolds in human existence. Humanity strives for equality, for justice, for fair distribution, for a world without injustice. This striving is noble and deeply human and deserves every respect. But the paradox is that complete equality, should it ever be achieved, would mean the end of the striving itself.

What would a person do in a world of perfect equality? Why get out of bed, write a book, start a business, or build a relationship? Every form of motivation is rooted in a difference: the difference between where you are and where you want to be, between what you have and what you seek, between the world as it is and the world as it could be. Perfect equality would remove one of the most important sources of human motivation—the gap between what is and what could be.

This does not mean that we should abandon the pursuit of a more just world. On the contrary, it means that we should value the pursuit itself, not merely the destination. The journey toward greater equality is where life unfolds. Every step toward greater justice, every victory over injustice—these are what make life worth living.

There is, moreover, a second form of inequality that is often overlooked: the inequality between who we are today and who we might become tomorrow. Even if every human being possessed exactly the same opportunities, resources, and

talents, this difference would remain. Human beings are sustained not only by comparison with others but also by the tension between their present selves and their possible future selves. Perhaps this is, in the end, the most fundamental inequality of all.

## 10.6. Conclusion: Inequality as the Condition for Life

The world lives by the grace of inequality. Not because inequality is always just, it is far from that. But because the difference, the tension, the distance between what is and what can be, is the source of all human energy and all life on earth.

Jealousy, when transformed into ambition, is the compass needle that points us to the difference and moves us to bridge it. The full and the empty rain barrel tell us that movement is only possible where inequality exists. And the thermodynamic law of entropy whispers the ultimate secret: when everything is equal, everything is over.

Perhaps the wisdom lies not in achieving equality, but in consciously and courageously continuing to strive for it. In meanwhile savoring the energy that striving generates. In recognizing that life itself, breathing, moving, growing, exists because there is still inequality left to respond to.

***And so the most alive person is not the one who has found equality, but the one who is on the way toward it, passionately and with open eyes.***

## 11. Summary of a Number of Reflections

### Key sentence:

Human behavior is the result of evolutionary drives, neurological rewards, and social structures, in which both self-oriented behavior and empathy fulfill evolutionary functions.

When we bring together the previous reflections, a view of the human being emerges that is shaped biologically, neurologically, and socially. Human beings are not isolated moral entities that freely and independently choose what is good or evil, but organisms whose behavior arises from a complex interplay of factors.

First of all, everything we do is directed by our brains. The structure of those brains differs from person to person and is largely determined by the genes we inherit from our ancestors. This helps explain why people behave differently: not because they necessarily pursue fundamentally different goals, but because their neurological “configuration” differs.

Behavior is further guided by reward mechanisms. An important element in this process is the release of dopamine in the brain, among other regions within the hypothalamus. This functions as a form of reward: behavior that produces pleasurable feelings is reinforced and therefore more likely to be repeated.

From this it follows that every human being, consciously or unconsciously, strives toward situations that trigger this rewarding sensation. What exactly produces that feeling differs from person to person. For one individual it may involve acting in self-interest; for another, acting in the interest of others. Altruistic behavior itself can also generate rewarding feelings, for example through appreciation received from the group.

In this way, an important insight emerges: behavior that we describe as “good” is often behavior rewarded by our brains. But that does not necessarily mean it is objectively good; rather, it means that it is functional within the system in which we live.

When we extend this reasoning to the biological level, we see that DNA forms the foundation of these processes. DNA contains the “programming” of the body and remains within the cell, while RNA functions as a messenger that transfers this information and enables new cells to acquire the proper functionality.

Within this genetic system also lies the basis of our drives: the tendency toward survival, both of the individual and of the group. This manifests itself in a combination of self-oriented behavior and altruism. Neither should necessarily be viewed as moral choices; rather, they are evolutionarily developed characteristics.

It is important not to attach immediate value judgments to these traits. They are conditions for our existence. Species in which such characteristics were insufficiently present simply disappeared. What remains are those species, including humanity, that possess the necessary combination of characteristics required for continued survival.

Variation is essential in this process. Without variation, a species would be unable to adapt to changing circumstances. Diversity is therefore not merely a byproduct, but a necessary condition for survival.

All of this supports an idea expressed by thinkers such as Dick Swaab: life itself has no predetermined purpose. What we experience as purpose is the result of processes directed toward survival rather than toward meaning.

Yet the question of morality continues to occupy us. Philosophers such as Susan Neiman ask whether human beings are naturally good or fundamentally self-oriented. The fact that this question repeatedly returns suggests that human beings possess a deep-rooted need to assume or discover morality.

That fact alone is meaningful.

It suggests that morality, regardless of its objective status, plays an important role in how human beings understand themselves and their behavior.

Perhaps, however, morality should be approached differently, not as something absolute, but as an expression of underlying drives.

Through evolution, human beings possess both:

- self-preservation as individuals;
- and orientation toward the group.

From this it follows that both selfish behavior and altruism are necessary. Without either one, the species might not have survived.

It therefore makes little sense to label one as “good” and the other as “evil.” They are complementary characteristics within a functioning system.

We observe this not only in humans, but also in many other animal species. Primates, dolphins, elephants, and numerous other animals display behavior that humans might describe as social, empathetic, or even moral, despite lacking religions, legal systems, or explicit moral frameworks.

This suggests that such traits are not merely culturally imposed, but biologically rooted.

The familiar example of a lion killing a lamb illustrates this sharply. From a human perspective, such behavior may appear cruel. Yet within the system it is necessary behavior: without it, the lion’s cubs would starve.

The question of whether this is “good” or “evil” thereby loses much of its meaning. What remains is functionality.

The idea that all of this may ultimately reduce to “chemical processes” sometimes provokes resistance. Yet even if feelings such as happiness, love, and meaning arise from chemical processes, this does not diminish the reality of the experience itself.

We live, experience, enjoy, and strive regardless of the underlying mechanisms.

The fact that all of this may occur without an explicit purpose or higher mission has not prevented humanity from developing, reproducing, and forming complex societies.

From a philosophical perspective, it is interesting that even before religious systems such as Christianity emerged, thinkers such as Aristotle developed ethical reflections strongly resembling later moral systems. This suggests that ethics may not necessarily depend upon religion, but instead arise from general human characteristics.

Religions may strengthen or structure such systems, but they do not necessarily appear to be their origin.

Finally, when we step back and place humanity within the larger whole, the universe itself, it becomes clear that human ethics constitute only a local phenomenon.

From a holistic perspective, absolute moral rules may not exist. What humans describe as ethics are agreements and interpretations within the human domain.

These may even come into conflict with broader systems such as:

- the Earth;
- ecosystems;
- and natural resources.

Nature itself possesses no morality, but instead follows processes that tend toward balance. In that sense, perhaps only the Second Law of Thermodynamics approaches a universal principle: systems tend toward entropy and equilibrium.

Yet no ethics are inherently contained within that principle.

What all of this asks of humanity is humility.

Humility regarding our convictions about good and evil.

Humility regarding our place within the larger whole.

And above all, the realization that our moral systems are not universal truths, but arise from what we are.

## 12. How Do We Convince People and Governments to Care for the Earth?

### Key sentence:

Sustainable action requires not only rational arguments, but also emotional engagement and collective persuasive power.

### Start:



The state of our planet is a cause for concern. There is structural climate change, in which human activities play a demonstrable and significant role. The question is no longer whether we must act, but how we can do so in an effective and broadly supported way.

### **Individual versus collective action**

Addressing climate problems at the individual level proves in practice to be insufficient. Although every behavioral change contributes, the scale and complexity of the ecological crisis are such that effective solutions can only be realized at the level of governments, and preferably even on a global scale.

Nevertheless, change ultimately begins with individuals themselves. Therefore, it is useful to first look at our own national situation.

In the Netherlands, policy is established through a democratic process. Political parties rarely obtain an absolute majority, which means governments consist of coalitions. New legislation also requires approval from both the House of Representatives and the Senate. This means that political change depends on sufficient public support.

In other words: without convincing the voter, there is no structural policy.

### **The power of persuasion**

The voter, and ultimately the government, must therefore be convinced of the necessity to act. Here we can draw on a classical insight from Aristotle, as described in his Rhetoric.

According to Aristotle, persuasive power rests on three pillars:

- Logos: the rational content of the message,
- Ethos: the credibility of the speaker,
- Pathos: the ability to appeal to the emotions and interests of the audience.

Facts and figures alone are not sufficient. Information about CO<sub>2</sub> emissions, temperature increases, or sea level rise may be rationally convincing, but without trust in the messenger and without emotional engagement, it will often have insufficient effect.

The message must therefore not only be correct, but also:

- come from a credible source
- and connect with what truly matters to people

Only then does real movement occur.

### **Survival as an evolutionary motive**

When we connect this with earlier insights, it becomes clear that humans are evolutionarily oriented toward survival. If we want to encourage people to adopt sustainable behavior, we must link this to their own future, and that of their children and grandchildren.

As long as climate change is experienced as something abstract or distant, urgency will remain limited.

But when it becomes clear that:

- come from a credible source

- livability is under pressure
- economic stability is affected
- and future generations are at risk

it directly touches fundamental human drives.

The narrative must therefore not only be about “saving the Earth,” but about securing our own future.

### **Earth’s balance and vulnerability**

The Earth is a complex and dynamic system that usually maintains its own balance. Local disturbances, such as storms, droughts, or volcanic eruptions, are in many cases absorbed by the system itself.

But when disturbances become structural and large-scale, for example due to human overexploitation of ecosystems, that resilience may decrease or even disappear.

This is where the risk of the current situation lies: not a single disturbance, but an accumulation of influences that put pressure on the system as a whole.

### **The pressure of population growth**

An important factor in this development is the growth of the world population. More people means:

- more food production
- more energy consumption
- more land use

To meet this demand, we rely on intensive agricultural methods, including the use of pesticides. This affects ecosystems, such as the decline of insects, including bees, which are essential for pollination.

In addition, nature contains an enormous amount of knowledge and potential:

- plants with medicinal properties
- animals that contribute to medical research
- ecosystems that have barely been studied

By damaging biodiversity, we lose not only species, but also opportunities.

### **The example of the Aboriginals**

Traditional cultures, such as those of the Australian Aboriginals, show that things can be done differently. They lived in close connection with their environment and took only what was necessary to survive.

For example, when they used an edible plant, they took only a portion, allowing the plant to continue to exist.

In our modern consumer society, that balance has often been lost. Instead of using nature, there is often exploitation.

### **Limiting population growth?**

The idea of limiting the world population is sensitive, but not without reason a topic of discussion.

As long as humans were just one of many species, the system remained in balance. Now that humans have become dominant, we influence the system on an unprecedented scale.

This creates a complex ethical dilemma.

Countries that have historically been less developed rightly want access to the same prosperity and opportunities as the countries that preceded them. Asking them for restraint without perspective is not realistic.

A convincing narrative must therefore not only emphasize limitations, but also opportunities:

- a livable environment
- better health
- long-term stability

Population control can also be achieved in a humane way, for example through:

- education
- access to healthcare
- economic development
- voluntary family planning

Given the relatively short human lifespan, this can have an effect within one or two generations.

Possible consequences, such as aging populations or labor shortages, can be addressed through technological innovation and redistribution of labor.

## **Conclusion**

When we bring all these elements together, it becomes clear that the solution does not lie in a single measure, but in a combination of insight, persuasion, and cooperation.

The challenge we face is great, but not insurmountable.

If we want people and governments to truly take action, we must go beyond merely presenting facts and figures. We must tell a compelling story, a story that:

- is rationally grounded (logos)
- is supported by credibility (ethos)
- and connects with human emotions and interests (pathos)

Only when these elements come together does sufficient support for real change emerge.

Our future depends on our ability to collectively understand, accept, and act upon this narrative.

## 13. Appendices with Reflections

### Key Sentence:

The appendices deepen and illustrate the discussed themes through personal notes, critical reflections, and additional observations.

### Appendix 1 Reacties op Boeken.

#### Appendix 1.1 “The Revolt of the masses” by Jose Ortega y Gasset (1930).

While reading *The Revolt of the Masses* by Ortega y Gasset, I was struck by the proposition in the preface: that a state should ideally be led by an intellectual elite. At first this idea appealed to me, because for a long time I hoped that the world would naturally be governed by sensible, idealistic people. Institutions such as the United Nations appear to be an attempt at such a world order, but in reality they often turn out to operate as bodies of compromise between national interests and power blocs, rather than as an idealistic compass. The problem here, of course, is whether a universal idealistic compass actually exists.

We also see this tension in our national politics. Political parties proclaim their ideals, but often do so with a populist strategy: they shape their message in such a way that it resonates as much as possible with a broad electorate, rather than remaining faithful to their deepest convictions. To some extent this approach is present in almost all parties.

The central question is: does “the mass” actually have the insight and long-term vision to govern a society sustainably? Or would it be better if leadership were provided by people with knowledge, experience, and integrity—in short, an elite? But that solution immediately raises new questions: who determines who belongs to such an elite? What criteria do we use? And how do we prevent this elite from eventually becoming complacent, distant, or even corrupt?

These questions are thousands of years old. In *The Republic*, Plato (Athens, ca. 427 BC – there, 347 BC) has his characters discuss different forms of government. His preference is for the philosopher-king: a leader trained in justice and wisdom, and therefore uniquely suited to govern. Karl Popper (1902–1994) strongly criticized Plato for this view. According to Popper, it is dangerous to search for the “best ruler.” Much more important, he argues, is the design of a system in which bad leaders can be replaced safely without bloodshed. That, in his view, is the true strength of democracy.

This idea is also shared by physicist Sean Carroll. In his podcast *Mindscape*, he emphasizes that elections in themselves are not proof of a functioning democracy. The decisive criterion is whether power can be transferred regularly and peacefully. Russia provides a striking counterexample: elections exist, but the transfer of power itself appears to be systematically made impossible.

#### Appendix 1.2 “De Meeste Mensen Deugen”, by Rutger Bregman (2019).

This dutch title means: “Most People Are Good.” The book’s title immediately raises fundamental questions. What exactly do we mean by “good”? Whose standard are we using: Rutger Bregman’s, that of a liberal-democratic society, or perhaps that of a religious or extremist ideology? And if it is true that “most people” are good, what does that mean in practical terms for our behaviour or worldview? Isn’t our society already implicitly based on the trust that most others behave decently?

Bregman supports his thesis with historical examples in which people appear to act morally under pressure. But the question remains whether these examples are truly representative of humanity as a whole. There appears to be no solid empirical basis that justifies this claim on a global scale. Are there statistical data per continent or cultural region? And if so, what moral “benchmark” is used to measure this?

A single dramatic exception is sometimes enough to destabilise an entire system. Take the example of an airplane carrying five hundred passengers, one of whom turns out to be a suicide terrorist. Although 99.8% of the people on board are “good”, one outlier can lead to disastrous consequences. What are we to do with the comforting claim that “most people” mean well? Does it fundamentally change our choices or attitudes in life?

Bregman resists the idea that altruistic behaviour stems from selfish motives, calling that view cynical. But perhaps it is more useful to reconsider the term “selfishness” itself. It is a heavily loaded word. Instead, we might speak of egocentrism or subjective survival logic. A striking metaphor is the oxygen mask on an airplane: passengers are advised to put on their own mask before helping others. This may seem selfish, but it is in fact a necessary precondition for being able to help others at all. In a broader sense: one can only contribute to the survival of the group if one is first able to function independently.

From an evolutionary perspective, behaviour that we regard as “good” is not necessarily moral or deliberate. It is more likely a programmed tendency in our genetic system, developed to increase the survival chances of both individual and group. What we define as “good” is therefore not absolute, but contextual, pragmatic, and variable. One person is more empathetic than another, but this variation is evolutionarily relevant. In some environments, more cooperative types are more likely to survive; in others, the opportunists prevail. In that sense, it may even be desirable that not everyone is “good”.

The popularity of Bregman’s book seems in part to stem from a longing for a positive view of human nature, a kind of collective self-affirmation. The message that we, as a species, are “basically good” provides a comforting feeling. That is understandable. But it becomes problematic when this optimism is presented as something radically new or groundbreaking. The idea that people are generally trustworthy has long formed the unspoken foundation of social interaction. If we truly believed that people are *not* trustworthy, we wouldn’t trust the mail carrier, walk across a bridge, or even start a conversation. Every day we take countless social risks precisely because the social contract, that most people adhere to basic norms of decency, is already internalised.

Bregman’s English title, *Humankind: A Hopeful History*, suggests more humility than the Dutch original. Perhaps in English, they deliberately distanced themselves from the more charged and normative formulation “most people are good.” After all, on closer inspection, that is more a value judgment than a factual statement.

**In conclusion:** the book raises important questions and deserves appreciation for its optimistic tone. But a reflective reader is justified in raising critical notes about the pretension, the burden of proof, and the normative framework in which “decency” is presented.

## Appendix 2 Transport via Digital Coding

When humanity’s survival on Earth is threatened, we might turn to the idea of interstellar migration. The evolutionary drive for self-preservation and reproduction constantly compels us to search for survival strategies. But traveling to planets beyond our solar system is practically unfeasible with current technology. The distances are too vast, our speeds too low, and the required energy is immense.

What if, instead of physical displacement, we opt for informational transmission? Light, carried by massless photons, can travel at the highest known speed. When only information, and not matter, needs to be transmitted, we can make use of this maximum speed.

This raises a fundamental question: **What makes a human who they are?**

If we assume that being human is entirely determined by the configuration of atoms, molecules, neurons, and their interrelations, in other words, the precise structure of body and brain, then, in theory, this information could be recorded. A complete digital scan of a person could then serve as the basis for reconstruction elsewhere in the universe.

This leads to an alternative approach to space travel:

- The body does not travel, only the information about the body does.
- This information is transmitted via light signals.
- At the destination, this data is decoded and possibly converted into a physical equivalent.

#### **Possible scenarios:**

1. The receiving planet harbors a civilization with comparable technology capable of decoding the data and virtually reconstructing the individual.
2. This civilization has the capacity to physically build human bodies from locally available atoms based on the received structure.
3. If only basic elements such as hydrogen are available, heavier elements could be synthetically assembled, provided the environment allows for it.

#### **This method offers several key advantages:**

- Transmission occurs at the speed of light.
- The required energy is relatively low, especially when using focused laser communication.
- Multiple copies of the same “individual” could be made, raising ethical and philosophical questions.

This principle could be tested on Earth, for instance, by digitally transferring an object or living organism between two terrestrial locations, one as sender, one as receiver, where the object is reconstructed locally from available atoms.

As an illustration: the nearest star system, Proxima Centauri, is approximately 4.25 light-years away. Even with a spacecraft traveling at 100,000 km/h, the journey would take over 46,000 years. In contrast, transmitted information would arrive in just over four years.

This approach confronts us with profound questions: **Would a copy of ourselves on another planet truly be “us”? And if so, what does that mean for our understanding of identity, continuity, and personal consciousness?**

## **Appendix 3 Putra’s Reflections on Selected Podcasts**

In this appendix, personal reflections by Putra are presented following two podcasts he listened to: one about Spinoza and one about David Haig. His observations provide valuable illustrations of how classical and modern ideas on consciousness, ethics, evolution, and meaning relate to each other.

### **1. Spinoza: Substance, Thought, and Impulse Control**

In response to a podcast about Baruch Spinoza (1632–1677), Putra summarizes a few key points, interwoven with personal reflections:

- A. According to Spinoza in his *Deus sive Natura* (Ethica), everything consists of one substance. Nature was not created by an external force; it is its own cause. No creator is needed to explain its existence.
- B. Thought exists in three forms:
  - Sensory perception,
  - Reason (ratio),
  - Intuition.
 What distinguishes humans from animals and plants is primarily reason. Humans possess intuition too, but to a lesser extent than reason.
- C. Those who develop their capacity for reason are less dependent on external influences and impulses. Although Spinoza does not reject impulses, he values rational action above impulsive or intuitive behavior. This is understandable: rational decisions can be reviewed and improved. They offer learning potential that spontaneous reactions do not always provide.

This reasoning leads to an interesting consideration: are animals truly incapable of learning? Putra points to the example of a dog repeatedly tricked with a ball. After a few attempts, the dog recognizes the deception and resists the impulse. Animal training also shows that animals do, in fact, possess some form of learning capacity. Perhaps Spinoza underestimates them in this regard.

- D. According to Putra, meditation is a practical method for distancing oneself from impulses, in line with Spinoza's pursuit of inner freedom through insight and self-knowledge.

## 2. David Haig: Genetics, Culture and the Evolution of Meaning

In a second podcast, David Haig (2020) discusses the evolution of meaning, from Darwin to Derrida. Putra summarizes the main insights as follows:

- A. The reason a certain gene still exists today is its past success. For example, a gene that enhances sexual pleasure may have contributed to more offspring. But in today's cultural context, that same gene may lead to its own decline: contraception has disconnected pleasure from reproduction. According to Haig, evolutionary emphasis could shift toward genes associated with nurturing and parenting. Culturally, societies with strong emphasis on reproduction (such as some religious groups) might gain evolutionary advantage, even if they suppress pleasure.
- B. Genes are units of information passed on from both parents to the child. When a gene is transferred from father to daughter or mother to son, it must be "translated," so to speak, into the context of the other gender.
- C. Not all human choices and meanings can be fully explained through chemistry or physics. The decision to share a podcast, and someone else responding to it, implies a level of meaning that transcends the material.
- D. Genes are essentially geared toward their own survival. However, this does not mean that the organism, the gene carrier, behaves selfishly by definition. Paradoxically, altruistic behavior can contribute to the success of genetic material.
- E. Thanks to language and intelligence, humans have developed complex cultures. This enables us to frame our natural behavior as desirable or undesirable. It provides an added moral dimension that sets us apart from animals, who act primarily out of instinct and intuition.

## Appendix 4 Reproductive Processes

### Appendix 4.1 Relationship Between DNA, RNA, Cells, and Genes in the Reproductive Process

Reproduction is a complex biological process involving DNA, RNA, cells, and genes. Below is an overview of how these elements work together during reproduction:

1. **DNA and Genes:**
  - DNA (deoxyribonucleic acid) is the genetic material of almost all living organisms on Earth. It consists of two long strands of nucleotides that form a double helix.
  - Genes are specific segments of DNA that contain the instructions for synthesizing proteins, the building blocks of life. Each gene encodes a specific protein.
2. **Reproduction and Genetic Transmission:**
  - The purpose of reproduction is to pass genetic information from one generation to the next. This occurs via sex cells, also known as gametes, which carry specific halves of the genome.
  - Humans have two sets of chromosomes, one inherited from each parent. Sex cells, sperm and egg, each contain only one set of chromosomes, which together form a diploid zygote upon fertilization.
3. **Fertilization:**
  - Fertilization is the process in which a male gamete (sperm) fuses with a female gamete (egg) to form a diploid zygote.
  - During fertilization, the genetic material from both parents combines, resulting in genetic diversity.
4. **Cell Division:**
  - After fertilization, the zygote begins to divide through mitosis. This leads to a growing cluster of cells that eventually develops into an embryo.
  - During this period, the genetic information (DNA) of the zygote remains intact and is copied and distributed to all daughter cells.
5. **RNA and Protein Synthesis:**
  - RNA (ribonucleic acid) plays a crucial role in protein synthesis. There are various types of RNA molecules, including messenger RNA (mRNA), ribosomal RNA (rRNA), and transfer RNA (tRNA).
  - During protein synthesis, the DNA in genes is used as a template to produce mRNA. This mRNA exits the cell nucleus and enters the cytoplasm, where ribosomes assemble proteins using the information from the mRNA and tRNA.
6. **Genetic Inheritance:**
  - As the embryo develops, all body cells of the organism are derived from the same genetic blueprint.
  - Genetic traits from the parents are passed on to their offspring, leading to genetic diversity within the population.

**In summary**, reproduction involves the transfer of genetic information from parents to offspring via gametes, with DNA serving as the blueprint for building organisms, and genes containing the instructions for producing proteins essential to life. RNA and cellular processes also play a vital role in translating genetic information into proteins during the development of a new individual.

## Appendix 4.2 The Aging Process in Humans

The aging process in humans is a complex biological phenomenon influenced by genetic, environmental, and lifestyle factors. Although the exact mechanisms are not yet fully understood, several hypotheses and theories attempt to explain how and why aging occurs.

Here are some key aspects of the aging process:



1. **Genetic Factors:**
  - Inherited genetic factors play a role in how quickly and healthily people age. Some individuals have a genetic predisposition to longer lifespans and a reduced risk of certain age-related diseases.
2. **Cellular Aging:**
  - Cells in our body have a limited lifespan. Over time, cells become damaged due to the accumulation of harm to their DNA, proteins, and organelles such as mitochondria.
  - The **telomere theory** suggests that telomeres, the protective ends of chromosomes, become shorter with each cell division. When they become too short, cells can no longer divide and eventually die, contributing to aging.
3. **Oxidative Stress:**
  - Oxidative stress occurs when free radicals react with cells and tissues, causing damage. This can contribute to aging and age-related diseases.
  - Antioxidants help the body manage oxidative stress.
4. **Changes in the Immune System:**
  - The immune system changes with age, leading to a decreased ability to fight infections and a higher risk of inflammatory diseases.
5. **Hormonal Changes:**
  - Hormonal changes play a role in the aging process. For example, the decline in hormones such as estrogen and testosterone can lead to symptoms of aging in both women and men.
6. **Changes in Tissues and Organs:**
  - Aging often comes with wear and tear on tissues and organs. This can lead to reduced function in organs such as the heart, kidneys, and brain.
7. **Lifestyle and Environmental Factors:**
  - Lifestyle choices such as diet, exercise, smoking, and alcohol use can influence the rate of aging.
  - Exposure to environmental factors like pollution, UV radiation, and stress can also contribute to aging.

In summary, the aging process results from a complex interplay of genetic, cellular, hormonal, immunological, and environmental factors. While aging is inevitable, healthy lifestyle choices, such as a balanced diet and regular physical activity, can help slow the process and improve quality of life in later years. Research into aging and ways to delay it remains an active area of scientific inquiry.

## Appendix 4.3 The Aging Process in Flatworms

Flatworms, such as the regenerating flatworm *Planaria*, have a remarkable capacity for regeneration and appear not to exhibit a clear aging process like many other organisms. Here are some characteristics of how the aging process works in flatworms:

1. **Regeneration:**
  - Flatworms are known for their ability to regenerate lost body parts. If a flatworm is injured or even cut into pieces, it can fully regenerate the missing parts and become a complete organism again. This regenerative ability is unique and contrasts with the aging process as observed in other organisms.
2. **Continuous Cell Renewal:**
  - Flatworms maintain a high level of continuous cell renewal. They possess stem cells in their bodies that can differentiate into various cell types. This means that cells are constantly being replaced by new, healthy ones, reducing the accumulation of damaged cells and tissues.
3. **No Telomere-Related Limitations:**
  - Unlike many other organisms, flatworms do not appear to have strict telomere-related limitations on cell

division. Telomeres are the protective ends of chromosomes, and in many organisms, they shorten with each cell division. This contributes to aging, as cells eventually lose the ability to divide. In flatworms, this mechanism is less restrictive, supporting their regenerative and cell-renewal capabilities.

4. **Environmental Influences:**

- The lifespan and aging process of flatworms can be influenced by environmental factors such as nutrition and temperature. Under laboratory conditions, with certain treatments and genetic manipulations, flatworms can even appear to be biologically immortal.

It is important to note that despite their fascinating properties regarding regeneration and aging, flatworms are not directly comparable to humans and other vertebrates in terms of aging processes. Much remains to be discovered about the genetic, molecular, and cellular mechanisms involved in the biology of flatworms and how they avoid aging. However, research into flatworms may offer valuable insights for regenerative medicine and provide possibilities for understanding and treating aging in other organisms.

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## Some Interesting Quotes

**Nietzsche** once said to the cow:

**"Why are you so happy?"**

The cow replied: **"Because I do not think about the future or the past. I think of nothing at all."**

But by the time it tried to say this, it had already forgotten what it was going to say.

**Übermensch** is the name coined by Nietzsche for the courageous human being who is capable of fully embracing life and creating new values independently.

The Übermensch does not seek the meaning of life in a hereafter or in a Platonic world of ideas, but in life itself.

The Übermensch is not a superior race, as it is sometimes misinterpreted, but the human who refuses to create illusions in order to soften existence.

**"Man is a rope tied between animal and Übermensch."**

**Sartre** says:

*"Life has no goal; the goal is life itself."*

**Comments by Kant:**

- "One should not teach people philosophy; rather, one should teach them how to philosophize."
- Regarding the Enlightenment movement (17th/18th century), he defined it as:  
*"Enlightenment is the emergence from self-imposed immaturity."*

# HUMANS

*On the  
Relativity of  
Ethics, Evolution, and Behavior*

By  
Albert Prins

END

Your feedback is welcome at:  
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