How can and should the individual live well in society?

An essay for family and friends

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Original in German

Wie kann und soll der Einzelne in der Gesellschaft gut leben?

Machine-translation into American English by *deepl Pro*

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Gender-sensitive language

The reader is asked to rethink the grammar of the text into the correct form of his gender, origin, or desired form. I dare anyone to be able to do this.

1 Preface

I have just been studying Jürgen Habermas's late book, "Also a History of Philosophy". It is about the development of philosophical-theological world views since the beginnings of human culture and the embedding of ethical and legal rules of conduct in them.

In this context I discussed with my wife Doris some critical questions about Luther and the separation of the Protestant from the Catholic Church, which were new for us in this sharpness, and tried to peel out the relevant core questions from the set of arguments gathered by Habermas. Doris asked me whether I could not compile a simple overview of the most important questions, from which even a layman could quickly recognize what is at stake. I understood this as a mission, which I hereby fulfil for her, my descendants and interested friends.

In doing so, I do not limit myself to the partial topics dealt with by Habermas but attempt to construct an overall view from my limited knowledge. This manuscript does not claim to be a scientific publication. It is a stimulus for reflection and creative contradiction.

I do this from the point of view and with the technique of a physicist who strives to impart knowledge and to have an effect on society, who is used to drawing independent conclusions from the wealth of what he has learned, read, experienced and considered, and who is prepared to take personal responsibility for this, and who is prepared to leave his technical jargon behind in order to communicate his own assessments to others.

In terms of form, even in publications that go beyond the specialist article, the humanities scholar is predominantly addressing competitors in his own field, to whom he must not or does not want to reveal any weakness. The language of his publication is therefore the specific jargon of a specialist, which is difficult for laymen to understand. He cites quotations, sources and comments by third parties for every consideration adopted by predecessors in the course of his life. He refers to them and to his own earlier publications as if he the reader had studied them all.

This leads to an enormous inflation of the text volume, in which the "public", political intention of the publication is often concealed rather than revealed.

I first noticed this in Niklas Luhmann's 1000-page work "*Die Gesellschaft der Gesellschaft*[1]" (Sociology), whose intention was certainly capable of generating public impact, but whose socially important content, in my opinion, could have been condensed into 200 pages and translated into a generally understandable language.

It became even clearer to me during my last holiday reading in Paros, the new book by Cornelia Koppetsch "*Die Gesellschaft des ZornsFußnote* [2]", a political work in which a considered approach to the "right ones " in society is justified. At "only" 282 pages, its message is covered by a jumble of quotations, but of course they are not exhaustive, so that a veritable tear-down *from the point of view of her peers* could appear in *Der Spiegel.* Too bad!

In Habermas, finally, the actual message is hidden and enigmatic in no less than 1700 pages. Who should and will actually not only skim over this, but study it? If Habermas would not barricade himself behind his predecessors, but take a personal stand, this could be an

[1] *Society of Society*
[2] *The society of rage*

eminently important book on today's socially burning questions in 200 pages, given his wisdom of age. As it is, it will probably remain another tome in specialist libraries.

2 What is it about?

The essential questions of modernity are

1. how should man behave so that human society is a good one?
2. Why would he, as an individual, choose to behave this way?
3. How can society get individuals to behave this way?

Simple as they are, they immediately raise complicated questions of detail.

1. Who judges which form of society is good? Even if one assumes that, as a precondition, the vast majority of people in a given society declare their form of society to be good in a "democratic vote", there is obviously not only one solution, but several mutually exclusive ones (e.g. representative democracy, autocratic democracy, dictatorship, people's republic, theocracy, ...).
2. In individual cases, it can be advantageous for the individual to violate generally agreed and fixed rules without great overall damage (in game theory terms, the problem of the *commons*[3]).
3. How much coercion is necessary, or freedom allowed so that more or less everyone abides by rules?

In order to be able to deepen this, it makes sense to first consider the present-day framework of our reasonably secure knowledge about the world and about human beings, which is given to our fellow human beings. This is partly quite different from that of our predecessors of antiquity and the Middle Ages and makes some problems that used to seem important recede into the background, but also new ones emerge. In this respect, a consideration from today to earlier is easier than the usual consideration *ab ovo*[4] to today as used by Habermas.

3 Truth, belief, opinion, ideology

There is only one area whose statements are absolutely true or false, i.e., which cannot be questioned by additional or future knowledge: this is abstract logic and mathematics as applied logic. Its statements (propositions) proceed from precisely defined basic assumptions (axioms) and prove, according to the rules of logic, that within their framework certain propositions are irrefutably true or false or undecidable. Once a mathematical theorem has been proved, there is no future possibility of disproving it. The following very simple example shows that it is not at all easy to mentally reproduce logical proofs. Try it!

[3] *Allmende*: The meadow accessible for use by all citizens of a community or bay accessible to all fishermen. How do you prevent individuals from taking more than they are "entitled" to without being observed? This important question will be discussed in more detail later.
[4] *Ab ovo*: from the egg, from the beginning

According to the form, it is a proof *by refutation of the contrary*

Proof that there is no largest integer (natural number)
Definition: Let 1 be the unit of the integers a;
Law of formation of integers: a + 1 is an integer; a + 1 = 2, 3, 4, 5, ...n, ...
Opposite hypothesis: *there is a largest integer n;*
logical conclusion: then n+1 is not an integer.
This contradicts the law of formation.
Conclusion: the sentence *There is a greatest integer n is* false.
Conclusion: the proposition *There is no greatest integer n* is true.

One can also say: mathematics is constructed in such a way that its statements can only be true or false, and whether they are true or false is determined by a proof, which is itself mathematical logic.

All other statements can only be assigned a probability that they come close to an *absolute truth in* the mathematical sense. They are beliefs to which a more or less high *credibility* is assigned.

The high credibility of modern, scientific statements is based on the fact that they are subject to the *falsification* proviso: they are fundamentally based on the observation and measurement of numerous similar, repeatable individual events and are valid as long as no deviation is found in any repeatable, new individual event. If deviations are found, the scientific model (the theory) is extended in such a way that, on the one hand, it applies to all earlier statements, but also contains the additional "discoveries". It is therefore an *evolutionary*, learning model, accessible at any time to the measuring test. As long as no deviation is found, the statement is considered true in the context of the falsification proviso, in a colloquial sense - not in the absolute, mathematical sense.

A single event, like a *miracle* or an *enlightenment*, cannot be marked as true or even as probable in the sense of a scientific statement. It lacks the basis of a repetition and verification of comparable events. Nevertheless, they can evoke the impression of absolute *certainty* in the individual and are also not scientifically refutable as long as they are claimed as single events; one can at most question them with probability arguments, but this overlooks the uniqueness character.

Beliefs based on an enlightenment experience play a prominent role in religions. That a residual doubt remains even in the case of profound believers becomes clear from the fact that over many centuries highly learned religious representatives endeavored to elevate beliefs to the rank of absolute truth with logical arguments (e.g. *proofs of God*).

For the credibility of modern religious communities this means renouncing statements about things of the real world that could be verified by natural science.

The claim of the Christian churches also to statements about the world of things was the cause of conflicts flaring up again and again, which in the modern age gradually dissolved with the retreat to their actual area, although not everywhere at the same pace and with the same consistency.

The remaining, large areas of (Christian) religious belief are.

- the individual's hope of redemption, which is connected with the belief in an immortal soul,
- the proclamation of and belief in a system of right action (ethics) which shows man, as a member of a human community, the way to a good life.

With increasing scientific understanding of the brain, the belief in an immortal soul and thus the idea of salvation in the beyond may lose its broad basis. The ethical mission of proclamation remains unaffected by such possible changes.

It is interesting that in the Confucian system, which is also very successful and lacks the idea of a soul from the outset, there is another ethical mandate in addition to the ones we are familiar with: the mandate to optimally develop one's own person through intensive learning and acquisition of traditional cultural knowledge.

That which we call *opinion* belongs to the *weak* contents of faith. In the case of opinions, we assume that they are not unchangeable, but that they are capable of compromise when confronted with other opinions, i.e., that they can be changed through learning, instruction or consideration.

A firmly held opinion, a conviction, is a *strong* belief that is difficult to change.

We speak of an ideology in the case of convictions which are not capable or willing of change, which determine the essential contents and aims of life for the *believer* and which are so entrenched that they are not prepared to deal with other arguments.

Militant ideologies seek to convert others to their ideology, through persuasion, persecution or violence.

4 Our knowledge about the world

4.1 The physical world of things and knowledge

Today we trust the scientific method of researching the real world, because according to it every momentary state of knowledge is only valid as long as it is not disproved by an observation in an individual case or recognized as worthy of supplementation (*falsification* hypothesis). It is a learning method.

4.11 Learning ability and authority

This characteristic leads to a peculiarity in the transmission and dissemination of scientific knowledge as opposed to that of the humanities.

Everyone stands on the shoulders of his predecessors. No intellectual insight, no matter how brilliant, comes from nowhere, but builds on the insights of a whole chain of historical predecessors.

In the natural sciences, however, the authority of intellectual greats quickly fades as knowledge becomes more precise, and thus with time. No physicist needs to have studied *Lucretius*, *Galileo*, or *Newton* in the original, and to have quoted their texts, in order to write an approved publication of his own reflections. Even a very well written textbook survives little more than a generation. What one must know and cite are the latest teachings and findings of others on one's own subject.

In mathematical language it can be expressed like this: Physics publishes the differential rate (the change) of knowledge, presupposing the current knowledge as given. Our present scientific-physical view of the world may change in detail in the future, but it remains re-constructible in retrospect under the present boundary conditions of knowledge (why did we judge it that way at that time and why was it *correct in* the colloquial sense under the state of knowledge at that time?).

The humanities scholar does not have it so easy. His topics have remained the same in essence since the beginning of cultural development and there is no criterion of progress

secured by something like the falsification proviso (*world history does not repeat itself!*). In its place is set the *authority*[5] of thinkers highly regarded at their time; a postulated progress is oriented to the difference of their opinions and requires the citation of both. Since one cannot claim that the insight of a later thinker has rendered that of an earlier one irrelevant, one must know and cite the whole historical chain until one can come to one's own conclusion in a recognized way.

So, it is the secured learning ability of natural science that allows it to deal with the most difficult topics in short essays.

How should one hold it as a natural scientist, if one ventures into a predominantly humanities field (which is what is happening with this text). Here the Internet opens a new and great way: to every sub-topic, to every name mentioned, to every sentence rich in content, one finds there not only one quotation, but a wealth of quotations and expressions of opinion, which open up a depth and breadth of information unknown to the specific quotation.

The mention of names in this text is therefore an explicit invitation to use this modern possibility. I only cite books if I think that the reader, independently of this essay, could benefit from reading them himself.

4.12 Physics as a model of the world

The method of physical description of the world consists in searching for a *model for* individual processes in the world which can be formulated in mathematical terms, and which describes the actual process "sufficiently" precisely.

Sufficiently means that within a required accuracy the model behaves like reality and that one can calculate on the basis of the model how reality changes if a *parameter of* the model (e.g., time or position) changes.

To illustrate this with a simple, but also not too simple example, let us consider a swing with a child that is repeatedly pushed by its brother. If we describe the process with words, as in the introductory sentence, then we already involuntarily break down the process into individual components in a model-like manner

- Swing: a board hanging down from two ropes attached to a hook at the top.
- Child: an object with weight (*gravity*) at the bottom of the swing
- Brother: A mover (*motor*) gives the swing a push with every movement.

The simplest mathematical model for this is a pendulum, consisting of a weight suspended from a weightless thread, which is pushed at the lowest point of its oscillation in a horizontal direction with a constant effect on its motion.

When calculating this model, it turns out that its oscillation should swing further and further with each impact, i.e., also with time, which does not agree with reality. Something *essential* was absent in the model:

- the resistance of the air, which extracts energy from the pendulum as *friction,* during movement.

For the model supplemented with friction, we can calculate that the swing performs a periodic pendulum motion with constant deflection and constant time between the deflections (*periods*), if the energy added in the impact in each case compensates for the energy consumed by friction during the last pendulum deflection. If energy input is larger, swing will

[5] Wikipedia: *Authority, in its broadest sense, is the prestige ascribed to an institution or person that can cause other people to act and think according to it.*

be larger and by a small amount also period will be larger. If the pendulum is no longer pushed, its swing will become smaller and smaller.

This describes reality sufficiently that we now *understand* how a swing works.

In fact, the real swing is more complicated:

- The suspension point of the ropes moves with the deflection (*zero point*).
- The rope length changes with the deflection of the oscillation (*elasticity*).
- The board flexes with the deflection (*elasticity*).
- These three processes create additional friction.
- The impulse does not always occur at the same point of the oscillation (its *phase*).
- The impulse is not always the same size (*energy content*).
- The air resistance (*friction*) changes with the movement of the child.
- The two ropes twist together as they move.
- etc. etc.

One can investigate an extended model that takes one or more of these effects into account and calculate how large their influence is. It will be closer to reality than the simple model but will add little to our understanding of the swing as a whole.

Physical models should, in their basic form, allow the essentials of a process in nature to be recognized and calculated, and they should be able to be extended in such a way that a large number of similar but not identical processes can be compared qualitatively and quantitatively.

The demand on the mathematical way of describing the model grows with the number of variable quantities considered and their interrelationships (*degrees of freedom*). In the example of the swing, the model without friction can already be calculated with school mathematics, and with friction it can at least be made plausible. Above this, one needs the apparatus of nonlinear differential equations of second or higher degree.

To understand a natural process, its physical model should be *as simple as possible* and *sufficient for the necessary accuracy*.

4.13 The simplicity of physics

The amazing thing about the physical worldview is the surprising simplicity of its models and their universal applicability.

This makes sense if you take the simple *law of leverage* as an example: *Work = Force times Displacement*. It covers the function of a myriad of "machines": screw, pliers, crowbar, gear wheel, shovel, winch, oar, paddle, propeller, ...

Even more comprehensive is the *energy theorem, which is* quite simple in its logical statement: *The energy content in a closed system is constant*. With it one can calculate the temporal change of all parts of a closed system known in their interaction (its *differential equation*), thus for instance the direction and speed of a moving car, the movements of a clockwork, a rocket, a satellite, ...

Maxwell's equations describing all electromagnetic processes fill six half typewriter lines.

With a single, very short mathematical equation (i.e., logical connection), highly complex relationships in space and time can be described, such as the movement of all particles in space. For this, the logical formulation of the gravitational attraction between 2 particles and its generalization to many is sufficient.

The fact that it takes considerable and laboriously acquired prior education to see through these connections, or to be able to calculate their consequences oneself, is another matter.

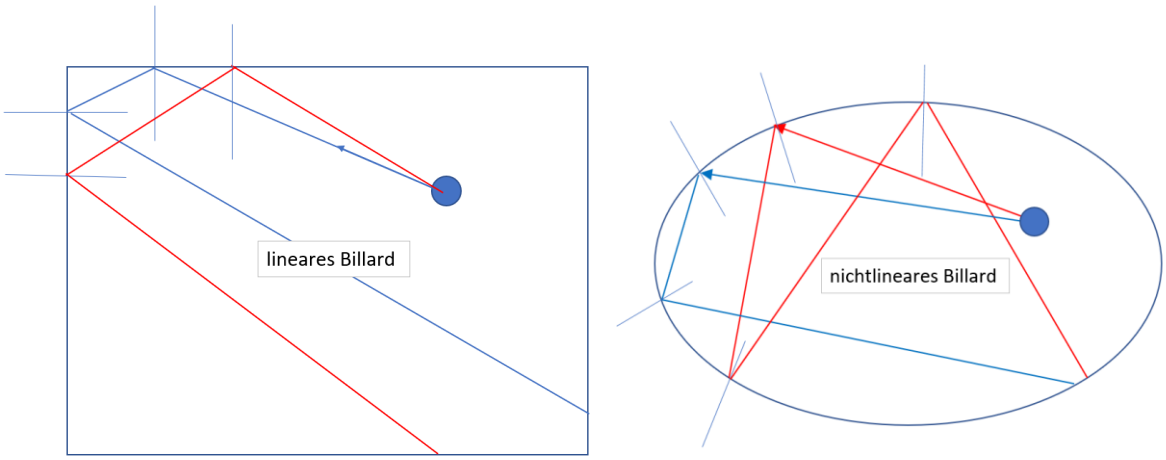
4.14 Linear and nonlinear systems

What is essentially new compared to the pre-modern idea of a fully predictable model world built like clockwork is the approximately 100-year-old realization, originating from mathematics, that despite the causal (determined) temporal links, the predictability of events in nature can be very limited, because most real, physical relationships are *non-linear*.

The difference between *linear* and *non-linear* will be made plausible by a simple example from recreational sports.

The left game shows a normal billiard game, where the walls reflecting a ball are straight (linear) and here are perpendicular to each other.

The law for the ball reflected at the wall is generally: *angle of incidence* = *angle of* reflection.



In linear billiards, the player can thus calculate quite precisely where the ball must be reflected for the first time, i.e. in which direction he must aim (red or blue) so that he hits a certain point (another ball, a hole) after 2 reflections. The angular difference of the two blue and red impacts remains constant, the distance of the two impact points simply grows (linearly) with the distance [6].

Linearity does not require that the walls be perpendicular to each other, only that they be straight.

In the right picture the wall is curved, thus non-linear (here an ellipse). The difference in direction between the two impacts now depends on the impact points, namely on the difference of the local variable sine of the perpendicular to the wall. Thus, even with 2 reflections, it is difficult for the player to predict with sufficient accuracy at which impact angle which location will be hit. It depends much more on the exact initial direction as in the linear case.

The angular function *sine (of the* angle *of incidence)* is a typical nonlinear function frequently found in physics. In practical cases, not only 2 but 3 or 4 nonlinear interactions would have to be considered in billiards, and the final result in nonlinear billiards becomes increasingly dependent on the exact knowledge of the initial value (here the direction of

[6] One can demonstrate this vividly without any mathematics if one cuts out the ray cones and joins them together. In the linear case, the result is a cone of constant aperture. In the non-linear case, the aperture changes with each reflection.

impact). One then quickly reaches the limit of the measurement accuracy with which an initial value can be determined.

In practically important processes of physics and technology, the measurement accuracy is in the range of 10^{-5} to 10^{-8}, for the most accurate frequency measurements up to 10^{-20}.

This concerns single events. In practical life, one must reckon with the interaction of numerous non-linear processes and then their temporal predictability is very limited.

In general, the non-linearity of interactions leads to the fact that the conditionality of the final states from the initial states increases with time and finally the final state can no longer be calculated from the limited knowledge (measurability) of the initial states[7] . So, there is a future horizon of detailed predictive knowledge which varies from case to case (in the universe it is normally very long, in the microcosm very short).

The application of physical knowledge in (engineering) technology is therefore generally limited to linear "machines" which are constructed in such a way that their function can be predicted almost indefinitely and can be traced back to a convincing, not too long chain of simple, linear cause-effect sequences.

"Scientific" predictions of complicated relationships over long periods of time, on the other hand, are subject to a high degree of unpredictability, and their promulgators should declare this, but probably often do not understand the problem involved themselves.

4.2 The biological world of organisms

For the most part, we today regard the realm of *organisms* as not fundamentally different from the realm of *things*, but as immensely more complex in its inner connections.

There is no doubt that the laws of physics also apply in the field of organisms; however, it would be hopeless to try to describe their interrelationships in their entirety mathematically or as cause-effect chains.

The almost universally accepted, comprehensive scientific world view of the animate is that of *evolution*, according to which, over a period of billions of years in a suitable environment (temperature, humidity, chemical building blocks), organisms described as "living" develop and differentiate from inanimate matter.

Whereas until modern times most people saw a stark, essential difference between plants and animals, in the evolutionary worldview this is only a gradual one.

Different species evolved through random changes of genetic material transmitted between generations, incorporation of foreign genetic material, selection in the struggle for existence with limited resources, adaptation to locally limited resources, selection of sex partners according to momentary preferences, etc.

With the realization that each of the order-of-magnitude 10 billion x 10 billion stars in the cosmos has a planetary system[8], the anthropocentric[9] notion that biological evolution was a one-time event on Earth is also evaporating.

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[7] There are other mathematical-physical limits besides the measurement limit of the initial conditions: complexity of relations, quantum mechanical fuzziness, etc.

[8] Our own planetary system contains beside 8 planets and their approximately 200 moons in the *Kuiper belt* approx. 20,000 objects with more than 100 km diameter, and in the *Oort cloud* presumably 100 - 1000 billion objects of so far unknown size distribution, which all orbit the sun.

[9] *Putting people first*

For biological evolution, its "normally" vanishingly slow pace is characteristic, which leads to the fact that billions of years are necessary until animate organisms develop from primordial organisms, and many millions of years until, for example, the ape-like genus - recognizable from the fossils - branched out into apes and human-like organisms.

However, there are also individual, comparatively very rapid changes in the composition of living beings, when changes in their environment force a selection for adaptability. They are made possible by the fact that in the genome of a species there is a certain breadth of possibility for differentiation, which under constant conditions is not used, but in an "emergency" enables the selection of genome variations adapted to it. Here, differentiation can take place in a few generations, which is not based on the creation of new genetic material, but on selection among already existing one.

For biological evolution to be possible, some rules must apply in a suitable environment

- There is a carrier of information about the characteristics of the genus (e.g., DNA)
- This information carrier is very stable, but not completely unchangeable (in *mutations*).
- This information is passed on from generation to generation (e.g., in seed and egg cell)
- There is competition among living things for limited resources (e.g., food, space, sexual partners) in a *struggle for existence.*

Biological evolution leads to the fact that in a given environment the most suitable (fittest) living beings at the respective time predominate. Since there is a considerable range of characteristics for this, many species can coexist in the same environment. In fact, many simply organized genera have been able to survive almost unchanged and side by side for billions of years, while the human-like ones have only been able to be distinguished from other living beings and evolve in a changing manner for about 4 million years.

The number of surviving organisms is capped by the balance between resource supply[10] and resource consumption.

The product of the *number of living beings multiplied by the resource consumption of the individual.*

must be smaller than the *resource supply*[11].

As long as the resources are greater than the consumption of a particular species, its number of individuals can grow, even very rapidly. Normally, however, the total number of living beings is in an equilibrium between the different species, characterized by competition for resources, so that the total "biomass" is roughly constant; a species can then only increase in number by suppressing other species.

The transition can be observed, for example, on new rubble heaps, where a lush, yellow carpet of flowers forms in a few years from the always abundant seeds of a few "weeds" and the freshly opened mineral resources. As soon as the weeds come into competition with less abundant seeds, this flower carpet disappears again and makes way for a more stable mixed planting.

[10] *Resource* here: what is needed to live - details later in the text.

[11] This is not a snapshot statement; these are coupled control loops that require one to many *generations to* balance when a change occurs - see *hunter/prey schema* and *Volterra function*

Biological evolution has no goal in the sense of the distinction between lower and higher living beings - that is a teleological[12]invention of man, who likes to see himself at the top and as the goal in a temporally aligned evolutionary pyramid.

Every living thing is evolutionarily perfect in its environment.

4.3 Evolution in non-biological and social systems.

In modern times it was recognized that the basic mechanisms of biological evolution - information carriers, inheritance of information, struggle for limited resources - have system-theoretical significance beyond the field of biology for the development of complex systems in general, whose development cannot be adequately understood from simple cause-effect analyses because of the complicated interaction of their members.

This includes social, political, and ethical systems in a human society, including their evolution over time.

This insight is, for example, also a key point in the work of Niklas Luhmann, cited at the beginning of this article. Here he emphasizes the *autopoietic* aspect, which is essential for evolution in human society, that here the rules of the development of a certain system are themselves subject to a possibly rapid, evolutionary change, while the biological selection rules are very stable.

In the overall framework of the evolution of human societies, there have been four major leaps that distinguish them from societies of other animals.

1. The common development of an abstract thinking ability connected with linguistic ability, which assigns a name to sensory recognized things as a symbol, about which one can exchange with others, in order to come to agreeing or differing judgements. In the exchange "proven" *knowledge* could be stored in the memory and independently of the time linguistically passed on, thus also be inherited.
2. The invention of writing made it possible to permanently record what had once been recognized, without relying on the reproducibility of what had been transmitted from memory, and to pass it on to subsequent generations. It also allowed the knowledge of one individual to be passed on equally to all *initiates* (those who knew the Scriptures). It was particularly important that with writing the scope of the entire knowledge transmitted could go far beyond the memory of an individual and could be recorded in a differentiated manner.
3. The invention of printing, together with the introduction of more or less universal schooling, made the written knowledge previously available only to *initiates* available to all people of *good will to read*. For the author of a printed work, it opened up wide scientific, political, or social possibilities for action; this led to an explosion of knowledge and opinion as a whole that was set down in writing.
4. The advent of digital information processing, with the sheer limitlessness of digital storage, eliminated the earlier limitations of accessible "data", allows instant individual access to a large subset of all data with the *personal computer* and the Internet, and the instantaneous, worldwide exchange of data with a theoretically unlimited number of people with the Web.

[12] Telos: Greek goal

These 4 developmental thrusts can be seen as *cultural* mutations of human society, analogous to the rare, major mutations *of* biological evolution.

While the first surge of language ability may have taken an evolutionary phase of 1 million years, writing ability developed in different places and societies within a few thousand years (about 6000 to 1000 a.C.).

Book printing was a spontaneous invention of a few people (East Asia 8th century, Europe 15th century) and its mass effect prevailed in each case within a century.

The *digital revolution* only took decades, and its scope cannot even be foreseen today.

The cultural mutations created a rapidly increasing body of *prior knowledge for* the rising generation, which could be taken over from the parent generation, and on which its members could build with their own experience and knowledge - if they wanted to!

In it, however, they adopted not only certain knowledge but also believed, supposed knowledge and errors.

Today, in the age of *Fake News*, we should be aware that stored information and the information that refers back to it can be not only unintentionally false, but also intentionally false. It can thus become, beyond the means of language that have always been abused for this purpose, an extremely effective medium of influence, of propaganda, advertising, brainwashing and manipulation.

For a few decades now, this possibility has been reinforced by the technically enabled exploitation of the far greater ability of influencing people by visual impressions (television, smartphone, video, TV) than by information they hear or read.

5 The human being

5.1 Man and soul

Until the present day, most people in Western culture saw an essential difference between animals and humans in the fact that humans have a *soul*, which was not granted to animals. Animals were thought to be a kind of machine that reacted to environmental influences via the sensory organs.

With soul one meant the already described ability of humans to occupy things of the real environment with ideas about them (names) and to think about these and their connection with others, detached from the momentary sense impression of the single things. In connection with this, the ability to speak was also seen, which makes it possible to exchange thoughts with others and, in general, what we understand by cultural development (even on one's own, one cannot "think" without language or visual symbolic ideas; while thinking, one is constantly talking to oneself, in thought or silently spoken words and in pictures).

As long as there was no knowledge of the complex structure of the brain and its tremendous ability to process information, i.e., until well into the 20th century, it was almost inconceivable, even to the scientist, that these human abilities were material bodily functions. Therefore, they were explained by the existence of a second form of existence of man as a *soul*. Since it could not be localized anywhere, it gained the character of an invisible and weightless, all-pervading substance beyond the physical elements, which was firmly connected with man in his existence.

This construct became the cause of deepest problems in philosophy and theology, which evaporate as soon as one renounces it.

Today the concept of a soul is disappearing from science. Modern biology tries to dissect the complex and often seemingly inscrutable mechanisms of perception in the sense organs, data acquisition and transmission in the nerves, data storage and linking in memory, reflection, judgment, and initiation of action into the interaction of the many billions of brain cells[13].

This has also dissolved the sharp distinction between man and animal. Today we are ready to assign simple "soul processes" to animals, judge their social behavior as predecessor stages or parallel worlds of the human one, and even in the Christian-influenced culture we begin to assign to animals an independent personality and a right of their own (which is e.g., an ancient conviction in Buddhism, but was also anchored in Roman law).

Only the very orthodox today do not see humans in a common evolutionary lineage with apes and their predecessors, that is, a common family tree of all living organisms.

Connected with the idea of a unique soul of man was also the idea that man was the crowning glory of the biological world, that the entire development of the cosmos up to that time had been purposefully directed towards his emergence, and that the purpose of the world was the preservation of man (*teleology*).

A modern echo of this idea is the diffuse fear that "nature" could be destroyed by man, while at most the basis for human life is in question, but the evolution of the totality of organisms as *nature* under the feared changes will always continue beyond all human, temporal imagination.

5.2 Ancient human fears

Two peculiarities of human - more generally of organic - life have plagued mankind, probably since their ancestors had any abstract cognitive faculty at all:

1. Death as the inevitable end of life.
2. The randomness of happiness or unhappiness in individual lives *(why me?)*

(wonderfully expressed in Schiller's poem "the victory feast".
Without choice distributes the giftsWithout
equity the fortune
For Patroclus [14]lies buriedAnd
Thersites returns

5.3 Ancient human rules of conduct

With all socially living creatures, and so certainly also with such predecessors of man who lived millions of years ago, there are evolutionary developed and within the generations inherited passed on behaviors, without which a survival of the species or a society is simply not possible:

1. The *sexual love* that results in male and female coming together peacefully as a family, at least temporarily, and producing offspring during that time.

[13] The number of nerve cells in the brain is about 100 billion (100 000 000 000). Each individual nerve cell is connected to up to 30 000 others. The length of all connections is in the order of 5 million kilometers and corresponds to about 150 times the circumference of the earth.
[14] In the *Iliad*: Patroclus - the blameless, radiant hero; Thersites - the unsightly, quarrelsome creep.

2. The *parental love* that leads to helpless human newborns not being eaten by their parents (which does happen in the animal kingdom) but being nurtured by their parents and tolerated in the family unit at least until sexual maturity.

3. In addition, there are learned rules of social obligations and restrictions on one's own actions, as soon as it has been recognized as advantageous for survival that more than just the family members protected by parental love live together This includes the simple rules that later survive in all "social contracts" and religions:

   Within the group you shall

   - *not kill,*
   - *not disturb partnerships,*
   - *not cause trouble.*
   - *not take away property,*

On the other hand, there are no behaviors necessary for the survival of the species, and therefore necessary by nature, which extend these rules to all living beings of the same species (i.e. *all humans,* for example) or even to all living beings.

In fact, until modern times, groups of people who felt they belonged together in tribes, nations or religions uninhibitedly instigated wars against other groups defined as *outsiders,* which were openly or disguisedly aimed at *robbery, murder, oppression and enslavement.*

In the moral rules there is no explicit demand *Love your children!* It is not necessary, because such behavior is already evolutionary.

In contrast, the demand is found everywhere: *Honor your parents!* It is necessary because it is not evolutionary, but necessary to protect the parents' generation against the *Oedipus*[15] urge of the sons.

4. One must see as the fourth evolutionary trait of man the capacity and propensity of the individual to enslave all living beings (including fellow human beings) and things, where by *enslavement* I mean submission to one's own will for the purpose of one's own benefit.

Thus, man as a species and as an individual is not content to harvest the "fruits of nature" that exist independently of him, but radically reshapes nature for maximum benefit.

Nor is he satisfied with owning what he himself creates, but he uses the activity of others to create additional individual property from it, in an unpeaceful method by taking it away in war, in a peaceful method and also within his own group by subordinating others to an organization. This is always accompanied by the appropriation of goods and values created by others.

5.4 Ancient cosmological ideas as a precursor of religion

With evolutionary increasing brain complexity, with growing ability of linguistic formulation of sensual impressions and mental reflection in them, certain impressions had to impose themselves on the consciousness, which concern the total environment.

1. The events in nature run by and large according to fixed rules (falling stone, spear throwing, seasons, predator/prey pattern), albeit with fluctuations and randomness.

[15] Oedipus kills his father, marries his wife (his mother) and takes over his kingdom. The fact that he kills his father unwittingly makes the tragedy so appealing, but it is not its psychological core.

2. The further one removes oneself thereby in abstractions from the real things, thus for instance in the line *stone - moved stone - movement - cause of the movement - cause of all movement in the world, cause of the happening in the cosmos*;
   or *I - you - we* [16]*as family - we or they in the group - they as all human beings - they as all animal living beings - they as the whole of animated nature - they as earth (Gaia) - he (she) as cosmos* -the more difficult the concept is to grasp and the more sublime and all-embracing it appears.

From these two lines[17] alone it can be seen that such abstractions always run towards a highest, from which, once defined, the lower levels of abstraction can be formed by simplification and specialization.

The motionless observed starred sky[18] as the highest material thought-structure appears to its observer as unchangeable and perfectly ordered, while on levels below increasingly changes occur, first with explainable cause-effect and finally as random individual events, not explainable by simple causes.

It is obvious to take the abstraction one step further, to a highest concept of *God*[19]*, in* order to understand all events as coherent and ordered in themselves, for which 2 ways are open

- It is assumed that the totality of events on a *large scale* proceed according to plan (the *divine plan*), but that in individual cases God intervenes in a corrective way.
- It is assumed that the *totality of events* proceeds in a planned and unalterable manner according to divine precepts, whereby chance, luck and misfortune must somehow appear to be justified.

These are probably the primal beginnings of reflected, religious ideas, which one finds in all developed, theistic, later religions. Before that, there may have been rites born simply of fear and hope to invoke salvation and ward off disaster.

In the former, e.g.,, in later Christian-Jewish models of thought, God is quite naturally a personified idea, because only such an idea can be imagined as intervening in its own overall plan. There can be the idea of many gods with different characteristics and partial plans, as in Greek-Roman antiquity, or also monotheistic ideas, whereby different groups each feel that they belong to *their* god.

In the second, fatalistic model, God need not be imagined as personified, as in Spinoza[20], who identifies God with nature, or in Buddhism and Confucianism, which do without the concept of God at all. Man must come to terms with fate as it is and contribute to shaping human society (Confucianism) or all the living world (Buddha), as well as possible and with compassion for others.

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[16] In linguistic theory, since Humboldt, the pronouns *I, you, he-she-it have been* treated as primordial symbols of self-knowledge (I), of communication to a second (*you)*, and of *thirds* not belonging to *I and you* (excluded) *(it, they).*

[17] Important other, classical lines of abstraction are those of the *good*, the *beautiful*, the *true*

[18] Only about 5000 years ago the planets were discovered to be moving and only since modern times we know that in the cosmos there is a highly complex jumble of galaxies, stars, planets and particles, the motion of which is hidden to the unarmed eye only by the huge distance of the objects and the enormous time span of recognizable changes of location compared to the human life span.

[19] It makes no difference in this context whether one believes in a multitude of gods with different spheres of activity or in a single god

[20] Baruch Spinoza 1632-1677

In the embellishment of the concept of God, all the highest, abstract attributes are finally assigned to him*: all-powerful, all-wise, all-good, immortal, without beginning or end, etc.*

5.5 Ancient hopes of mankind

1. As long as the cause of the aging process and thus of death, which is literally at the *core of* living things (in the limited permanence of DNA), was not recognized and accepted as part of life itself, that is, until the present, every death had to be regarded as a misfortune in which one wonders whether it strikes one through no fault of one's own, or whether one is somehow to blame for it.
2. The "unfairness" of happiness or unhappiness also challenges us to reflect on what lies behind it, an *inscrutable counsel* of God or a random aspect of life that is to be accepted.

In the model of a personal God, the possibility is offered to ask him for a fortunate providence during one's lifetime or to try to make him favorable through sacrifices or a particularly *godly* way of life. It is not to be overlooked that this does not always succeed, so that the question remains why he is infinitely kind in his overall plan, but not in the individual case (*theodicy*).

In the fatalistic case there remains the acceptance and personal confrontation with chance (European atheism and Confucianism), or the idea that one might have lived once before and that through badness in that life one has caused and deserved the misfortune in the present life (*transmigration* as basis of the caste system in Brahmanism/ Hinduism).

If one combines these ideas with that of a soul separated from the corporeal, one can finally also overcome the fear of death by assigning immortality to the soul. It can then survive after physical death, with the possibility of an existence as a bodiless being without suffering or even in recognizable joys (*afterlife, heaven*), or it can become flesh in ever new living beings (*incarnation, transmigration of souls*) and thus carry out a continuous transmigration of souls in an eternal life.

But it can also suffer in eternal damnation for outrages committed (*Tantalus, Sisyphus* in *Hades of* Greek mythology; *Hell* in Christianity and Islam).

Adversities in life can be more easily endured if one believes that after the earthly life plagued by suffering comes a heavenly life of the soul without suffering, or suffering is even rewarded in the life in *heaven.*

5.6 Religious beginnings

It was not as easy for early man as it is for the well-read modern man, building on his predecessors, to mentally develop complex models of his world. His early insights into interrelationships probably initially related to simple processes in nature, such as the connection between lightning and fire.

As is the case today, not every individual develops novel thoughts, but individuals, especially gifted ones, gain them after intense consideration of contexts in the form of an *insight* or an *epiphany* which they feel to be as true as the result of simple sense impressions.

This, too, must be imagined in evolutionary terms, beginning with the simplest assumptions and slowly developing over many generations, with orally transmitted prior knowledge of preceding generations forming the basis of one's own knowledge.

For this to be possible, the believed knowledge of the individual endowed with knowledge must be passed on within the group of one generation to the others of the group and then to the next generation.

Even today, whoever thinks he has arrived at an insight wants to communicate it to his fellow men for their good or warning. If he is fortunate enough to speak with one of equal ability, he will and can do so by way of persuasion through comprehensible reasoning. If he is confronted with more limited people, he will try to persuade them to agree with his opinion on the basis of the *authority* he enjoys as an intellectual or social superior.

Authority attaches genuine and believed knowledge and contributes to its reproduction.

Persuasion requires repetition to have a lasting effect. This could be the origin of cultic, mystic, and religious rites[21], in which the once recognized authority is periodically confirmed in a common action.

In the individual case, nothing is said about whether the perceived knowledge or the individual cognition is true in the abstract sense[22] or merely an opinion that is at best well-meaning.

In social evolution, however, errors or arbitrary opinions will only be able to survive in the long run if they lead to a structure that is judged to be at least non-harmful in comparison to recognizable alternatives.

5.7 Modern aspects of education

How are contents of knowledge, beliefs, rites transmitted from one generation to the next?

Only late in life - after the "education period" - this happens by appropriation of their own accord.

In early childhood, the brain is tremendously receptive and formative. Thus, any small child can effortlessly learn any language in the shortest time. However, it generally only learns the mother tongue, because it alone is present to it every day and thus shapes its brain structure.

A small child can easily experience the integration into any moral norm or religious system that is exemplified in its immediate environment. It learns - is shaped - "by its parents".

With the start of school, gently beginning with daycare, abruptly with the start of elementary school, the authority of the parents is extended to that of the teachers and thus possibly also comes into conflict. At this age, the child already has a largely solidified basic brain structure, which is by far not as plastic as it was after birth. This can be seen, for example, in the fact that learning another language is now a laborious effort that takes many years, and even with the greatest success at school, the possible linguistic perfection of the mother tongue is not achieved.

The basic convictions in religion, ethics and social behavior are also already implanted by the parents and are refined, formalized, deepened, internalized, and redirected in their

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[21] In classical Chinese culture, where *rites and music* play an important role, they are seen above all as a means for shared experience and the practice of exemplary behaviour.

[22] Even when thinking mathematically about complicated problems, one sometimes has *enlightenments that* show one the right way in a flash, but which then turn out to be wrong in the laborious process of mental dissection. In mathematics one can recognize this logically, with other enlightenments this corrective is missing.

objectives in individual cases at school. How this happens depends to a large extent on the teachers' own world of conviction, which now competes with that of the parents.

Only rarely in this process does a *revolter* develop who questions everything and all educational authorities, generally a personality whose convictions differonly gradually and in individual aspects from those of parents at the same age[23].

In adolescence, *peer* pressure from the same age cohort has an influence that should not be overlooked. This pressure, largely independent of the authority of parents and teachers, brings about similar behavior in certain aspects of life, thus counteracting any previous differentiation of personalities and consolidating uniform group behavior.

What is new, is the influence of *social networks* in the sense that young people are drawn into a circle of like-minded people (an *Internet bubble*), irrespective of their spatial environment, which leads to the standardization of opinions in a circle that is not necessarily localized and can extend far beyond that of the peer group.

The pressure of opinion in peer groups and Internet bubbles is very strong, can oscillate largely unconnected to general norms and beliefs, with sometimes bizarre momentary consolidations of opinion, and thus introduces a statistical element into the boundary conditions of social evolution.

In any case, upbringing and education ensure that the accepted norms and behaviors generally change only slowly and on an evolutionary scale of generations.

Since parents are normally only subject to minor environmental influences on their convictions, the influence of teachers, or other authorities influencing young people, on social changes is particularly strong on a generational scale. A group in society that consciously wants to bring about change in its own interests will therefore propagate the "march through the institutions" (catchphrase of the *'68 generation*), and thus primarily through the schools. A group that wants to maintain the existing conditions for ideological reasons will also try to keep the school system in its hands, as the churches had succeeded in doing for many centuries.

In this context, it is astonishing to see the penetrating success of the youth that National Socialism achieved in the short time of its existence (only 13 years!) by the fact that a large part of the teaching staff professed their support for it very quickly after the seizure of power and that it raised its own youth organizations (*Hitler Youth* HJ, *Bund deutscher Mädels*[24] BDM) in addition to the school. A parallel to this is the success of the communists in postwar Italy and in the GDR, who offered young people an ideological counter-scaffolding in "educational systems" outside of school, such as the *Free Democratic Youth* FDJ, with an intensive range of leisure activities, against a world view of the parents' generation that had just been discriminated against, flirting to a certain extent with the Oedipus complex.

The last three examples illustrate the extent to which ideas institutionalized in adolescence are preserved in adulthood. Major evolutionary changes in social systems require causal changes in educational systems; temporal changes require generations. A sweeping change in ideological positions, even with intentional action by interest groups, requires that *the old generation has since died out*.

[23] You have to consider the same age bracket because otherwise the natural father/son conflict obscures the actual continuity.
[24] *German girls*

The previous knowledge of earlier generations, including the errors it contains, is perpetuated and thus solidifies in the minds of the living by the educational systems.

6 Evolution of Social Systems

6.1 Rites, religion, and political power

With the transition from an existence as hunter-gatherers to systematic agriculture (from about 10,000 a. C. onwards), the possibility arose to gain a certain material surplus over the current necessities of life, and the advantage of a settled existence on a personally cultivated, productive stretch of land, which became the *property of* the cultivator.

There also resulted

- the compulsion to defend acquired *treasures of* supplies and now valuable *cultivated land* against outside enemies,
- and the possibility of robbing enemies declared as such of their treasures and cultivated land, if necessary, by extermination.

Both favored groups that succeeded in uniting a number of people far beyond the family circle in such a way that they felt they belonged together (*village, town, nation*) through family, signs and symbols (languages, [25]religion, rites, clothing, etc.) and excluded outsiders as potential *enemies*.

Furthermore, in the long run, groups were favored that developed a division of labor, which, for example, separated the defense against enemies by warriors from the cultivation of the arable land by farmers.

With an expanded division of labor, groups of specialists could emerge who could achieve a far higher productivity in individual activities than the necessarily all-rounders. With the higher productivity of such a community based on the division of labor, an even greater surplus could be achieved, and a greater number of descendants could be raised - an avalanche effect.

A society based on the division of labor requires a structural organization, for which the age-old division of activities into

- Farmers,
- Citizens (craftsmen, traders, etc.)
- Military (Warrior),
- Administrators of rules and rites (priests)

developed practically everywhere, and it requires a

- Leader,

who decides in warlike conflicts with enemies and in disputes between its own *citizens.*

It is natural and logical that *wealth should* accumulate from surpluses around a leadership once it is in place, as *wealth* is necessary to finance the war effort, the administration and the organizational structure.

[25] How strong the segregation by language alone works shows that the highly cultivated ancient Greeks called all those who did not speak their own language "barbarians" (*Stammler*). Even in classical Rome, educated people were convinced that one could not pursue complicated thoughts in Latin and therefore had to master Greek.

It is also natural that the leadership and the military have a closer relationship to each other than either has to peasants and citizens - even though the latter create the material basis of the whole.

This social evolution is overlaid by the tendency to enslave one's fellow men, from which hardly any individual, once he has reached a position of leadership, can escape.

A leader who has reached the top, no matter how he has done so, is highly motivated to consolidate his own position of authority and power of disposal over wealth permanently in his circle of influence, and if possible beyond the end of his own life - by inheriting property and by establishing a hereditary dynasty[26].

The priesthood as administrators of the rules and rites has a similar interest in the consolidation of the conditions, whereby their original interest may well be unegoistic, since they are probably convinced of the lasting importance of the respective rites and rules for the community.

An alliance of leadership power and priesthood is beneficial to both.

In the further development of the vast majority of cultural peoples, the priesthood confers on the "king", through the assignment of mythical consecrations, an authority in the community that goes far beyond his own personality. He becomes part of the cultic rite, is blessed with *divine grace*, even a direct descendant of a god, or even a god himself.

In the union of mutually well-understood interests, the king can leave to the priesthood the administration of the general rules and the educational mission for the succeeding generation, which will be quite natural in the sense of a solidification of the existing, thus also of the royal authority. The priesthood thus permanently gains *power over the souls* and over the existential fears of the people.

I will leave it at this well-founded speculation about the differentiation of very early political power and religion, since a systematic pursuit to the real, first civilized peoples would go too far and would not contain any essentially different connections

6.2 Laws and rules

Instead, I want to leave the uncertain ground of *prehistory* and argue how in more recent, historical times, roughly since 1000 a.C., the rules of living together in a larger society (state, people) have been understood.

In general, the legal rules are now distinguished from the ethical (moral) rules (norms, commandments).

The legal rules *(law, lex) are* prescribed by the state as binding on all citizens and are punishable by law, i.e., anyone who does not comply with them in an individual case suffers a penalty at the hands of the state.

Ethical rules require individuals to behave in a certain way but are not punishable by the state.

To take a simple example:

- *Defamation of* a third party is a violation of the law with the threat of punishment.

[26] A dynasty recognized by the people is also a kind of life insurance: if the succession is fixed, regicide is not worthwhile.

- *Lying* is a violation of an ethical commandment (*thou shalt not lie*) but is not subject to prosecution (unless the line is crossed into libel).

A problem immediately arises here.

It is clear that laws cannot define and regulate all aspects of daily life, because human interaction is far too complicated for that, and a body of law loses its meaning when it becomes so extensive that no one can take note of it (this is already partly felt by citizens today, for example in German tax law).

This gap is closed by ethical rules, because they are of a very general nature and thus applicable to all situations in life (*love your neighbor, respect his property, honor age, be polite, honest, decent, grateful, generous...,* in non-Christian cultures also: *honor the ancestors, do not torment any living being, ...).*

The dilemma now lies in this:

1. how are these non-punitive rules to be established?
2. how can you expect most people to follow them most of the time (otherwise they're no good for society as a whole)?
    - if in the individual case it is more advantageous for the individual not to follow them.

The dilemma lying in 2. is treated in game theory as that of the *commons*, a common meadow shared by all the farmers but not to be overgrazed, or of the lake fished by all the fishermen in common but not to be fished empty. Individuals could take an *outsized* share without noticeably defeating the purpose of conservation as a *whole,* if everyone else just took a *fair* share.

A trivial, modern example that can be observed again and again: Everyone would like to go for a walk in an unlittered forest. Nevertheless, one always sees discarded paper handkerchiefs shining conspicuously: if most do not litter, the culprit can go for a walk in a *largely clean* forest but avoids for himself the "cost" of keeping it clean, which is borne by the others.

The problem of the *commons* shows that in practice it cannot be solved without the threat of punishment, usually in such a way that the farmer or fisherman in question is excluded from the commons - a very severe punishment, therefore hardly ever carried out; the threat is usually sufficient if the punishment is severe enough.

For this purpose, there must be an authority above the commons which lays down the rules and sanctions violations.

Applied to the non-legally punitive, ethical rules, this means,

- that either fictitious punishments for non-compliance or rewards for good conduct must be associated with it, which *are not of this world* (laws) but belong to the firm, religious content of faith,
- or that action is taken out of an understanding of the meaningfulness of the ethical rules.

To the second possibility Spinoza contributes the resigned insight:

- few people act well from insight
- but all men can obey commandments

As a consequence, he assigns to religions the remaining task of leading non-insightful people to act ethically by prescribing *divine* commandments.

In classical antiquity, too, philosophers such as *Plato, Aristotle, and Epicurus* held that the wise act well out of insight, but that the people who do not come to this insight should be left to their belief in gods with their associated ethical ideas, which are, after all, good for the common wellfare, regardless of their justification.

In the above considerations on ethics, it remained open how ethical rules are to come about at all if they are not divine commandments.

6.3 The "social contract

This question is only clearly examined in modern times, with the idea that both legal and ethical norms stem from an agreement within society and form a *social contract in* terms of content.

Such an agreement may well come about as a determination under coercion, for instance under a dictator, conqueror or an overpowering priesthood - in each case with insight into necessary conditions of living together.

In contrast to this, there is the modern idea of a social contract to be striven for as a future goal, which is based on the voluntary consent of all. Immanuel Kant, within the framework of the philosophy of enlightenment, has developed the still authoritative guide to action in his *categorical imperative:*

"Act only according to that maxim (*the highest rule*) which you can at the same time want to *become a general law."*

In a slightly different formulation

"Act in such a way that the maxim of your will may at the same time be considered as the *principle of a general law*."

As concise as the formulations are, as complex are the conclusions that can be drawn from them.

Let's start with a trivial example. I want, *thou shalt not lie*. If I accept that this is a general law, it means that I must not lie (without exception).

Not so trivial: I want to convert *you to my view (rule of conduct, belief, worldview)*. Then I must concede to all others the right to want to convert me to their view. This has the consequence that I grant all individual views an equal right to convince others. So, I can also only expect changes from established views that are desired by all. That presupposes general insight or a community that, by virtue of upbringing and education, shares essentially the same views and desires for change.

In fact, Kant describes in his treatise on school *pedagogy* the basic features of ethical action as *subject matter in the sense of the Enlightenment*, and then ends by saying that if nothing is changed (!) in this school pedagogy and enlightened teaching for 100 years, then we will have come closer to the goal of a better human being.

When Kant speaks of *general legislation*, he was probably referring predominantly to the community within a small nation of his time, within which one can indeed imagine an evolutionary process of exchange of ideas and agreement leading to mutual agreement.

If we draw the circle further, for example to the current framework of the EU or the world, then we immediately recognize discrepancies between our actions and the categorical imperative. When we apply the rules of our Western capitalist model of society to the assessment of other social systems, such as Red China, Russia or Egypt, we do so without asking

their members about their views or even comparing them with ours in a process of compromise. Consequently, we cannot by ethical right expect or demand that the rules we want and establish be the basis of a general legislation that includes them. We can wish for it and promote it, but no more.

Every social system must be judged by the maxims of the totality of its members, that is, of all its members!

The discrepancy between ethical claim and action becomes immediately apparent if we do not problematize present differences in relatively equal societies but look at the abominable practices of colonization up to modern times, in which foreign social systems were forcibly imposed with the current European-national and -religious, with destruction of their own cultures, plundering of existing treasures and murder and enslavement of numerous members.

The idea of the social contract is an idealized conception, fitting in with the idea, which arose at about the same time, of a systematically progressing *world history,* which leads in time from a lower to a higher level of *morality*, is thus teleologically coined.

An evolutionary view is probably more realistic: the idea of a coexistence of functioning, different systems, with causal and also random changes, in which relapses from more complex to simpler systems also become understandable.

Connected with the ideal of a more progressive social contract as a basis for citizens with equal rights was also that of an increasing liberation of the individual from non-self-imposed constraints within it, i.e. increasing freedom of the individual in relation to society.

Where does freedom end?

From the Roman law one can take a very comprehensive and further current definition:

Free is the individual who can do what he wants.

Free is the individual in a society who can do what he wants as long as his actions do not restrict the freedom of others.

The question remains: is everything that does not restrict the freedom of others really socially and ethically acceptable?

The basic problem with the idea of a philosophically justifiable social contract is that no society has ever actually come into being in this way, and probably never will.

7 Some real social systems

After this excursion into idealistic conceptions of the state, let us now briefly consider examples from historical reality.

7.2 Pre-Ancient [27] Western Empires

In all prehistoric societies, with their emergence, a differentiation of their citizens into classes of different rights was formed.

At the top there is a "king", who is usually the representative of a hereditary dynasty.

[27] By antiquity I mean here the classical, Greek period from about 600 a.C, to 0 a.C. I also consider only the "western" great empires, such as in Mesopotamia and Egypt.

His god-like status is confirmed by myths and rites of the priesthood and secured towards the believing people.

From this derives the right to consider all the land as property of the king, which he can give to faithful collaborators from the military, administration, and priesthood as a *fief* or, more rarely, as hereditary property. In this way he establishes dependence on his position and person, and in return expects regular payments to finance his activities, and personal support.

The feudatories (nobles) gave small pieces of *their* land to peasants for cultivation in return for rent or for dues and services.

Citizens are somewhere in between.

A very flat pyramid is formed, with downward enormously increasing existential dependence. Since a fief holder had a great many peasants in dependence, even moderate levies led to a disproportionate accumulation of wealth on his part. Its partial absorption by the king multiplied the wealth of the latter.

An accumulation of wealth can only occur when surpluses beyond the absolute necessities of life are achieved at the base, i.e., among the peasants, and later also among the increasing number of citizens. According to the very simple understanding of economic relationships at the time, it was in the selfish interest of nobles to let the peasants exist at the lowest possible standard of living in order to maximize their own wealth.

At this point, we will briefly argue why the pursuit of wealth does not find a limit here where *everyone is well off*. This leads to the question of what constitutes a *good life*, which will be discussed more thoroughly later.

Epicurus[28] says: to whom *sufficient* is not enough, *nothing is enough.*

In fact, *greed for more,* along with the possibility of *enslaving others to increase wealth through their performance, is* such a deep-seated human trait that most of the really rich find no limit, or always see it in comparison to the richest they know. They do not aspire to more wealth at all, to use it to fulfill wants or needs, but simply accumulate more and more of it, in the form of houses, farms, money, stocks, numbers on bank statements, etc., and sacrifice alternatively possible, meaningful life contents for it.

Aristotle says about this in his *Rhetoric*: *The rich man is a rich fool*.

In the modern age, a better understanding of economic relationships was developed. Much more wealth is created than through maximum squeezing of the laborers, if one uses a part of the surplus to increase their productivity, and for this they must receive more than the minimum of life; this surplus leads through its consumption by the laborers to further wealth of the producers of the consumed goods and the owners of the means of production.

In the ancient empires, the accumulation of wealth was perverted in many examples by the fact that nobles and kings accumulated it in the form of material treasures (gold, precious stones, etc.). King Midas and also Kroisos proudly showed their amphorae filled with gold to the visitors.

This procedure deprived society of its previously generated surpluses without any benefit. They could have been used, for example, for the construction of irrigation systems, roads, ships, even schools, which would have enabled additional income through increased productivity and further increased prosperity.

[28] Epicurus c. 300 a.C.

It is grotesque that such treasures of course did not remain secret and then were cause for others to take them by force, which also happened to the mentioned ones in famous military campaigns (as one can read [29]very amusingly in Herodotus).

One of the greatest such raids in early history was the campaign of conquest by the *Greeks/Macedonians* under *Alexander* the *Great*, who with a small band of followers collected within a few years all the treasures accumulated over centuries in the Near East - the existence of which had become known in Greece through travelers.

Long before this, the Assyrians had already established a proper social system on this basis. They maintained a well-trained military force and raided their neighbors at regular intervals, took away their supplies and other treasures, and enslaved them. With inconceivable cruelty they terrorized the invaded and thus forced a regular influx of tributes until the next raid.

Wealth that is too visible
is an invitation to those who are poorer or more powerful to come and collect it.

The *migrations of* classical antiquity were triggered by knowledge of Rome's immense wealth among the warlike but poor Germanic tribes, Vandals, Celts.

Whereas at that time such knowledge was difficult and rare to obtain, today it is available worldwide in real time via the media, exaggerated even further by the boastful exaggeration of the facts that is customary there.

7.2 The ancient Greek city states

The ancient Greek city-states (*polis*), especially Athens, Sparta, and Thebes, occupied a special position among the ancient empires.

They were very small, self-contained societies of only a few tens of thousands of inhabitants each. Only a portion of them were full citizens, the rest strangers, and slaves. The citizens had small estates farmed by slaves or were craftsmen.

With the small number of full citizens, they could gather in the marketplace (the *agora*) in Athens, for example, to deliberate or vote together. Not all were equally politically active; family tribes emerged that had more influence than others over generations, with greater oratorical persuasiveness playing a role in the assemblies.

A first essential trait of these societies was that their citizens were content with a modest (*frugal*) standard of living. There were no private palaces, and individual excesses in fashion or lifestyle were generally despised. In the delightful climate, people lived contentedly half-naked, with simple meals, and socialized with friends over lively conversation and wine diluted with water. Physical training and the art of speech were common property. The citizen could afford to spend his life in abundant leisure, since the modest needs were mainly worked out by slaves.

A second key trait was that all male citizens were also highly trained warriors and seafarers, ready to move out at a moment's notice when needed. The city-states were therefore almost invincible for less organized and motivated opponents and were able to undertake lightning-fast raids. Captured riches were not squandered privately but put into public buildings such as temples and fortifications, which we still admire today.

In this climate of artful, leisurely thinking in a highly developed language, for the first time in the history of Western mankind questions were thought about in a truly profound and

[29] Herodotus around 400 a.C.: "Histories"

coherent way, intensive exchanges of ideas were carried out, the knowledge gained was recorded in writing and taught in schools:

- What is the GOOD, THE TRUE, THE BEAUTIFUL? (Philosophy and Epistemology)
- HOW SHOULD MAN ACT WELL (Ethics)
- What is NATURE? (Physics)
- How to tell if something is TRUE or FALSE (Logic)
- What is the IDEAL STATE and how to realize it (Politics)
- How TO CONVINCE in a speech (Rhetoric)
- WHAT MOVES THE MIND (Poetics)
- What to strive for and avoid in a FULFILLED LIFE (Epicurus)
- How to OVERCOME the Inevitable Suffering (Stoa)

On the basis of their own experience and reflections on human nature, they were convinced that no form of state organization is stable in the long run, but that a *democracy*[30] of equal citizens turns into an *ochlocracy* (rule of the mob), which is then replaced by a *tyranny* (rule of a single individual) through a coup d'état, until it finally turns into an *oligarchy* (aristocracy, rule of the few) through the competition of several, and finally the people force a *democracy* again.

One can assume that the mechanism effective in this was seen in a fundamental weakness of the democratic principle: the exchange of opinions on the agora provided for therein must finally be ended with a majority vote on which a will prevails that was not shared by the then defeated before the vote. It is thus part of the essence of a functioning democracy that, after the vote, all accept the majority will as now valid (until a next vote) and follow it - otherwise the state is not capable of acting.

When the finality of majority decisions no longer carries the day, democracy becomes unstable.

Another factor contributing to tyranny and aristocracy was the fact that majority decisions once a year also served the possible *banishment of*[31] disagreeable citizens and perceived troublemakers, who could then try to regain their personal rights in a coup d'état as influential strangers.

Plato saw the ideal state realized when the leaders of the state are philosophers with insight, and the children are removed from the (varying) influence of their parents at an early age and educated in the (uniform) philosophical sense.

The results of this thought process[32], which was largely handed down in writing and extended over a few centuries, were adopted by the leaders of the Romans who conquered Greece, but were largely lost as "heretical" with the introduction of Christianity in the West. They survived, however, in the Arab world, where they were rediscovered in the 14th century and now gave rise to the Renaissance (literally: *rebirth*[33]), which started in Italy.

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[30] *Demos*: Greek people

[31] A person banished with the *ostrakismos* had to leave Athens for 10 years, but did not lose property and personal reputation. Affected were often statesmen and generals, such as *Thucydides, Themistocles, Aristeides, Kimon*

[32] Aristotle alone 144 works

[33] In the sense of rediscovery and recollection of the level of knowledge already acquired in antiquity. The rediscovery of Aristotle's extensive works in Arabic translations contributed significantly to this, while Plato's rather detached ideas had found their way into early Christian theological thought via Latin translations (and are probably found again in the concept of the *Holy Spirit*).

The almost out of nowhere height of knowledge in this time is marked with the ironic expression

Every philosophy after Plato and Aristotle is fulfilled in marginal notes on them.

7.3 Christian societies of the early Middle Ages

Compared to modern times, the standard of living of peasants in most ancient societies was extremely low. In part, they fell into a veritable slave state, remained completely uneducated, were forced to stay in the once assigned place, died early.

This was also true of the peasants in the Christian lands of the Middle Ages. The peasants lived almost without rights on a miserable level, under the direct rule of rich nobles and representatives of the Catholic Church, with a far-removed king who squandered the riches that flowed together with him in more or less senseless wars.

Why did they not rebel and endure their miserable existence for many generations?

This was due, on the one hand, to the ability and willingness of the princes of the nobility and the church to use violence; they were, after all, for the most part also military leaders and judges. The other and more profound reason was their conditioning by a priesthood that portrayed the status of the peasant as just as *God-given* as the privileged position of nobility and priesthood.

The conditioning agent in early medieval Christian cultural circles was *sin*.

The concept of sin can be extended so far beyond the violation of a reasonable moral norm that man almost always carries within himself the consciousness of a personally committed sin.

In addition to this there was the myth of an enormous *original sin* committed by Adam and Eve in paradise (the eating of the tree of knowledge forbidden by God), which was inherited by them to all following men. Through it, man is always sinful before God, even the *righteous*.

From this state of sin, he can only be released by the priest in the appropriate rites (*confession*, *penance* and *communion*), and only then he has a chance of eternal life in paradise. Otherwise, he must suffer eternal torment in hell after death.

This narrative, deeply rooted in the people and carried on from generation to generation, gave the Catholic Church immense power over the frightened people, who not only followed its directives almost without exception, but also tried to save themselves from hellfire through donations and inheritances.

At times the Catholic Church in the German lands came into possession of about half of all the land.

7.4 European societies of the late Middle Ages, Reformation

With the rediscovery of classical thought, a *renaissance of* intellectual foundations developed, starting in Italy (~1400 - 1500).

The traditional worldview, firmly anchored in the early medieval Christian faith and in rites established by the Catholic Church in the meantime, began to waver.

What was believed was now subjected to the logical test of *true* and *false*.

The interpretation of nature broke away from the biblical worldview and became a *natural science* based on observation and measurement.

One dared to publicly attack the corruption within the Catholic Church, where papal offices were shifted around in the family circle (*nepotism*), bishoprics were sold to noble, non-entitled laymen (*simony)*, remission of sins was sold for money (*indulgences*), most parish priests and monks were completely uneducated, and members of the clergy lived in luxury and in "sin".

This coincided with a growing agitation among the mercilessly oppressed peasants, but also with the highly effective criticism of these conditions by scholarly representatives of the "humanism" triggered by the Renaissance, such as Erasmus of Rotterdam (1466-1536) or Melanchthon.

Of course, the movement against the incumbent church also had to do with the fact that secular nobles were jealous of its possessions and influence and sought the opportunity to seize it.

In this situation, the young monk Martin Luther called for a *reformation* (renewal) of the Catholic Church. Initially, he was particularly embittered by the sale of indulgences, which promised forgiveness of sins and thus future access to the kingdom of heaven in exchange for money (*when the thaler rings in the box, the soul jumps out of purgatory!*).

He pondered the question of sin to the point of personal despair and had his personal *epiphany* that forgiveness of sins and thus entrance into the *kingdom of God* cannot be promoted by one's own works, such as repentance, reparation, or prayer, but is granted solely by the grace of God experienced in faith. The ecclesiastical rites thus lost their miraculous status; of the sacraments, only baptism as admission into the community of believers and the Lord's Supper as a sign of God's goodness shown in the sacrificial death of Christ remained.

This is the core of Luther's *doctrine of justification*. In general, the doctrine of justification asks what must happen so that the relationship between man and God, which is burdened by man's sins, can be put in order.

For Luther, this resolved deep contradictions from contents of his personal faith. His Reformation conviction was based on the following principles:

1. An all-good, personal *God* created the world according to His plan.
2. Beside him exists a personal *devil* embodying *evil*
3. God is omniscient; he therefore also knows everything about the future from the beginning.
4. Thus, what happens in the world is *predestined* - fixed since its creation.
5. Man, thus has no free *will to* choose between sinful and non-sinful behavior.
6. Because of Adam's fall into sin, man is in the state of original sin, regardless of additional sins committed individually.
7. Only the grace of God can deliver him from this condemnation; he himself can contribute nothing to it by his own, willing conduct.
8. Original sin is loosed from His *elect by* the sacrificial death of Christ *according to God's unsearchable counsel.*
9. Luther concluded from his interpretation of the words of the Bible and his concept of predestination that divine grace does not come to all believers, but that as an individual one can only hope and trust to belong to God's elect.
10. The statements of the Bible are literally true; to be reformed are false interpretations by the incumbent papal church.

In 3, 4 and 5 Luther adheres to the teachings of the late antique church father Augustine (354), who thus decisively shaped the basic convictions[34] of the occidental churches (not the eastern, orthodox ones) until beyond the Reformation and until today, even if hardly any lay believer today knows them exactly or takes them seriously.

The restriction of the expectation of salvation (7-9), which is difficult for me to comprehend, did not prevent Luther from gathering a rapidly growing number of followers in the *Protestant Church*, which was splitting from the Catholic Church, in the agitated situation, to which his personal charisma and his massive and grobian rhetoric against the exploitation by the Catholic Church and its secularization may have contributed significantly.

After all, other *Reformed churches* independent of the Protestant Church quickly formed around other charismatic innovators such as *Zwingli* and *Calvin*, which restricted access to divine grace less strictly and opened it up to personal good conduct. Among other things, they had a great influence on the later prevailing worldview in the newly founded United States of America (USA), since for the Reformed or Calvinist immigrants who escaped the intolerant pressures in their home countries by emigrating, God's grace was also expressed in material success, and the concept of property encompassed not only what was personally created, but everything that came into the power of disposal of the individual through divine grace.

In Germany the Reformation movement did not lead to a shaking off of the yoke of the estates system with the liberation of the peasants, but rather fortified it, with a certain strengthening of the upper middle classes.

The hateful competition between the churches, together with the opportunity it offered for the enrichment and expansion of individual positions of power among the nobility, led to the mass murder of the Thirty Years' War, in which a considerable part of the rural population was exterminated, the entire country impoverished and disintegrated into a patchwork of small and micro-states with competing churches and princes.

After this exhaustion of all forces (ca. 1650), about 100 years of political stagnation passed under the cemented power relations of the class society.

7.5 "Enlightenment"

Hardly constrained by the power of their authoritarian princes imbued with the divine grace, a new worldview initiated by the Renaissance and humanism irresistibly permeated the thinking of outstanding intellectual teachers and the schools and colleges they led in the movement and epoch of the *Enlightenment from* about 1650 onward.

In view of the actual disproportions, leading minds[35] did not concentrate on the criticism of the existing, but on the design of idealistic ideas of the desirable. Their models of thought took up those handed down from antiquity and developed them further, fertilized, among other things, by the newly gained knowledge of the natural sciences.

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[34] In order to be able to classify Luther's doctrine of justification, one must know the *Augustinian* doctrine that he attacked: according to it, the sacrificial death of Christ redeemed original sin. The power of solution connected with Christ's sacrificial death was entrusted by God as a treasure to the Catholic Church, which from its disposal of it can grant forgiveness of sins to the believer. The power over people connected with this thesis was, among other things, the basis of its immense wealth and also makes it understandable why today the Catholic Church finds it so difficult to abandon the "holiness" of its sacraments (women as priests, celibacy, etc.).

[35] e.g. Rene' Descartes ~1640, Thomas Hobbes ~1650, Baruch Spinoza ~1670, John Locke ~1690, David Hume ~1750, Voltaire ~1750, Jean-Jacques Rousseau ~1755, Immanuel Kant ~1780, Isaac Newton ~1790

- How should an ideal society be structured, and why just like this?
- What should be the rules of a resulting social contract?
- How can the freedom of the individual be compatible with the interest of the community?
- What are the freedoms of the individual and what limits them?
- What can and should be regulated by punitive laws? Who judges their compliance?
- What moral standards beyond these should apply and how can their observance be guaranteed?
- What role does the religious faith proclaimed in the churches play in the ideal state?

As to the last question, it must be remembered that the thinkers of that time had no prior scientific knowledge about the connection of mental abilities with physical functions, so that they were firmly attached to the dualism body/soul and were predominantly religious believers.

In the middle of the 18th century, the ideals of the Enlightenment had become common knowledge to such an extent that they had a decisive influence on the actions of individual kings.

An outstanding example is Frederick II *the Great*, King of Prussia (1740 - 1786). Although he saw himself as an absolute ruler and was by no means inclined towards a democratic state constitution, he saw himself as the *first servant of his state* and people, whose welfare had to determine his actions.

He recognized certain civil liberties as justified and necessary for a *good* state

- Freedom of religion, also beyond the majority, Christian religion: "*everyone shall be blessed according to his own believe*".
- Freedom of the press in non-state political matters: *"the gazettes* (newspapers) *shall not be embarrassed* (by the state, by censorship)".
- Abolition of torture and a secure justice system: "*rather twenty guilty people should be acquitted than one innocent person should be sacrificed*".

Strictly religiously educated himself, Frederick became a freethinker under the influence of the Enlightenment and became a member and patron of one of the developing *Masonic lodges*, which developed ethical systems detached from the churches.

Under his tolerant leadership, nothing changed in the deep, monotheistic, ecclesiastical faith of the vast majority of his subjects (Catholics, Protestants, Huguenots, Jews).

8 Social contract and linkage with belief systems in modern times

8.1 Estates and the Industrial Revolution

Until modern times, around the end of the First World War, there was little change in the "God-given" structure of the estates of the state.

In the meantime, however, the *industrial revolution*, as the result of a historically unique wave of inventions based on natural science, had led to an enormous increase in productivity, first in handicrafts, trade, and industry, and later also in agriculture. This led to the generation of great surpluses, which accumulated among landowners, merchants, and industrialists, and through their investment, i.e., non-consumption of the owners, caused their spheres of power to swell like an avalanche. This was intensified by a steep increase of the population, i.e., of the *labor and consumption potential*.

What was new was that the living conditions of the working people also improved modestly to a tolerable level, according to the model of thinking that the increase in wealth of the *capitalists* automatically *trickles down* to the working people[36].

Characteristic of this period is that, in contrast to the present, the value of money tied to the gold standard was completely constant over time, i.e., the inflation rate was zero. Over a long period of time, this led to a very stable development of state and general social structures. For the individual there was a great confidence in the future, even for those moderately blessed with income, since, for example, the career and pension of a young postal clerk or a lieutenant appeared to be completely predictable and secure until old age and could also be compared 1:1 with the initial situation. A culture of *Biedermeier developed,* of comfort, life goals, ceremonies, on a material level perceived as pleasant and appropriate, which seems grotesque to us today in its excesses (titles, sense of honor, etc.), but also somehow enviable on the whole.

8.2 "Culture war"

The corporative state continued to profit in Europe from the accepted divine grace. However, the political leadership tried to push back the secular power of the churches and their power over souls in the *Kulturkampf of* the 18th and 19th centuries.

In Germany this was largely unsuccessful, so that even in the 20th century *German Empire* the churches retained a considerable part of the wealth they had accumulated, or were compensated by ongoing state grants and the state-supported collection of compulsory taxes of their own. In particular, however, they retained their influence on the souls of succeeding generations through the religious instruction they were granted as part of the state school system. This is still true today.

In other European states, emancipation from the church was more successful. For example, in the wake of the *French Revolution* and its aftermath, France became permanently a *secular*[37] state, with no religious instruction in state schools and no church or church tax supported by the state.

Today's young adults can no longer imagine the separation within society that resulted from the separate imprinting of children in Catholic and Protestant religious education in mixed-religious town as late as 1950 in Germany: *One did not make friends with a member of the other church* and the *Protestant did not buy from the Catholic grocer*.

In the FRG this has meanwhile abraded with the strongly decreasing influence of the Christian churches and their mutual rapprochement.

Today's dilemmata are twofold:

(1) With the waning influence of the two Christian churches, the impact of their essentially unified ethical message is diluting (about half of the German population no longer belonged to any church community in 2020).
The German state has not found the insight and resolve to replace them with universally binding, school-based ethics instruction that leads toward a unifying ethical stance for all citizens, with a uniform ethical education for children, regardless of religion and social background.

[36] Adam Smith ~1776
[37] Laicism: strict separation between state and religious communities

(2) By granting educational privileges to the two Christian churches, he has no justification for limiting the influence of other religious groups on the ethical orientation of youth, even if their teachings weaken the public spirit of the citizens as a whole.

8.2 The formation of representative democracies

In revolutionary upheavals, such as the French Revolution, the declaration of independence of the United States from the British Empire, the overthrow of the Russian tsardom with its aristocratic estate structure by the communists, and the overthrow of the imperial state in Germany after the lost First World War, new kinds of state structures emerged, whose *constitutions were* oriented towards idealistic ideas of the social contract of the Enlightenment.

What they all had in common was the closeness to a democratic structure, in which the people (*demos*) themselves determined their fate. Given the size of the state structures, a democracy as in Athens, with all citizens meeting in the marketplace, was of course out of the question. *Representative democracies were* formed, in which a limited number of a few hundred representatives of the people were to assume their role.

These representatives were elected in general elections at intervals of 4-5 years by the citizens entitled to vote (which, for example, did not include *Negroes* in the USA at first, and *women* in Switzerland).

As a result, parties with certain ideological ideas about the shaping of the state developed within a republic, which in favorable cases competed peacefully for the changing favor of the citizens, or also used propaganda and violence to permanently conquer the majority in elections, such as the communist party in Russia, or after 1932 the National Socialists in Germany.

Individual ideologies became entrenched in this way (although a proclaimed *1000 years*[38] can be very short!), without any real chance of change through voting in elections.

In the examples of England with its majority voting by district, that of the US with their voting by state, all votes in a district are (*cum grano salis*[39]) awarded to whichever party gets the majority of votes in that district. In the event of mismanagement during an election period, the majority verdict in the districts can easily change, allowing for a switch between drastically different ideologies of government (e.g., socialist/liberal, Republican/Democrat).

In Germany, especially after the new beginning in the aftermath of losing WW2, an electoral law prevailed in which all votes in the entire country count the same, regardless of location and its welfare or neglect. This leads to moderate propaganda for drastic change of ideologies bringing no prospect of absolute majority, governments almost always becoming coalitions of parties with different ideologies, and these ideologies eventually largely grinding away to get a relative majority if possible, or at least a coalition-able vote count. This is what makes politics in today's Germany so tough and incapable of renewal.

In the US, before elections, they said: *Let's choose the alternative that has not yet failed!*

In the FRG since Ludwig Erhard [40]: *No experiments!*

A weaving defect of all republican constitutions was that, although they were fundamentally oriented towards the diction of a social contract, the representatives of the parties drawing up a constitution were by no means representative of the average and the interests of <u>all</u>

[38] The National Socialists liked to talk about their expected *1000-year Reich*
[39] *With a grain of salt*, that is, with respective specialties
[40] From 1949 Minister of Economics, later Federal Chancellor

citizens. Thus, in each case, earlier privileges of the ruling powers of an earlier corporative state were also rescued into the republican constitutions.

An example of this is from the Basic Law of the FRG its article 14 paragraph (1): *Property and the right of inheritance are guaranteed.* All the subsequent softeners in the text did not prevent this fundamental statement from also protecting the large estates of landed aristocrats, speculators and war profiteers and preventing a reaonable design of land law.

8.3 "Justice"

A significant difference in the modern era compared to the ancient democracies, the Roman Empire and its successors was the conception of *justice in* the relationship between citizen and state. In antiquity the definition was

- Justitia est *suum cuique* tribuere: justice is to assign to each *his own*

The *able* should be entitled to more (in goods, honors), but he should also contribute more to the state than the *unable*.

In modern times, the understanding changed to that of equality of *all citizens in* rights vis-à-vis society and thus the state embodying it, although it is still unclear what such a fictitious equality really means, and what *equality in duties* stands in contrast to it.

Right

- In income
- In property
- In the material possibility to participate in social life
- With regard to age, gender, sexual orientation, religion, world view
- With regard to access to education and employment
- With regard to health and pensions
- In relation to third party dependency (child/parent; spouse, civil partner, etc.).

Duty

- In legally regulated taxes and payments
- Other duties regulated by law (e.g., compulsory military service, compulsory work, compulsory nursing care, compulsory raising of children)
- In non-statutory, voluntary services (e.g., fire brigade, voluntary work, club activities)
- Duty to make full use of educational instututions and opportunities and thus contribute optimally to the community in the future
- Submission to patterns of behaviour and moral demands that go beyond the legal rules

In this field of tension, the concept of freedom also remains unclear

Freedom

- To do anything that is not forbidden by law?
- Doing anything that doesn't harm others?
- Doing anything that doesn't harm yourself?
- To do even that which harms oneself?
- Even to do what is offensive to others?

The question of how the state acts justly towards the totality of its citizens remained an unsolved problem. The idealistic orientation towards the categorical imperative always fails where it is not possible for all citizens to agree to a particular regulation because their interests and preferences are too different.

A way out seems to be provided by *utilitarianism*, which among the alternatives declares the general regulation to be the best one that maximizes the benefit for the totality of the members of a society (*not for each individual*). This way of thinking is widespread today in capitalist countries, especially the United States. In its classical variety, it makes maximum growth and increase in total social income the state goal, as long as utility is understood primarily as *money*. Occurring individual "outliers" are left to charity or to an existing social system but are of no importance for the overall view.

Since in the practice of a capitalist system too many members of society are pushed to the margins of the community, John Rawles about 100 years ago introduced the additional concept of a *justice of fairness*: State regulations should be such that every citizen can perceive them as fair if he does not relate them to his particular situation but to that of the generality of all citizens. It is thus not a justice for the individual in his particularities, but for the citizens within consideration of the state.

The dilemma of all theories of justice of the state lies in the fact that one starts from an existing social system with recognizable weaknesses and asks how they can be alleviated. This necessarily leads to proposals for the repair of a system that basically remains in place, which bear new weaknesses that only become apparent after a long delay.

The deeper underlying question is:

- What kind of society do we, as its members and as individuals, want to live in for the foreseeable future?
- What's in the way of that?
- How can we, as individuals and as political actors, change the rules of society in a way that is acceptable - and thus slow - for the whole?
- Do we have the determination and strength to do this?

9 Valuation standards

In the context of predominantly ethical considerations, remarks on such material concepts as *money, currency, interest, inflation, etc.* may seem out of place. However, a thorough understanding of their sometimes quite complicated interrelationships is important when discussing what is the right material measure for the individual and what is social justice.

This technical complex has been placed as a separate section in an appendix to maintain cohesion. It is recommended to skim it briefly before reading on in chapter 10.

Appendix *Money, Currency, Interest, Inflation*

10 The concept of ownership

The concept of ownership has become a central problem of the future society.

This became really obvious worldwide in the last 10 years, when globalization and digitalization enabled the accumulation of enormous wealth by individuals in a very short time, with the result that in many countries a small number of citizens were able to concentrate about half of the total national economic wealth on themselves.

A less noticed development was that even limited inherited wealth could multiply much more than general wealth during long peaceful periods, with the consequence of the growth of an increasing band of privileged rentiers.

What does ownership mean and what can the owner do with it?

Traditionally, property was understood to be that which one had inherited *from one's fathers* as their property and that which one had acquired oneself in addition - however!

An ownership structure that once exists in society is thus perpetuated into the next generations.

This process takes on a special dynamic when individual property is so large that the owner no longer has to use the resulting current income (interest, dividends, rents) for his livelihood, but can reinvest a considerable or even the largest part of it in order to obtain additional, future property.

As *Pickety*[41] has recently argued in detail statistically, in developed countries during long periods of peace such capital always earns a higher rate of interest than the overall growth of an economy. This leads to the fact that an ever larger part of the additional wealth earned by the total society flows to the capital investors who do not need it for their livelihood, while the growth of the income of the employed citizens, who need it mainly for their current livelihood, decreases - in the USA today to such an extent that their real income has been falling continuously for more than 10 years, while a small capitalist class can achieve previously unimaginably high annual incomes in the multi-millions to billions dollars and reinvest them.

In pre-industrial times, such wealth was accumulated mainly in the form of land ownership as property, so that a small layer of land nobles and manor owners bought up huge land holdings over the course of generations, which they by no means managed themselves, but which they leased out to large tenants or directly to numerous peasants, while they themselves spent most of their time in the centers of states such as Paris, Milan, Vienna, Berlin, enjoying the luxury life of an *upper class.* Since their property always generated surplus money, they were able to expand their land holdings further and further, while land owned by peasants became less and less available and thus more expensive for them.

Land is one of the non-reproducible goods, and here the question of how much land an individual may own is particularly acute, since by owning it, he necessarily diminishes that of others.

This question was the cause of several *agricultural reforms in* antiquity, the aim of which was to limit the ownership of land by individuals and to enable the farmer to own the land he cultivated.

Basically, the issue at that time was: *The individual may only own as much land as he himself cultivates* (in antiquity: also with the help of his slave household).

All occidental reform approaches failed because they did not restrict the sale and inheritance of land, so that concentration and scarcity were not stopped. They also failed, of course, because of the vehement resistance of the non-peasant landowners, who as nobles and rich people had great influence on the political decision-makers.

In China, a policy that took this issue into account persisted for many centuries. All the land formally belonged to the emperor. He allotted to each citizen a piece of land of the size that

[41] Thomas Picketty *Capital in the 21st Century*

he himself could cultivate with his family and his assistants (thus, depending on the rank in the hierarchy of officials of the *Middle Kingdom*, the allotted property varied; the emperor himself, for example, kept so much land as crown property that he and his "employees" could earn the costs of his court from it). As personal property, the allotted land could only be passed on to one descendant cultivating it himself with the emperor's consent. Land ownership was in principle not for sale and not divisible[42], but reverted to the emperor, if necessary.

With the industrial revolution, it became interesting to invest surplus money in company shares, as their return was much greater than that of agriculture. From around the middle of the 18th century, huge private fortunes were built up in company shares in trade and industry. Their surviving witnesses are the palatial villas of nouveau riche capitalists of the *founder's period* (2nd half of the 19th century) in the big cities, or their summer villas, for example on the Bavarian Lake Starnberg or in the Berlin Grunewald.

10.1 Earnings and income

In the German language, there is no clear distinction between *income* and *desert in* everyday usage, whereas in English *income* and *desert* have clearly separate conceptual meanings. We want to adopt this for our German usage:

deserts: that which accrues to one on the basis of one's own performance

income: what one accrues in monetary value.

The difference will be shown with some examples:

10.1.1 House purchase:

I buy a house in a suburb for 500,000, maintain it annually for 5000 and rent it out for 25,000. Annual earnings are 20,000, or 4% of the purchase price. After 10 years, land in this neighborhood has become scarce and expensive. I sell my house for 1,000,000, of which 500,000 is not earnings but speculative gain due to the scarcity of land, which is a non-replicable good. It does not arise from my past or present performance but was earned by those who now need a house.

10.1.2 Investing in shares

I buy a stake in a company for 100,000 in the form of new shares. In doing so, I enable it to finance growth. In return, I expect to receive an annual dividend and participate in an increase (or loss) in the value of the company in the form of a (positive or negative) increase in the share price.

10.1.3 Speculative profit

I sell shares that I do not own at all at a later date (*forward short sale*) at today's price 100 in such a large amount that the share price on the stock exchange falls to 80 in a few days. Then I buy the same number of shares for 80 and pass them on to my *empty* buyers. Thus, I have gained 20 on each share.

My *deserts* are zero, because this income was lost by those who sold their real shares at 80; it is a speculative profit. Actually, I was a fraud - even if the maneuver was not illegal.

[42] thus, land had no *trade value.*

In speculative transactions, I expect to gain something by others losing the same because they do not know something I know, or are more fearful, or act under pressure.

10.1.4 Income in the big city

I make a net 50k as a self-employed, busy doctor with private patients in a small town.

After moving my practice to Munich, I will earn 100,000 nets for comparable performance.

The 50,000 difference is not my desert, but a *local pension*, created by the higher purchasing power of the clientele, which in turn is higher because the publicly funded infrastructure of a large city generally allows for higher incomes.

It would therefore be due to the general public.

10.1.5 Income as a member of the Management Board

I am a board member in a large company, earning 1,000,000, as are my fellow board members - a deserving engineer factory manager earns 100,000.

How much of my income is *deserved*?

One cannot apply competitively for such posts, but is "appointed" within a *network*. All board members form a community of interests (a *coalition in* game theory terms) which keeps incomes in their caste as high as possible. That is why the fairy tale of a very extraordinary ability is cultivated, which is very rare and therefore so expensive. The incomes of the supervisory board members who appoint and control the board members are also linked to this: their own income correlates with that of the board members.

What could actually be recognized as *deserts?*

A reasonable size would be a multiple of the median income or the lowest income in a company based on the number of employees, since the actual performance in such a function increases with the number of successfully managed employees.

10.1.6 Gift and inheritance

Gift and inheritance are not earnings, but income accrued from the earnings of others. An example should illuminate the often subtle difference in acceptance.

The grandfather gives or bequeaths to the grandson a valuable book, highly valued by himself, which he had bought out of his earnings.

- The grandson reads it and cherishes it: he treats it as a gift
- The grandson sells it on Ebay[43] and buys a suit with the proceeds: he treats the gift as his earnings.

When the value of a gift or inheritance exceeds what the taker can acquire by his own merit, the inclination and temptation is great to attribute the gift or inheritance to one's own merit and forget the merit of the giver.

This is ethically incorrect.

It is also fiscally justified to treat gifts and inheritance differently from deserved earnings.

[43] Ebay is teeming with such offers

10.1.7 Insights in the Corona Crisis

The Corona Crisis brings to public attention the realization that health-care employees and other service workers, like supermarket shop assistants, are earning quite unreasonably little. So, it is recognized that *their income is less than they deserves*!

This raises the general question: how different incomes should be in a good society and how can it be achieved that there is a justified and generally accepted relation between deserved earnings and income.

It is independent of the social question of how and in what proportion *unearned* income is made available by the general public in cases of need, inability or unwillingness to earn one's own income.

10.2 Income as an entrepreneur

Those who start a business make an extraordinary commitment and risk that their efforts will fail - even to the point of losing capital originally contributed by themselves and others.

As the company grows, he also comes into the role of a leader whose possible merit is the successful advancement of the company.

It is fairly generally accepted that when a business is successfully launched, the increase in the value of the business accrues to the founders as property and is also theirs to take credit for.

A successful company development is based on 4 pillars

- the initiative and leadership of the entrepreneur (founder)
- the performance of its employees
- the risk acceptance of its external financiers (to the extent that such financiers are needed)
- the infrastructure and environment provided and financed by society.

10.3 To whom does title to the business pass in the event of death?

The death of the founder marks the end of his *leadership role*.

The company continues to exist independently of this, under the same infrastructure provided by the general public, the performance of the same employees, the retention of the previous financiers and under the leadership of a business leader appointed from among those professionally eligible.

According to the current jurisdiction of the FRG, the ownership of the company usually goes to the personal heirs of the previous entrepreneur (wife, children, other relatives).

They have not normally contributed to the success of the company to date and will only contribute to its future success if they themselves become active in the company in return for appropriate remuneration.

Employees, financiers, and the general public, on the other hand, contribute as before.

It is therefore contrary to reason to transfer the entrepreneur's right of ownership to his physical descendants. Each of them, as well as anyone else, has the opportunity to build up their own business if they so wish.

Nor is it in the general interest to proceed in this way, since over long periods of steady development this leads to a socially undesirable accumulation and concentration of capital in the hands of an ever-increasing number of passive *rentiers* through succession.

It is immaterial to the continuance of the business who is the future owner of the property as long as the owners exercise economic, responsible, and social judgment.

It is socially and individually justified if such property rights do not pass to personal descendants but fall to the general public in an appropriate form.

An already desirable and acceptable way for some business owners is to contribute future ownership to charitable foundations during their lifetime. This leaves the founder with setting the target beyond death, the general public with the future benefit and the legislator with the design of what is socially acceptable as a target.

From Andrew Carnegie, the role model of American philanthropists, comes in this context the phrase *"The man who* dies *rich,* dies dis*graced*".

Younger role models are citizens who succeeded in building up global companies in modern fields (electronics, software, Internet, finance) in a short time and thus amassed enormous personal fortunes in the order of up to $100 billion in their lifetime (e.g. Bill and Melinda Gates, Warren Buffet). The aforementioned agreed to put the vast majority of their assets into foundations and since 2010 they have succeeded in convincing an increasing number (today over 200) [44] of other "super-rich" to do the same.

When such ideas are propagated, a howl of lamentation rises up in Germany about *disinheriting one's own children*. Here one can take pragmatic comfort: no parliament will pass a law that disinherits its own offspring. So, there will always be sparing in the order of the median property of parliamentarians, which covers the famous "grandma house".

It is not about moderate wealth and its preservation or expropriation, but about the prevention of huge accumulations of wealth, an increasing division of generations into *have and have-not's,* and the influence of big capitalists on the political decision-making process[45].

Above all, however, it is a question of maintaining reasonably balanced developmental and life chances for all children.

11 What is a good life?

In connection with the question of *what a good life is,* we return to the initial question of our reflections

how should man behave so that human society is a good one?

We restrict them for the following considerations:

how should the citizen behave so that our society is a good one?

turn them back:

What should our society be like in order to be *a good one* for its citizens?

And focus them on the individual:

What is *a good life* for the citizen in our society*?*

[44] https://givingpledge.org/

[45] For those who are uncertain about possible future developments, I recommend reading Obama Barack's biography "*A Promised Land*" as an account of the real political conditions in the USA today.

The restriction makes sense so that we *remain* within the framework of *what can actually be changed politically by us as individuals*, namely our own society, whose development we can influence by advertising our ideas and by voting.

If we wanted to include all people with all national systems and their different ways of life, we would only be able to answer the following questions with utopian fictions (such as: *Education, knowledge and skills, value system, income, wealth, etc. must be the same for all people worldwide*).

The reversal makes sense because it leads to the question of equality or differentiation among citizens.

Finally, the focus on the individual makes sense because this question determines how the individual shapes his life and helps determine the goals and boundary conditions of society as a whole. We begin with this topic.

11.1 Fateful inequality

A person's life is influenced, beyond his control, by what he sees as random circumstances.

- the genetic pool he is endowed with
- the social milieu into which he is born
- the educational milieu into which he is born
- Childhood education
- Disease
- Experiences of loss, e.g. through the separation of parents
- Death

These are fateful - one has been lucky or not, has experienced much misfortune or little.

Only partially fated are other circumstances that significantly influence the course of his life.

- Diligence
- Willingness to learn
- Education
- Conduct towards third parties
- Determination and assertiveness
- Courage and willingness to take risks

They may be influenced by heredity and childhood upbringing, but they are also subject to one's own will.

Overall, fateful life circumstances lead to a differentiation of individuals according to life success and experience of happiness, which cannot be causally compensated by society, but whose individual consequences can be mitigated in the sense of social compensation.

It is important for society as a whole that citizens exist who achieve more than the average and are lucky. They create the added value that can be the basis for social balance.

11.2 External determination and self-determination

Leaving aside fateful limitations, individuals are fundamentally free to decide how to live their lives.

The related decisions can be *self-determined* or *externally determined*.

- Self-determined, if they are aligned with the benefit (*utility*) [46] of the decision maker
- Third-party determined, if the benefit of a third party determines or co-determines the decision

It is a fundamental and widespread error when we think that we generally make self-determined decisions. In reality, we decide quite predominantly under the influence of third parties,

- who directly or indirectly dictate our choices, such as parents, teachers, employers, legislators,
- suggesting our decision through advertising or propaganda or comparisond to role models who are themselves victims or perpetrators of advertising, such as the neighbor, the "star", the "influencer".

11.3 Use of time

How delicate the subject is can be seen very well in the question of the decision about the individual use of time. This is a topic independent of modern problems, which *Lucius Aeneas Seneca* [47](~50 p.C) already dealt with fundamentally at the very beginning of his moralizing *letters to Lucilius*, but which is also highly topical in relation to the modern issues of *television*, and *social media.*

1st letter Seneca greets his Lucilius

(1)
Act thus, my Lucilius: free yourself for yourself, and gather and preserve the time that has hitherto been either robbed from you or secretly stolen or slipped away. Convince yourself that it is as I write: some moments are snatched from us, some are taken away, some slip away. The most shameful loss, however, is that caused by carelessness. And if you want to be attentive: a great part of life slips away from people when they do bad things, the greatest when they do nothing, the whole of life when they do trivial things.

(2)
Whom can you name who attaches any value to time, who appreciates the day, who realizes that he dies every day. For in this we deceive ourselves, that we see death before us: a great part of it is already past; every period of life that lies behind us death has in its power. Act, therefore, my Lucilius, as you write, keep all the hours; so it will happen that you will be less dependent on tomorrow if you take hold of to-day. While life is deferred, it hastens by.

(3)
Everything, Lucilius, belongs to others, only time is ours; to the possession of this one fleeting and uncertain good nature has placed us; from it whosoever will displaces us. And so great is the folly of mortals that they allow the least and most worthless, but certainly replaceable, to be imputed to them as a debt when they have obtained it, but that no one thinks he owes anything who has received time, while this is the only thing that not even a grateful man can repay

The modern teenager spends about 5 h a day watching TV and using social media.

The motive for existence of both media is advertising for consumer products. The packaging in contents like *movies, POP- music* or *social contacts* [48] serves to concentrate the users on certain advertising media.

Both media are fully foreign-determined and foreign-determining for the user.

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[46] *Utility* in the sense of game theory: anything that represents actual *value*, including emotional values.
[47] Seneca was not only a prominent philosopher of the Stoa, but also for many years, together with *Burrus* as governor of the young *Nero*, regent of a Roman empire on the scale of today's EU.
[48] The "genius" of social media like *Facebook* is that they let users generate the *content* themselves, so there is no cost involved for the media operators themselves.

What does the media-enabled replacement of the book by film and video mean for the young person? When reading a book, each reader creates his or her own fantasy world. When watching a film or video, all viewers are implanted with the same fantasy world that the film producer created; the *inner* worlds are determined by others.

In television, *series* are produced for reasons of cost and also because viewers like to see roughly the same thing over and over again. Their longevity creates an unreal world view in the viewer, with everyday murder, manslaughter, rape, abuse, bossiness, highlighting of marginal groups of society, discrimination scenarios, politician scolding, etc. These partial world views are also determined by others[49].

11.4 Market economy, consumption and advertising

The market economy develops in the play of supply and demand.

Competing producers offer products at prices at which they make a profit.

Among comparable products, consumers choose the one that promises them the greatest benefit.

Two basic questions arise:

> Consumers: how do they define the benefits they perceive?
>
> Manufacturer: how can he convince the customer that his product is more useful than a functionally comparable competitor product?

The pre-modern conception assumed,

1. that the range of products meets the actual needs of consumers in terms of both functionality and quantity,
2. that manufacturers compete with each other in the functional quality of their product,
3. that the prices are based on the manufacturing costs of the products and that the profit as the difference between the price and the manufacturing costs is moderate and comparable for all producers who are able to exist in the long term,
4. that consumers are rationally self-determined in making their judgments.

The last point has certainly always been uncertain, since in the choice of products, of course, the orientation towards the neighbor and the formerly simple *advertising had an* influence. However, this rarely went so far that the "Swabian housewife" bought more than she needed, or even acquired consumer goods on credit.

In today's modern age, the situation has changed fundamentally:

1. The supply in terms of quantity and variation far exceeds the actual needs of consumers.
2. Manufacturers compete with each other mainly through the intensity and originality of their advertising for functionally similar products.
3. The advertising costs make up a non-negligible (food) to predominant (fashion) part of the prices. The profit is reduced by the advertising costs, which forces the prices to be driven up until the manufacturing costs, e.g., for fashionable articles, only make up a small part of the price. As a consequence, advertising must suggest a special, unreal quality of the product to the customer so that he pays this price.

[49] Curiously, this is also the case with the public broadcasters, who derive most of their income from user fees. The small share of advertising costs is enough to "align" them in competition with the *private broadcasters in terms* of behavior and to hand them over to the terror of *audience ratings.*

4. Consumers make their judgements largely under the influence of others.

The impact of today's advertising cannot be overestimated.

It suggests to the citizen a desirable quantity level of consumption that can always just be covered by his income, or where he is already consuming future income today (hire purchase, consumer credit).

It suggests to him a level of product differentiation that is oriented towards the next or the second-next income class, and thus necessarily always leaves him unsatisfied.

11.5 Working time versus free time

One consequence of the above is that any increase in efficiency in the production process is translated into more consumption instead of freer lifetime. One earns more and then spends more instead of spending the same amount and having more self-determined lifetime.

The professional freedom of a life partner, which was common and economically possible in earlier times, is given up in favor of a higher joint income, which goes towards consumption.

Fortunately, today there is a still timid countermovement among younger partners who are aware that, at least in times of child rearing, time spent on the family is more important than additional consumed income.

Tragically, frenetic consumption driven by aggressive advertising is also the engine of the national economy that fills the state's tax coffers and thus makes its social and societal activity at the present level possible in the first place. So, one cannot naively argue for the "simple life" in a given society without keeping the whole in mind.

It is like many evolutionary developments: without any really convincing reasons, one slips into a development that seems wonderful at first, but which cannot simply be turned back when its dark sides become visible.

12 What is sufficient for a good life

12.1 The individual and the general public

We can break this down into two questions:

1. What is sufficient from the point of view of the general public?
2. What is a good life in this framework?

We cannot answer the first question for the individual without first at least considering his embedding in the whole of humanity and thus the interrelated questions. At the same time, it must be inverted:

What and how much is available from the perspective of the general public? What imposes limits on this?

Available:

- For all people?
- for the citizens of the EU?
- for those of the FRG?
- For me?

Boundaries:

- finite nature of resources
- Nature Conservation
- Overpopulation
- Climate issues

Let's start at the bottom: With the climate problem, it has become clear even to the layman that something in the nature designed by humans is out of order, because there is no longer a balance between the number of people and their consumption of natural resources,

In addition, more and more people feel that mankind's interference with nature goes beyond what is beneficial, so that the protection of nature in its previous, or better still earlier, state is becoming more and more important in the political discussion as a counterbalance to the materially useful transformation of nature for mankind.

These phenomena are interrelated and can basically be traced back to the previously discussed limit of evolutionary systems.

*The number of surviving living beings is limited upwards by the balance between resource supply and resource consumption. The product of the number of living beings times the resource consumption of the individual **must be smaller** than the resource supply.*

In the context of our present consideration, it must be considered that man not only consumes natural, positive, life-friendly resources, but that he also creates negative, life-hostile resources (*waste*) through his way of life:

- Pollutants that lead to global warming (e.g. CO2, methane)
- Neutral waste, the disposal of which ties up positive resources.
- Toxic waste that brings future life risks and ties up positive resources
- Lifestyles that lead to the worldwide spread of epidemic diseases such as AIDS, Sars or Corona.

With their consideration, the evolutionary boundary for man can be grasped thus.

*The product of the number of people times the mean (resource consumption + creation of negative resources) of the individual **must be less** than the resource supply [50].*

So, there is a limit to the number of people and a limit to the average possible consumption of resources (including the creation of more negative resources) for that number, i.e. to *the standard of living*.

This limit is obviously close to being reached today with around 8 billion people.

12.2 Resources

At this point it is worth thinking a little more carefully about the concept of resources in relation to modern man.

Wikipedia defines: *Resource (from Latin resurgere 'to spring forth') is a means, condition, or characteristic or property for pursuing goals, meeting requirements, performing specific actions, or allowing a process to proceed in a goal-oriented manner.*

[50] Again, this is not a snapshot, but covers a longer period of time. The coupled control loops need one to many generations until a static or dynamic equilibrium is established after a disturbance, see e.g. Dennis Meadows "The Limits to Growth".

In our context, we understand resources more narrowly in a positive sense as the material things that the individual takes from nature and society for his livelihood, and in a negative sense as the waste he gives to society through his way of life.

Because of the myriad of things that humans consume, a discussion of resources based on individual things is difficult and always in danger of getting lost in random details. However, we can show by means of examples that, in a simplified way, looking at the whole, all resources can be reduced to a few terms. Here are two examples:

Steel is one of the resources that modern man consumes in large quantities and leaves behind as scrap.

1 ton of hot-rolled steel, as processed by the automotive industry, costs around €500.

Steel is made from iron ore, which trades at €8.5 per ton, with an iron content of 10%.

The large difference in value is essentially due to the consumption of a huge amount of energy and human labor time in the conversion of ore into steel, and this refers not only to the values consumed in the steel plant itself, but also to those used and ultimately consumed in the construction and maintenance of the steel plant and its infrastructure.

Let's take a step back:

To make the iron ore available, a railway line must be built in the ferruginous Australian desert to develop an iron mine, roads and towns must be built to supply the workers; excavators, tractors, trucks must be bought and operated on an ongoing basis. The ore must be shipped to Europe or East Asia in ships built for the purpose.

It can be seen from this that ore, as long as it remains in the ground as a natural product, has almost no commercial value. It gets its value from the consumption of other resources, including above all energy and human labor time.

So we can summarize. When we consume steel, we are essentially consuming the energy and labor time previously supplied to it.

Let's do the same reasoning for food.

Wheat costs € 144 per ton.

An ear of wheat bears an average of 35 grains. The seed for 1 ton costs around €5, so from the end consumer's point of view it is almost negligible

The big difference comes from the fact that the farmer cultivates the field, that is, invests working time. In addition, he needs a tractor, plough, mowing machine, threshing machine, machine hall, truck, etc., the production and operation of which consume a lot of energy and further labor time. The production and operation of which consume a lot of energy and further working time. Furthermore, he needs artificial fertilizers and pesticides, for the production of which again energy and working time were consumed by others.

So, we can summarize: The commercial value of wheat lies essentially in the energy and labor time consumed in its production.

We can perform such decompositions on any examples and almost always conclude:

The consumed resources in the modern world consist (in monetary value) essentially in previously consumed energy and labor time, and only to a small monetary value in the things existing in nature without human intervention.

It is worthwhile to mentally break down the working time further as well.

What justifies the higher value of the working time of a German engineer or studied large-scale farmer compared to a miner or small farmer in Africa?

The German works only from the age of 28, the African from the age of 13.

In the 15 additional years of training, huge funds (resources) are invested in the German, by his parents in maintenance at a high level, by the general public with training in expensive schools and colleges, foregoing fictitious taxes and social security contributions in alternative conceivable employment, etc. All of this takes him to a level of expertise and efficiency in professional employment that increases the value of his eventual hour of work to the point of overcompensating for the lesser years of work.

If one considers where the additional investment lies, this can essentially be broken down again to previous energy consumption and third-party working time.

Thus, the current human consumption of resources lies to a large extent in the consumption of previously invested energy and working time.

The great interest in the environmental discussion makes it advisable to occasionally distinguish between energy consumption and that of working time. If one wishes, one can measure both in one unit "money spent earlier".

According to this analysis, the "waste" problem can also be reduced to a common denominator: the lifestyle of the individual produces waste, for the recycling and disposal of which future energy and working time, i.e., "future monetary value", must be expended.

The considerations on the connection between energy, working time and the assumed common valuation standard *money* leads to an initially surprising conclusion, which was brought to my attention by my colleague Klaus Heinloth, who passed away too early:

When I spend a unit of money (e.g., €1000), there is a certain past consumption of energy and labor time associated with it, and a certain generation of "waste" through which future energy and labor time will be consumed.

The unexpected element is that in rough frame the particular set is the same for all types of use.

Imagine, as very opposite alternatives, buying a refrigerator for your own use, or spending the money on a charitable cause, such as an endowment for Caritas.

For the refrigerator, it is easy to imagine how much natural materials, energy and labor went into its creation, how much energy it will consume before it is scrapped, and what the disposal of its scrap will tie up in resources.

Doesn't all that go away if I donate the money instead? No! Caritas will give the money to other people who will buy something with it, probably more modest ones, several or many things. But together they come to the same order of magnitude of energy and labor invested earlier and waste to be disposed of later.

Is there no way to avoid the consumption of resources and future damage associated with the use of money? There is - if I burn the €1000 note and thus withdraw it from economic circulation.

This means nothing else than abstaining from consumption and that is a bitter and difficult lesson to accept!

Instead, we are under the illusion that we can solve the resource problem by using alternative production methods, products, and behaviors at the same consumption level. However, this

is only marginally successful, and any small success can only be accounted for at the end of the resource chain.

At the present time, globally, any marginal success of alternative behaviors imaginable at constant levels of consumption is eaten up and overcompensated for by the growth of humanity (in 2020, that was +78 million people out of a population of 7.8 billion).

12.3 Possible courses of action

What are alternative courses of action?

- One can preserve the standard of living and its global differences and strive to reduce the creation of negative resources by alternative procedures to such an extent that the increase in the overall imbalance of nature is compensated or converted into a decrease. This is more or less the wishful thinking of climate and nature lovers today.
- It can be accepted that, given the same number of people, those with a below-average standard of living will raise it. This requires lowering the standard of living in the countries with above-average living standards, which at the same time consumes fewer past resources and produces fewer future harmful ones.
- You can reduce the growth of the population.
  In the past, India and China have actively pursued this and have been heavily and moralizingly criticized for it in the West.

  With a "naturally" decreasing population in the meantime, a stalling active immigration policy is being pursued in the FRG, because a relatively increasing ancestral population puts the overflowing state expenditures under almost insoluble political pressure, and a decreasing population reduces the consumption basis for the economy. By 2021, 30% of Germany's population and nearly 50% of its young children have a "migration background". So far, this obvious path is not seriously discussed politically.

Are there ways of technology or behavior to maintain the high standard of living in western society and at the same time let all people come to this standard of living?

Not if you equate standard of living with consumption!

As explained above, there is a relationship between the price of a good (consumption) and the past and future resource use associated with the good.

Replacing good A with an alternative, more expensive good B with lower future resource consumption (food, energy, electric car) does not automatically mean a saving of resources overall, but initially the consumption of more previous resources. Whether the overall difference will be positive or negative, taking all factors into account, is very difficult to predict and often more a matter of wishful thinking than knowledge in forecasting.

Here is a simple example from everyday life: soy milk is twice as expensive in stores as cow's milk. Production and distribution thus consume around twice as many resources. To justify this, one has to argue with large savings of future resources and then quickly ends up with arguments such as *saved animal suffering* and *health*, which lie outside the realm of the quantitatively tangible and belong to the realm of *beliefs.*

Only the renunciation really brings a lot, if I renounce A and do not let the necessary amount of money A arise in the first place - as a renunciation of consumption. This eliminates the

need for resources to be spent earlier and later. At the same time, externally determined time is released, which would otherwise be used for consumption. It is converted into self-determined time.

12.4 The "general" and the "specific"

Before leaving the point of view of society as a whole, we shall briefly analyze how, within the socio-political debate, the interests of the whole are often confusingly argued against those of the individual.

The socio-political discussion conducted by representatives of political parties and interest groups, but also by journalists and laypersons in the media, is of course always shaped by the personal interests of the arguers, irrespective of whether they themselves perceive it as being free of interests or whether it is apparently presented in the interests of certain groups of people (*cui bono* [51]).

The rhetorical trick of applying rules of logic to questions that are not logical objects is often used.

These rules of logic include

Deduction:	the conclusion from the general to the specific
Induction:	the conclusion from the specific to the general

In logic it is assumed that the specific (*particular)* is a component of the *general* in all its properties. A statement that is true for the general is then also transferable to the particular.

In the rhetoric of a deduction, it is first claimed that a general statement A is true (1). Next, it is asserted that the particular B is a component of the general (2) and thus also for the particular the statement A is true (3).

Example

1. Research is important for the future of the general public
2. Organization O conducts research with project X
3. So, the resources needed by O for project X should be borne by the general public in the interest of the general public.

This seemingly logical reasoning must be questioned at all three stages.

1. Many things are important for the future of the general public, including research. Assertion (1) is empty of content if research and its expenditure is not quantitatively ranked among all socially important tasks, because society's possible total expenditure is limited.
2. One can research many things, including some nonsense. (2) is empty of content if the project X of organization O is not qualitatively and quantitatively classified in all competing types of research.
3. Thus, the inference is not conclusive, because both steps are not closed and true in the logical sense.

In political discussion there are also no statements that are true in a comprehensive sense; they can be true, plausible, in a fuzzy sense. But they can also express an opinion, ideology, or hidden self-interest that one can share, but does not have to.

[51] *For whose benefit? Who does it benefit?*

The socio-political discussion is thus always a debate about opinions, positions, and interests. It does not allow any clear conclusions, but always requires a compromise between different interests in individual cases.

This is of course unsatisfactory for the individual arguer. If he does not reach his goal with the argument of the general, he will turn the tables and try, starting from the particular, to justify inductively from its acceptance a general regulation.

(1) Changes in the genetic material (genes) are associated with damage to the cell
(2) The general public is afraid of genetic damage
(3) Research on genetic material should therefore be banned in the general interest

(1) True sometimes, sometimes not
(2) Is true for a part of the general public
(3) is a logically inconclusive conclusion.

Inductive rhetoric can be used to (mis)lead from correct particulars to almost any general conclusion, if the linkage (2) is suitably ambiguous.

So:

- in social discussion always first ask *cui bono?* (Who benefits from the argument presented?)
- then ask whether a general interest actually exists and, if so, how it is to be classified in other, general interests.
- not be confused by the individual case cited, but assess it in the overall context of the general interest

13 What is *sufficient* and *good for the* individual for a good life?

Finally, after this excursion into the complexity of society as a whole, it is necessary to examine how, within the immediate circumstances, individuals can act in order *to live a life that is good for them.*

We do not want to establish a set of rules for this, which would always be somehow arbitrary and shaped by the particular point of view of the author.

Instead, we want to analyze the material question, which is important in the interest of young people, in more detail and finally conclude with a few philosophical maxims.

13.1 Income

In the context of ethical considerations, the question of *what income is sufficient* may seem superficial. But it is not, if one assumes that the individual is embedded in a certain society, which defines the material framework of expenditures sufficient for a good life. This includes, for example, housing, food, clothing, and transport, but also provisions for old age.

When it comes to the type of housing, the citizen has little personal choice. We therefore want to link the material question here.

Apartment: The rent per sqm apartment in German cities with utilities is between 6 and 15 € per month. If you see yourself as a future married couple with 2 children, then an apartment of 100 sqm would be desirable. So, the rent for this would be net 600 to 1500 €. (Rental

costs increase regularly, with about 3 to 6% per year; so, you have to expect to pay between 800 and 2800 € for the same apartment in 10 years).

Rent is payable from taxed income. The rate of direct taxes and duties in the here assumed range of a well earning couple is about 25%. For the rent a share of gross income of today 800 to 2000€, (in 10 years from 1000 to 2500 R) is to be spent.

As a rule of thumb, the rent should not be more than 30% of the net income, so that enough remains for the other necessities of life and for a retirement reserve. This results in a necessary net income of 3500 to 5200 € today, or a gross income of 5000 to 7000 €.

This already puts you in the vicinity of the high-income earners, for whom a family income of more than 5294 euros net per month is assumed for a childless couple in 2019. High earners are better off than 90 percent of the people in Germany.

Buying a **house:** A modest house with a small garden costs between 400,000 and 800,00 0€ in German cities today.

Let's simply assume that you can fully finance a median purchase price of €600,000 with a loan at 2% interest and 3% repayment. Both are to be paid from taxed net income in the case of an owner-occupied house.

At the beginning, the interest burden is 12,000 €/year or 1,000 € per month, the repayment burden is 15,000 €/year or 1,250 €/month. The total monthly net burden is therefore 2,250 €/month. You have to be a good earner with stable job prospects to be able to afford this currently and in the long term.

A little arithmetic therefore quickly shows that one has to restrict oneself in elementary needs such as housing beyond what is desirable if one does not earn more than the average of all households in the FRG of € 4,214. The restriction can concern living space or quality, but also the place where one lives.

If you are personally unpretentious and immune to consumer advertising, you could play with the idea of building a hut on a meadow and live there idyllically without much pressure to make a living. In the FRG this is impossible due to legal regulations alone, one would have to realize this dream in a developing country, i.e., leave the ancestral society.

13.2 Education and training

Education and training create the basis for self-realization, for an accessible field of activity and occupation and for a certain, associated income.

Today, all figures on starting salaries and development opportunities in a wide range of professional fields are available on the Internet. It is therefore not necessary to refer to large tables at this point.

It is astonishing, however, that young people often do not inform themselves about this and about the prospects in their field of study when they make an important life decision with the completion of a school branch, the choice of a training place or a field of study. Here are some figures (unless otherwise stated, per month and gross before taxes and duties, 2020).

Media designer by training:	1800
Media scientist after graduation:	2400 €
Artist after studying *fine art:*	3000 €
Orchestra musician with professional experience:	3700 €
Freelance musician with experience	2000 €
Artist:	<1000 €
Journalist:	2700
Freelance journalist	22.0 € per hour
Editor with work experience	3800 €
Software Developer after Bachelor	3500 €
Hardware Developer	3800 €
Biotechnologist after studies	4300 €
Physicist with Master and experience	4200 €
Physicist with PhD and experience	5500 €
Mathematician after studies	3300 €
Electrical engineer after studies	3300 €
Young Professor (W1)	3680 €
Professor (Ordinarius) C4	8000 €
Interpreter according to Master	2000 E
Translator of literature	45 €/ for 1 complete page
Alternative practitioner with experience	2500 €
Psychoanalyst after studies	3000 €
Psychologist after studies	3500 €
Homeopath with experience	3800 €
Surgeon after studies	5000 €
Primary school teacher (12), after studies	3600 €
Primary school teacher (12), max:	5700€
High school teacher (13) after study	4000 €
High school teacher (13) max.	5800 €

Of course, entry-level salaries (and advancement opportunities) as an employee increase with depth of education, so college degrees with doctorates are rewarded higher than masters, the latter higher than high school diplomas, and the latter again higher than middle school diplomas.

From this small compilation one can see that some subjects popular with beginners, such as *media, art or languages,* are economically unattractive for the average; real success here requires quite exceptional abilities. In medicine, the branches of *psychology* or *homeopathy,* which are popular with beginners, already provide comparatively poor conditions for entry.

It can also be seen from the list that there are also material arguments in favor of the teaching profession, in addition to possible idealistic commitment, especially as the possible civil servant status is associated with further advantages in the event of illness and in terms of pension provision.

It also shows that, as a rule, in young couples today both have to work in order not to come under material pressure.

When working as an employee or civil servant of the state, the further development of salaries is fixed from the outset and can be influenced little by the individual.

In the other branches, it basically depends on 3 things:

(1) Choice of subject
(2) proficiency in one's subject
(3) Assumption of leadership responsibility.

(1) In some subjects (e.g. software, hardware) even the average work experience brings such an increase in personal efficiency that the income can double over the years.
(2) Personal talent, diligence and ingenuity can make salaries differentiate quickly, perhaps within a factor of 2 as well, and can open the door to (3).
(3) When taking over management responsibility, the salary increases with the number of employees managed (and their quality!). Here, too, an additional factor of 2 to 5 within the professional activity is within a realistic range, if one is finally given a (rare!) position as an employed entrepreneur (managing director, board of directors), and fills it successfully.

13.3 Self-employed entrepreneurial activity

One is free from the limitations of a salaried job, both in terms of self-realization and material basis, if one can decide to engage in self-employed entrepreneurial activity.

Economically, success depends to a large extent on how many employees are employed in the successful sale of one's own product, i.e., the size to which one develops the company.

If you only look at material success, the question of whether the product itself is particularly innovative does not play the first role. Materially very successful companies, such as the large German discounters, essentially copied the success formula of their American role models *sell now, pay later*.

Very fast growing, modern companies like internet sellers and intermediaries like *Amazon, Ebay, Uber do* not create anything new as a product. Their concept for success consists of a *new approach* made possible by the Internet, the cannibalization of existing, widely branched business areas, by displacing the numerous previous small players. Technically, this is made possible in the long term by the volume advantage in purchasing, the price pressure on suppliers that this makes possible, and on the persuasion of customers with a constantly feigned purchasing advantage, which in practice is nullified by the overconsumption created by advertising and oversupply. Financially, it is made possible by the acceptance of huge initial losses, financed by investors oriented towards quick profits (OPM: use *Other People's Money*).

For the general public, their success leads to a desolation of the inner cities and an impoverishment of everyday life. It is especially bad when the business model is designed to make the customer addicted or to promote and exploit an existing addictive tendency, as with *Facebook*, or *Apple*.

So when choosing a theme for self-employment, one should not lose sight of the ethical side in order to strive not only for material success, but also for life success in the ethical sense. Important for this is the creation of a truly new product that meets real needs and does not harm others.

Self-employment combines the possibility of great material success with the risk of failure. Not everyone has the inner condition for this, and that is why the number of those who strive to build up a business is much smaller than those who seek their fortune in an employee existence.

13.4 The appeal of the "special

It is a peculiar characteristic of many people that they can become highly preoccupied with things that seem unimportant, insignificant, or charmless to most others.

The intensity of the connection with the "subject" grows with the deepening of the special experiences gained in the process, so that a very special area can become the purpose of life.

This is quite obvious in people who feel called to be *artists.* They invest an extraordinary amount of time in what is at first a relatively monotonous learning function in order to develop skills that go far beyond those of someone who is not comparably trained.

The same is true for scientists; they delve for a long time and almost exclusively into very specific questions that seem incomprehensible, unessential or even trivial at first to the outsider. Characteristic is the answer Isaac Newton gave to the question of what made him realize why the apple falls from the tree: *dies nocteque cogitandum* (thinking day and night). That he thereby founded a new world view and became famous for all times was only recognizable afterwards.

In these two examples, the ability to concentrate in the long term and to narrow one's interests to something "special" is a quality that can be the basis for a largely self-determined life, and possibly also for sufficient material success.

In many more cases, one will observe how someone develops a hobby, a whim, a passion that increasingly occupies him. This can contribute significantly to self-realization, even if it is not associated with the prospect of material success. It can be said that there *is no subject that is so unusual that it does not find a crowd of enthusiasts.*

But the attraction of the special can also initiate a negative, destructive development.

It begins with the fact that one considers a single topic to be increasingly important for society, which is not insignificant in the overall framework, but is secondary in the weighing of all topics. In today's media world, one quickly finds acceptance for any such special topic in an interest group or Internet bubble, which reinforces and spreads one's own opinion by feedback. From originally harmless enthusiasm for something, a *conviction* or *ideology develops* that not only exaggerates one's own favorite topic to an excessive degree, but also stamps the *denier of* one's own conviction as a fool, an opponent, an object of hatred.

This could be observed very impressively in the political disputes in the USA around the outgoing President Trump, but also in thematically less explosive disputes about the protection of nature, the rights of minorities, vegetarianism, politically correct language, etc.

For society, such thematic constrictions become alarming when their protagonists feel called upon to exert political pressure in order to enforce their convictions, even if they do not express the opinion of a majority. To this end, the media available today provide a powerful means of putting pressure on politicians and the public quickly, without the democratic route via parties or elections.

13.5 "German Angst”

A form of intensive preoccupation with rather peculiar objects, internationally perceived as specifically German, is *German Anxiety (*anxiety*),* which has found its way into the English-speaking world under this name (as, on the positive side, has *kindergarden*).

It concerns the exaggerated fear of the unknown or misunderstood, largely non-existent, such as *earth rays, water veins, rays in* general, *genes, food poisons, extraterrestrials, secret*

societies. Its counterpart is the belief in non-existent positive forces and powers in nature like *healing rays, aura, healing hands,* homeopathic *globules, karma*, esoteric exercises, horoscopes and other superstitions.

Remarkably, it is not just uneducated people who pay homage to such fads, but often educated citizens whose worldview, in a combination of scientific half-knowledge and unresolved existential anxiety, leads to this dead end.

They are assisted by charlatans who turn it into a business model

It is curious when someone is afraid of earth radiation, who at the same time, knowing the self-harm of tobacco consumption, foreseeably shortens his lifetime by a decade by smoking. It is abstruse when potential parents argue that they do not want to raise children, so that they can protect them (?) from terrible future dangers.

Socially harmful is the *German Fear* when it develops into an ideology that is proselytized to such an extent that social progress is hindered.

What helps the individual against this?

- Knowledge acquired by intense, own study
- Self-awareness of one's own existential anxiety and its overcoming

14 Final guidelines

We want to leave the overall context here and end with very simple guidelines for the individual, which can help him, beyond the individual concepts already described, to orientate himself in society in such a way that he leads a *good life* within its framework, beyond material existence.

We start from a few sayings of famous thinkers of antiquity, the content of which has remained simple, plausible, and unchallenged by all subsequent thinkers.

At the very beginning of classical Greek ethics there are two sayings that were carved into the entrance columns of the temple of Apollo at Delphi. In a religious context, they were seen as requests from the god to visitors entering his temple.

Its origin was attributed to the two *sages* Solon and Chilon.

Know thyself! (ancient Greek Γνῶθι σεαυτόν, Gnṓthi seautón)

and

Nothing in excess (Ancient Greek Μηδὲν ἄγαν, Mēdén ágan).

Know thyself! is the invitation to become clear about the limitations and possibilities that are given to oneself, and it is the instruction to develop and realize oneself within the bounds of possibility in such a way that one is a *good* person.

He who does not use, or does not use *well, the* predisposition to personality development given to him by destiny, acts badly. He who does not recognize his actual limits will be and remain unhappy.

Nothing in excess! shows the limits to be kept within given margins in order to decide well.

In his works, Aristotle treats this question in great detail in the context of what constitutes a *good life for* the individual. He considers that there is always a wide range between *too little* and *too much in* things that are good in themselves and sees the proper measure (ancient Greek σωφροσύνη; sophrosýne) in the middle. Thus, he calls the praiseworthy virtue

bravery the middle between the despicable extremes of *cowardice* and *daredevilry*. The proper virtue *munificence* he sees in the middle between the vices *avarice* and *prodigality*.

One can easily draw numerous parallels oneself that demonstrate the general applicability and persuasiveness of this simple reasoning.

Interestingly, however, Aristotle also teaches that there is no right measure in things that are bad in themselves: one must keep away from them as a matter of principle: once one has begun, one is drawn further and further into them without finding a limit.

This certainly applies to all addictions, whether based on alcohol, nicotine, or other narcotics, to unrestraint in sexual, moral or criminal respects. It also applies to the handling of the modern media with regard to the destruction of one's own self-determined lifetime caused by them, to falling for false role models, prophets or exaggerated guiding principles, to immoderateness in material respects, imperiousness and self-overestimation.

It is difficult to get out of the beginnings of a bad behavior or an addiction, as a young person for example already only from a vulgar speech habit, from the tendency to slanderous gossip, the first cigarettes, the first joint, especially if this is in connection with a peer group of the same age.

A saying by the Roman stoic philosopher Epictetus[52] serves as a guideline for this:

The door is open

One is free to leave the space, the environment, the people, the milieu, the way of acting whose influence harms one. There is no absolute compulsion to continue doing what one has recognized as bad. The consequences of leaving must be weighed against this.

However:

you have to recognize reality and *you must be willing to act*.

This leads back to the basic requirement: *know thyself!*

Yet,

who doesn´t recognize reality,
and who shies proper action,
cannot be helped by advice.

FINIS

[52] Epictetus 50 - 138 p. C, Greek, slave prisoner of war in Rome

15 Appendix **Money, Currency, Interest**, **Inflation**

15.1 Money

Today we take it for granted to assign a certain material value to things and processes of life, which is expressed as a *price* in the unit of *money*. The *price* is a symbol that is ascribed to the object as its *name* is as a symbol.

For many things, most people in a given society at a given time will be willing to consider their value expressed in price to be equal, such as for food, for a particular car, for a service such as a haircut.

For others, the standard of value can be quite different for different people, as long as it does not refer to a price as a commodity, but to the utility value[53] for the individual. This applies, for example, to the utility value of a particular musical instrument, which may be zero for the non-expert but very high for the expert.

By agreeing to set as the standard of value for tradable goods not the benefit to the individual but the *general demand*, the concept of money acquires its universal, quantitative meaning and the price (monetary value) of a commodity or service is determined by supply and demand in commercial exchange.

Thus, the valuable musical instrument acquires the same monetary value for the nonprofessional owner as it does for the professional, for he could sell it to the professional in exchange.

A vivid example of trade without direct contact and price determination without money was already around 500 BC the exchange of ancient European trade goods for gold at the African west coast. Herodotus reports on this (*Histories* ch. IV, para. 196):

> *The Carchedonians* (Carthaginians) *also tell the following: Inhabited Libya* (Africa) *still extends beyond the Pillars of Heracles* (Gibraltar). *When the Carchedonians go there, they unload their goods and lay them out side by side on the beach. Then they get back into the ships and give a smoke signal. As soon as the natives see the smoke, they come to the sea; then they put down gold as a price for the goods and withdraw from the goods again. Then the Carchedonians go ashore again and see. If, in their opinion, the gold is equal to the value of the goods, they take it and depart; otherwise, they go back to the ships and remain seated there. But those again approach the goods and add gold until they satisfy them. None does harm to the other. Some do not touch the gold until it seems to them equal to the merchandise; others do not touch the merchandise until the Carchedonians have accepted the gold.*

In everyday transaction, the money economy can be understood as follows: I (A) exchange products a and b with you (B) and we agree that a or b each have a certain, symbolic monetary value which both perceive as being of equal value. This enables the general exchange of goods among all who accept the measurement basis *money.*

This does not apply without further ado if the two services a and b are not equivalent, do not take place at the moment between two fixed partners, but take place with third parties or with a time lag. One can agree to create a storage medium for material value in the form of *material money,* so that an exchange is possible even then. In the process, goods are first

[53] Here, too, we use the utility concept of game theory, which includes not only material values but also ideal and emotional ones: Utility is what has value for the individual.

exchanged for material money in the respective transaction, and then money is exchanged for goods again.

The storage medium can be anything that has been agreed upon (and that has actually been used for this purpose in the past):

- in principle, by the individual also consumable items, such as pieces of metal, salt blocks, cocoa beans, cowrie shells, tea bricks (so-called *primitive money*),
- Promises from trusted trading partners - oral or written down like a negotiable promissory note.
- Promises made by a third party, a "banker", who guarantees the value instead of the debtor.
- Metal Coins minted by a *sovereign* as an easily transportable medium of hoped-for stable value.
- Finally, paper money, in which the modern sovereign of the people prints on paper a number symbolizing a monetary value and associates with it either a specific national debt (Gold Dollar, Rentenmark) or nothing at all except the general expectation that the number printed on it will be accepted by all as an exchange value.

With the intervention of material money as an intermediate medium, the question of its short-term value arises: the unauthorized production and counterfeiting of e.g., coins and paper money by third parties must be prevented by the sovereign through legal measures.

15.2 Interest and compound interest

The issue of long-term value retention arises when there is a time lag between the two transactions

- **Risk of default**: will the debtor then really honor his debt? Is he then willing to pay, solvent, or bankrupt?
- **Waiver of use**: what do I receive for not being able to use the deferred monetary value myself during this time?
- **Inflation of currency**: Is the nominal amount of money I give or promise now still worth as much when I redeem it as it is today?

All this is considered by valuing the present monetary value (present value *GW*) of a future benefit (future value *ZW*) lower than that of an immediate benefit.

$$\text{PresentValue}[\text{FutureValue}(\text{Money})] < \text{PresentValue}(\text{Money})$$

To compensate for this, *interest (Zins)* is added to the promised future value. The interest is usually related to the years *n of* default and calculated in annual increments *z*, the interest rate. Thus, the debtor owes more than the present value of money at the moment of the transaction if payment is only made in the future. Now applies

$$\text{PresentValue}[\text{FutureValue}(\text{Money}) + \text{Interest}] = \text{PresentValue}(\text{Money})$$

Often, in the case of long-term debt (time *n* years), it is agreed that the original amount of money at the end of the period, but the interest will be refunded annually. Then the following formulas describe the process.

$$\begin{aligned} ZW &= GW + Zins \\ Zins &= GW \bullet n \bullet z \rightarrow \\ ZW &= GW(1 + nz) \end{aligned}$$

The total amount to be repaid increases linearly with time (number of years *n*).

If, on the other hand, it is agreed that the interest will also be refunded only at the end of the period, then this will increase the debt each year and interest *ZZ* will be due on the accumulated interest.

$$\boxed{\begin{aligned} ZW &= GW + Zins \\ ZW &= GW(1+z)^n \\ Zins &= GW\left[(1+z)^n - 1\right] \approx GW(nz + \frac{n}{2}z^2) \quad für \quad z << 1 \\ ZZ &= GW\left[(1+z)^n - (1+nz)\right] \approx GW\frac{n}{2}z^2 \quad für \quad z << 1 \end{aligned}}$$

The total amount to be repaid now grows exponentially over time

$$\boxed{(1+z)^n = e^{na}; a = \ln(1+z)}$$

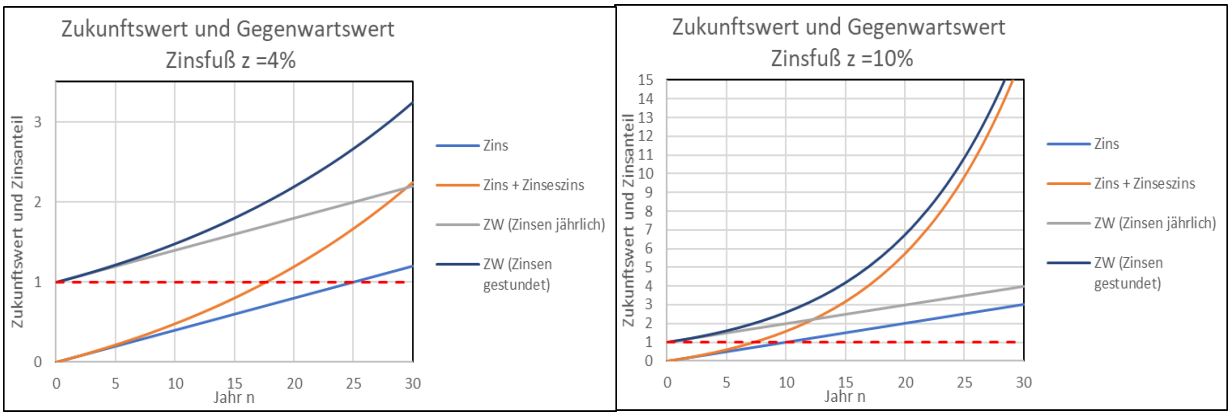
The interest rate z summarizes the three factors risk, inflation expectation and waiver of use.

$$\boxed{z = z_{foregone\ use} + z_{risk} + z_{inflation}}$$

In ordinary business, the part of the interest rate corresponding to the foregone use is quite small, a few percent. The larger part of the interest rate corresponds to the default risk and the inflation expectation.

However, in the past and occasionally also in the present, so-called usurious *interest rates* have been charged, in which the value in use far outweighs the *interest rate* at 10 to 50 %.

The influence of the interest rate on the future burden is best illustrated by a graph showing the present value of the repayments as a function of time and the interest rate.

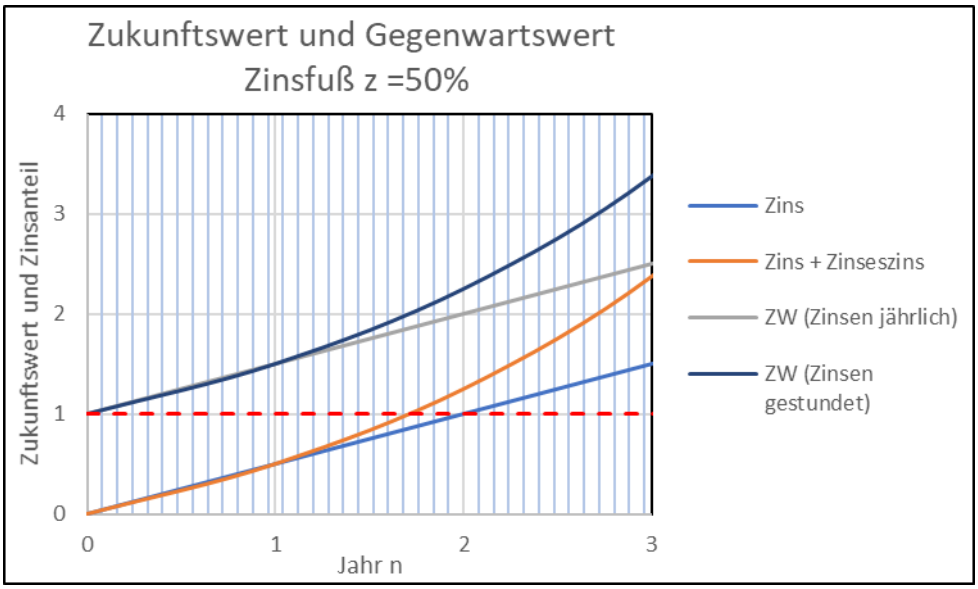


The first two diagrams show the future value for interest rates of 4% and 10% over a term of up to 30 years, which is common for house financing, for example, in addition to the red dotted present value. In addition, the respective interest burden is plotted. It corresponds to the difference between the future value and the present value. In the case of annual interest payments, both increase linearly; in the case of deferred interest payments, they increase exponentially.

Even with annual interest payments and a moderate interest rate of 4%, the interest burden to be paid off over a 25-year term is equal to the purchase price negotiated today (*GW*). With deferred interest, the interest burden to be paid off then amounts to 1.7 times.

At an interest rate of 10%, the corresponding values are 3.5 times and 10 times respectively.

The third diagram shows the situation with a usurious interest rate of 50%, with the short term of no more than 3 years that is realistic in such "transactions". Already after 2 years the debt has more than doubled. Such situations occur today, for example, with private lenders of short-term loans and in the trade of narcotics. In the latter case, the criminal dealers demand even much higher rates without declaring an interest rate, which in a short time bring the addict irredeemably into economic dependence and force him to procure the funds criminally.



In the field of bona fide transactions, a distinction must be made between the occasional and the commercial situation as regards the risk of default, and between debtors of different risk.

In the commercial case, the creditor, such as an insurance company or a bank, makes loans to numerous debtors. He can then calculate with the *probability* that of those comparable in risk a specific one will default and pass on this risk to all from this group in an equally high interest rate. The commercial creditor thus spreads the risk over numerous shoulders, like insurance in general. A single default is calculated in and does not normally cause the creditor to falter.

The default risk will not be the same for all customer groups: it is greater for a *start-up company* than for *Siemens, for* example, and accordingly distinguishable groups borrow more or less favorably.

The situation is different for an occasional private creditor who, for example, assumes a guarantee for another person's debt. He cannot reckon with *probabilities of default* because it is an individual case, and an actual default can be highly threatening for him.

15.3 Inflation and currency

Historically, the goal of long-term monetary policy for sound sovereigns has always been to keep the monetary value of the currency they issue stable, so that the purchasing power of a unit of currency for comparable goods does not change over time. This meant, among other things, that the interest rate on debt could be set solely on the basis of the risk of default and forgone utility.

The inflation-related part of the interest rate poses greater difficulties of understanding, since it is linked to actions of the modern state, whose government, influencing the stability or instability of the currency it issues, also pursues objectives other than the preservation of the purchasing power of the currency (see below).

15.4 Precious metal as material money

In European history, until the First World War, precious metals were the basis of currency, namely silver or gold. Both metals are rare and can only be obtained at great expense in mines or by washing river sand. They were therefore suitable as the basis of a long-term stable currency, especially as they were also sought after as a pure material because of their use in jewelry. However, the value ratio of newly mined silver to gold depended regionally on the discovery of new silver mines and therefore fluctuated, especially in modern times. From the middle of the 18th century, therefore, gold, whose costs of new mining were more stable, became the generally accepted standard of currency,

Since there is a long-term currency measure in precious metals, it is worth comparing ancient values with modern ones.

In ancient Greece, silver was the predominant circulating currency material that could be mined domestically. Gold was mainly used for hoarding.

The largest unit of currency was the talent (*as much as a man can carry*), at around 30 kg, the next largest the mine at1/60 talent. The most common coin was the drachma at 1/1500 talent. The smallest coin was the obulus with 1/6000 talent.

At today's values (1 kg silver = 980€) therefore applied

- 1 talent silver ≈ 30.000 €;
- 1 mine silver ≈ 500 €;
- 1 drachma (silver) ≈ 20 €;
- 1 obulus (silver) ≈ 5 €

For purchasing power, the following points of reference are used:

- The wage of a warrior was 2 Obolen/day = 10 €.
- 1 slave cost 3 mines = 1.500 €
- The construction of a sailing ship cost 1 talent = 30.000 €.

From these values we can conclude that the purchasing power silver value in ancient times was about 10 times higher than under today's mining methods.

In fact, in ancient times, the price ratio of new gold to silver was about 10, while today, at €49,345 per kg of gold, it is 50.

The purchase value of gold has been constant in magnitude since ancient times.

Silver was also the most important coinage material in the Roman Empire. The Roman silver currency became unstable several times due to the fact that during conquests (e.g., Syracuse 221) large, foreign coin treasures were plundered, from which the state minted new coins and financed wars with them. Further contributing to the devaluation was the fact that the state reduced the silver content when issuing new coins. All this led to the collapse of the Roman silver currency in the 3rd century.

In the succession of the Roman Empire, a silver currency stabilized again, based on the *silver penny* after *Charlemagne*, with 1.7 g of silver (corresponding to €1.7 in modern silver prices). This monetary unit remained in use for a long time (until the introduction of the Euro); however, it gradually sank to the lowest monetary level and to a materially practically worthless copper coin

Gold played only a minor role as a trading currency during antiquity and the Middle Ages; the value of a manageable unit of coinage (unit of weight) was simply too great for that. However, it remained the preferred hoarding material for the permanent - albeit unprofitable - storage and hiding of wealth.

15.5 Paper money until the end of material coverage

The use of paper money has many advantages, as for example the granting of credit is noticeably facilitated and also the very risky transport of coinage such as gold and silver is no longer necessary.

Paper money was used in China from 600 onwards among merchants in the form of letters of credit, cheques, or promissory notes, and from 1300 onwards became a state currency in banknotes.

In Europe, paper money in the form of banknotes was first officially introduced in Sweden in 1661. The background to this was that the previous Swedish currency had been based on copper mined in the country, which meant that inconveniently large quantities of coins had to be transported in trade.

Until the First World War, the major (state-guaranteed) paper currencies in the modern era were backed by gold, i.e., the state issuing the banknotes guaranteed that the holder could exchange them at the state bank at any time for gold coins of a fixed gold weight specified on them. This meant that the state bank had to stockpile a quantity of gold that was sufficiently proportionate to the number of banknotes in circulation. A crisis of confidence in the currency could lead to a *run on* the banks by the citizens and had to be avoided at all costs, since with the increasing economic growth the amount of money in circulation rapidly exceeded the gold reserves.

This system collapsed with the First World War, in which, for example, the German state financed the war costs with uncovered debts (i.e., additionally printed, formally gold-backed banknotes) - in the vein hope of later being able to impose them on the defeated. After the defeat, the only option left was to devalue the German currency, which effectively meant the destruction of the private savings of German citizens hoarded as German banknotes and government bonds.

While the gold standard continued to exist in principle in the USA and England after the First World War, the *Rentenmark* was introduced in Germany in 1923 in a currency reform instead of the gold standard. Formally, it was still a currency backed by tangible assets. However, it was not guaranteed by the state as *legal tender*, but as a debt security of a newly created *Rentenbank*, the values of which consisted of agricultural, industrial and commercial real estate compulsorily mortgaged and encumbered with land charges, which were thus used to pay off the old war debts. Miraculously, this transparent maneuver was quickly accepted by the population, so that the Rentenmark functioned stably until the end of the Second World War.

The German state now financed the Second World War on Rentenmark debts, which led to the collapse of the Rentenmark currency after its miserable end. In a second major currency reform in 1948, the national debt was paid off at the expense of the savings hoarded by the citizens in Rentenmark banknotes and government bonds, and a new currency standard was established in the form of the *Deutsche Mark* (DM), which for the first time was a pure paper currency without any material backing.

The introduction of the *land-backed* Rentenmark is reminiscent of the conspiracy that *Mephisto* enters into with the king in *Faust II* by printing paper money to solve his national debt: the banknotes promise the possession of treasures to be found in the ground in the future: the citizens are happy about all the paper gold that the state is thus showering on them. What is overlooked is that these hypothetical treasures would have to be found and extracted at great expense in the future, so that their present value is vanishingly small (see keyword *resources*). The king thus burdens the present gifts as costs on the future generation - who is not reminded of the recurring benefactions of politicians in favor of their own generation (electorate)?

After World War II, the major industrialized countries collectively tried to return to a gold standard of currencies. This had the inevitable consequence that the monetary value of the individual currencies (dollar, pound, franc, lira. etc.) was firmly linked to each other. Differing development of purchasing power due to differing economic development immediately led to an outflow of gold reserves and growing indebtedness among states. A stable international monetary system could not be maintained in this way.

To solve this dilemma, a system was adopted in 1943 (*Bretton Woods*) in which a dollar partly backed by gold served as the *anchor currency*, while the other currencies had a certain exchange rate bandwidth. Different developments in purchasing power could thus be compensated to a limited extent by changes in the exchange rate. However, the demand for dollars abroad led to growing balance sheet deficits in the USA.

Finally, in 1976, by agreement in the *International Monetary Fund*, the gold peg of currencies was removed altogether. Although individual states continue to hold physical gold as part of their reserves (in addition to foreign currency), there is no obligation on the part of the state or the respective central bank issuing banknotes to exchange them for gold or any other material value.

Since then, banknotes have simply been a piece of paper with a number printed on it (the face value, in the respective currency), while coins have been a piece of relatively worthless copper.

The introduction of the Euro in parts of the European Union gave the member states a single currency, which is now the second most important international reserve currency after the dollar. However, as with the earlier gold standard, its introduction again introduced the problem of a fixed monetary relation between the EU states. Differing economic developments can therefore no longer be compensated for by devaluations and revaluations of the individual currencies, but immediately lead to imbalances in trade balances and mutual indebtedness.

A monetary union can probably only be maintained in the long term with a uniform economic and social policy, and here lies one of the great unanswered questions of future EU development.

15.6 What is the *value of* a pure paper currency?

How can the state even achieve that a pure paper currency is recognized as a value by its citizens?

This requires coercion.

The most important means of coercion is the demand that all taxes and all services of the state to the citizens are paid only with the own currency. This alone leads to the fact that about 50% of all money flows in this currency, since e.g., the state budget in the FRG 2020 comprises quite exactly 50% of the national income.

Furthermore, all traders are subject to the obligation, guaranteed by the State, to accept the national currency at face value as a means of payment for domestic transactions.

A less obvious means is that the state formally assigns its own debts a higher security than others and therefore obliges the managers of large private assets, such as insurance companies or foundations, to hoard their tied reserves predominantly in state bonds, i.e., the state currency, even if this makes it almost impossible, as is the case today, for these institutions to invest their money profitably.

As harsh coercive measures in critical situations, the state can prohibit the possession and payment with foreign currency.

Finally, it can temporarily or permanently prohibit the possession and trade of coins and bars of precious metal and impose penalties (thus 404 a.C. Sparta, 49 Caesar, 1273 China, 1720 France, 1933 USA, 1923 Germany, 1945 Germany, 1966 GB). Thus, precious metal as a hoarding material is not a "safe haven" either.

As an extreme measure, the state can declare *national bankruptcy* in the case of hopeless over-indebtedness, devalue the old currency, force a new currency on its own citizens and agree with foreign creditors on a realistic debt repayment in its new currency (e.g. *Argentina* several times in the last 100 years).

15.7 Political influences on the value of money

The greatest intangible value of a paper currency lies in the esteem of its citizens, who trust the issuing state to use it responsibly.

The fundamentals of this are,

- that the purchasing power of the currency and thus the value of hoarded savings remains constant or that at least savings, income and pensions develop in parallel with moderate inflation.
- that the state is economical with its own resources, i.e., that it does not spend more than it takes in on the basis of the traditional tax structure.

These foundations were fulfilled for a long time in antiquity and in the 19th century but are now considered vulnerable or outdated from a political point of view.

Modern economists *(Keynes, Hajek, Samuelson, and their successors*) go beyond the core question of the currency to ask which development of the purchasing power of a currency leads to a desired socio-political development, such as maximum growth, full employment, or a politically desired distribution of income and wealth. In this complex field, which combines many assumptions about the future behaviors of different groups of people, there are no conclusive models, but only more or less plausible, conflicting ideas and schools of thought.

It is a fact of experience that a slight inflation, i.e. a small, predictable, annual decline in the purchasing power of the currency, induces entrepreneurs to invest more, as they can expect to have to pay back less of today's purchasing power in the future in order to repay the debts taken on for this purpose, while the prices received rise with the inflation rate, i.e. they also pay off interest rate increases on the debts associated with the inflation rate.

In connection with this, the state can speculate on an expansion of the number of dependent employees. If higher, successful entrepreneurial investments are expected to increase employment, income and thus taxes in the future, the state can hope that a slight inflation in a self-optimization of the economy will also increase its revenues and thus expand the scope for its politicians.

Another fact of experience is that tax reductions for capitalists and companies encourage them to invest more, all other things being equal, because they do not need the additional income "given" in this way for consumption but will try to use it sensibly for further business.

From all this, a number of economists and politicians who believe in them draw the conviction that mild inflation is good for society as a whole and that a slump can be overcome most quickly by reducing taxes on capitalists and corporations. This notion is particularly true in the US, where the principle of *utilitarianism* prevails in social matters: what is optimal is what is good for the sum of the citizens, even if it is not good for all.

For the EU, and especially for Germany, the situation is somewhat different.

There is also a belief among European economists and politicians that soft inflation is optimal for economic development, and the European Central Bank advocates with vehemence, if not rational persuasion, a long-term inflation target of 2% per year to be targeted by it.

In Europe, however, politicians tend not to believe in the beneficial effect of tax cuts under self-optimization of the economy. Probably in the tradition of French statism and a plan-economy-attitude, politicians think they know quite well what will be important in the future in terms of technology and products in order to stimulate the development of society. They tend to rather put large state funds as subsidies into individual, specific projects that are close to their hearts for some reason.

In addition, the desire to leave no individual socially behind, now and in the future, plays a major role in Europe. There is therefore little inclination on the part of politicians to reduce state revenues for the time in the interest of future development, but rather the desire to increase them on an ongoing basis, openly or covertly, in order to make more funds immediately available for social equalization, which after all has no natural end.

A very German, political wishful thinking - not a fact of experience - is to spend a lot of money today on pet projects that are made to look good by ascribing to them a large future economic return, which thus also seems to justify financing them through additional debt.

This is true, for example, of the numerous attempts at educational reform, none of which has ever been proven to have actually led to a higher international competitiveness of individual graduates.

All in all, the extrapolation of future expectations has led to the fact that even in Germany an increasing percentage of public debt appears acceptable to politicians and the goal of a balanced budget is fading (balanced in the sense that the debt does not exceed a certain percentage of revenues, e.g., for the EU countries 60% of the federal domestic product according to the Maastricht Treaty).

15.8 Who will pay government debt in the future?

The current Corona pandemic with its political consequence measures is a good example to study the question of how the state actually wants to handle debts and obligations taken on today to solve current problems in the future.

To mitigate the current Corona-induced economic downturn (2020/21), businesses are being given large gifts of funds by the state in order to survive. Numerous citizens are receiving additional state support in order to be able to maintain their previous standard of living. The politicians who are so decisive do not see any possibility of freeing up the necessary funds for this by saving elsewhere and take on additional state debts in exceptionally large amounts for this purpose.

There is no intention of reducing this emergency expenditure in the foreseeable future through ongoing savings, but rather the hope is for rising, additional revenues that will somehow help to pay off the over-indebtedness thus caused (in addition to the unresolved financing of *climate change*, the *pension problem*, an *increase in armaments* and the *migration problem*).

In any case, today's debts will not be paid off in the foreseeable future through the renunciation of the living, active generation that has been made happy with state money today, but in the distant future through a hidden or open reduction in the income of the next generation.

In numerical terms, government debt is lightened by inflation. In the case of 20-year government bonds, the amount to be repaid or rescheduled at maturity falls by 33% in real terms with 2% inflation, and by 54% with 4% inflation. This is the amount lost by institutions and savers who hoard money in the form of banknotes or government bonds. The state's saving is therefore in reality a hidden loss of wealth for its citizens.

Thus, the state has an interest, over and above the hoped-for economic stimulus, in using inflation to reduce its future debt, which in practice means nothing other than increasing current debt beyond what is possible with frugal budgeting.

One can doubt at present whether in the current monetary system the repayment of government debt is seriously considered at all in the long run. If currency is materially just printed paper, then the state can print as much money as it needs without any thought of material realization. It only has to ensure that confidence in the currency remains, for which it is probably sufficient if it formally honors current obligations it has entered into.

15.9 Currency trading

There is a separate trade for different national currencies. If, for example, a European merchant wants to buy goods from the USA, he must pay for them in dollars, while he sells them to his European customers in euros. To purchase, he must therefore exchange dollars for euros - *buy* dollars on the currency market.

If Germany sells more goods to other countries, e.g., to the USA (export) than it buys there (import), then a foreign trade (export/import) surplus is created. The USA has to buy less euros and sell more dollars. This causes the euro to become more desirable in the currency market than the dollar, which is devalued. This is a normal process by which the currently different performance is compensated. Goods from the US now become somewhat cheaper for Europeans and vice versa, which tends to reduce a current foreign trade deficit in the long run.

Even without associated currency flows, currency relations can be influenced, if, for example, a state exports goods produced in the country in the national currency and hoards the foreign currency received for this as reserves instead of letting it flow back for imports. In this way, it can depress its own currency ratio and thus momentarily improve its ability to export. An example of this for many years has been China, which has accumulated an enormous dollar reserve in this way. The financially strong position of the Federal Republic of Germany within the EU is based on a continuing export surplus, which as a policy is rightly criticized by the other countries.

15.10 Betting in real and fake currencies, speculation

People like to bet with betting partners on the unknown outcome of events and many associate this with financial risk, they *speculate.*

A believes that England will win the European Championship football match, B believes that England will lose. They make a bet for 100 euros, which the loser of the bet will pay to the winner.

It's a "zero-sum game" in real currency: what one person gains, another loses.

If a lot of people want to bet, a *betting office* organizes this so that there is no need to look for an individual partner. The game is then no longer a zero-sum game, because the betting office collects a part of the betting sum for itself; in the German Lotto, the state and the operator collect 50% of the stakes. This is also a betting game in real currency.

When speculating on shares, buyers bet on a rise in the share price; sellers tend to believe that it will fall. *Betting agencies* are stock exchanges, intermediary banks, and brokers. Buying and selling, as well as realized profits are in real currency.

But you don't need money in real currency to bet and speculate, you just need a shared belief that something you're betting with represents a certain value in real currency to both betting partners.

A famous historical example was the *tulip bulb mania* in 16th century Holland. A general delusion of the sale value of tulip bulbs developed out of a growing appreciation by the citizens for beautiful gardens, with the expectation of ever increasing and unlimited prices. The speculative bubble collapsed when, for the first time, a large supply of tulip bulbs could no longer find a buyer at the expected price.

Here, the tulip bulb became a *faux currency* whose monetary value was derived solely from the shared beliefs of seller and buyer.

Several mechanisms are needed for such a *speculative bubble:*

- Buyers and sellers who have excess money and are willing to speculate with it,
- An *object of speculation,*
- A *story*, a *narrative that* suggests a rapidly growing monetary value of the object in real currency: this is particularly suitable if the object *is rare*, can only be produced at *great expense* and *not by everyone.*

The famous tulip bulb bubble was probably a *collective hysteria* among well-meaning people.

Much more common are speculative bubbles that are *criminally designed.* These include pyramid-type sweepstakes, such as chain letters or financial investments with promised, unrealistically high interest rates that are initially paid out of the collected capital. Here, the initiators and perhaps even the first participants win; the masses lose when the speculation inevitably collapses - at the latest when many participants try to convert their speculative objects into real currency.

Cryptocurrencies are an example of modern, presumably criminally designed speculative objects. They have a realizable real currency value only as long as enough speculators are willing to buy them against real currency, i.e., as long as they can speculate on further, future increases of the cryptocurrency.

The *Bitcoin story* is quite *classic* as an example:

- invented by a mysterious computer scientist no one knows,
- based on a complicated digital technology that the speculating layman does not understand,
- *produced with* a tremendously elaborate, for the bona fide speculator quite opaque (calculation) - procedure
- becoming rarer and rarer, because the manufacturing process becomes more and more complex as the number of pieces increases.
- with a predetermined maximum number of pieces.

It is quite clear that this is a bubble designed for maximum price growth, and the initiators must have made a tremendous amount of money from it by now.

It is incomprehensible why the state currency guards allow such a "private currency" to compete with the state currency before its collapse. Piquantly, in the decade of "climate protection", they tolerate that in the production, the *mining*, almost obscene amounts of energy are burnt, and economically relevant amounts of computers are consumed, although it would technically suffice for the same purpose to simply distribute printed paper or a digital signature among the *faithful* (but of course that would not have the confusing appeal of the *story*).

Only China seems to have recognized cryptocurrencies as destabilizing for its own currency and starts to limit them. In the West, people are speculating with them and even allowing them to be traded on exchanges.

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