Free Will, Control of Life and Destiny

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Abstract

This essay presents thoughts about the factors and forces that influence the development of our decisions, of our thoughts and of our opinions. We also want to clarify if we shape the course of our life or if other forces and factors ultimately do this for us.

This essay also wants to touch on the question, in which way animals are different from human beings when they manage their daily lives.

Finally, this essay highlights the fact that we make decisions without knowing correctly all relevant facts and that bias and deceptions make us disregard many facts for which we cannot evaluate anyway the effects that they have on our decisions and their results. Under the premise that we cannot call a decision free-willed if we don't know all facts and all consequences, this essay concludes that a free will does actually not exist.

Many people, probably the majority, firmly feel, believe and claim that they have a free and autonomous will that they use to control in all details their actions and thoughts and ultimately the course of their lives. This firm belief is long-standing fact.

The Bible supports this belief in a free will when it says that "*God created man in his own image*" (Genesis 1:27) and in his own likeness. This obviously does not mean that humans physically look like God. Nobody has ever seen a God. The Almighty has not a physical body but is a spirit with an autonomous free will. God has the totally unrestricted freedom to do '*as he pleases with the powers of heaven' and "No one can hold back his hand or say to him: What have you done?*' (Daniel 4:35). Humans might have inherited God's free will but they can certainly not exercise this free will with the '*powers of heaven'* but only with very limited worldly powers. In addition, many authorities always ask us '*What have you done?* And we have to be answerable. Since this is so, I cannot see any image or likeness of God in human beings.

In Christian beliefs, humans are God's very unique creation because they are privileged compared to animals. Human beings are not dumb animals, which vegetate without the capacity to love and to praise God. Only those living beings qualify as humans if they worship God or have the capacity and the free will – and hence the obligation - to worship him.

The Almighty '*made the wild animals according to their kinds'* (Genesis 1:25). This biblical statement implies that animals, unlike humans, have no free will and no soul. Animals are objects and just good enough to '*be food for you*' (Genesis 9:3). The low appreciation of animals in the Bible contradicts the modern findings that most animals are sentient beings like humans and use various levels and types of cognitive and planning skills. Some animals have in certain areas even more intelligence and better cognitive skills than humans. We know this and use, for example, sniffer dogs and carrier pigeons.

Humans share with animals many instincts like procreating, seeking pleasure, avoiding pain and fearing risks. These instincts make us act and react mostly automatically in many situations. We see in all situations the reality, but we see only what our senses allow us to see. Our brains process and evaluate the information coming from the senses and make us do what satisfies our instincts.

Animals certainly perceive their environment in different ways and shades than humans but they skillfully manage their affairs each '*according to their kinds'* and don't need a free will to be sophisticated. As members of the animal kingdom, the human species shares many more features with animals than most people want to admit. If humans and non-human animals share main features, we should think twice before we claim that we have a free will that animals don't have. What exactly is it that allows us to make the claim that we humans have a free will that animals don't have? We have too many things in common with animals. We should therefore admit that we both manage our lives in almost the same way no matter if a free will exists. If humans have a free will, animals have it as well. If there is no free will, both animals and humans manage their lives admirably well in the absence of a free will.

The Bible, which says that God created men in his own image with a free will, contradicts itself by claiming '*that a man's way is not his own; no one who walks directs his own steps*' (Jeremiah 10:23). Some people claim

in line with this statement that God has pre-determined all actions in our life. According to this way of thinking, our lives unfold merciless according to a divine and detailed plan that we are not free to change.

As we will see below, it is extremely unlikely that God or someone else has pre-determined all details of our lives.

Astrologists also cast doubts about the existence of a free will. They believe that the outline of our lives is pre-determined by the position of stars at the time of our birth. It is very unlikely that different positions of the sun, the planets and the moon determine the main characteristics of all persons and the course of their lives. There is no scientific evidence for this. We cannot measure any impact that the position of stars at the time of a baby's birth has on its life.

If neither God nor the stars pre-define our personalities and also don't determine the course of our lives it would be a logical fallacy to conclude that we control our lives with a free will. There are many other factors that generate our decisions and activities. The laws of physics and biology shape the course of our lives. It is indeed rather likely that life is a sequence of random events like an endless series of causes and effects in a perpetuum mobile under the laws of physics and biology. Human beings, in this view, have only very weak influence on the type and sequence of events outside their bodies and also not on processes inside our body. Events come upon us like storm and hail, earthquakes and sunshine and we respond to these events according to the laws of physics and biology using our instincts and gut feelings. In this view, our activities are all physical effects of physical causes. The activities of the brain are biological processes. They are not governed by a free will but by the laws of physics, biology and chemistry. The German theoretical physicist and Nobel Prize winner Max Planck asked the rhetorical question how the idea of a free will can '*be harmonized with the fact that we are integral parts of a universe which is subject to the rigid order of nature's laws*'

Instead of going by sacred texts that thousand years old, we should critically investigate measurable factors and the processes in the brain that generate and control our opinions, feelings, decisions and ultimately the course of our lives.

Our eyes and ears and other senses detect and collect only information that they are able to gather. There are many other things that our human senses are unable to capture. Our senses send the information that they are able to collect through different channels of the neural network to the brain, to organs and to glands that process these inputs with software of which we don't know the source code. Our brain and the body's organs respond in a certain way with biological intelligence and without waiting for instructions from the brain's owner. Software or biological intelligence is even built into every cell of our body. The laws of physics, which determine the chain of causes and effects in the outside world, do not stop at the entrance of the brain. They continue inside the brain and produce certain results that we mostly don't control even though we have the illusion that everything is under our personal control.

Illusions are omnipresent in our lives. A vast number of illusions exist as mental realities in our human minds. It is not only the illusion of controlling our life with a free will but we are also subject to different cognitive illusions and to self-deceptions. Illusions are so ubiquitous that many of our perceptions of the reality are probably also illusions like dreams.

When you are young, you have the impression that you control your body and the life that lies ahead. But reality catches up with old age when you finally realize that your body controls your life and your feelings. This is not a new situation. Your body controlled you all the time but at old age you become clearly aware that you are not the master of the universe and of yourself. If we assume that there is a free will at the beginning of one's life, we for sure cannot assume the same towards the end of a life when the number

of options diminish and become zero on the last day when only nothingness remains, which is less than zero.

Many scientists study the relationship between mind and body, which they call psychosomatic. They focus mainly on health issues. They try to answer the question if a worried or unhealthy mind can create physical health problems and if a healthy mind can keep the body healthy. But they also investigate the opposite question, to what extent physical problems influence the mind. A neuroimmunologist, who studied the psychosomatic relationship between the body and the mind concluded that '*You can call something psychosomatic, but in the end, it's somatic*'.

Astrology

Astrology dates back to time immemorial and many people, for this reason alone, recognize it as a valid tool to determine who we are and what our destiny is. Today's believers in astrology disregard the fact that our ancestors developed over the millennia very different and contradicting understandings of the meanings of celestial constellations. If you believe in Astrology you have to clarify for yourself, which type of astrology you prefer.

Some astrologers believe that the constellation of the sun, the moon and the planets are only celestial omens that they can use as basis for divination of good or bad fortune. But most astrologers claim that astrology is a scientific tool that allows to read the position of stars at the time of a person's birth and to know exactly the main features of a person and the course of his life. In my humble opinion, astrologers should not look at the time of birth but the time of conception because this is the decisive moment when a person receives the blueprint of his life.

Our birth chart, as they call the position of the stars, determines how long we will live, if we have a healthy life or a life full of problems and dangers. Astrologers base this belief on the idea that the sun, the moon and planets define with their relative positions in the cosmos the personality and destiny of a person's life, including the purpose of his life. This implies that main events of our lives are not determined by our free will but by the stars.

Astrology is a pseudo-scientific art. If it were truly scientific, astrologers would follow the lives of a statistically relevant number of people who were born or conceived at the same moment in similar locations to verify if they live similar lives. To my knowledge there is no such research, which is difficult – if not impossible – because such research has to cover the full length of the lives of thousands of test persons. If you are a believer in Locational Astrology, which they call astro cartography or astro geography your test persons must come from the same geographical area. If you correctly believe that the planets in your astro chart are the same no matter your place of birth, you must select the test person from all locations of our planet.

As I can see, there is no evidence that the movement and position of celestial bodies at the time of birth actually influence a person's character – or cosmic profile as they call it, and determine all aspects of life afterwards. Some disciples of astrology are more careful and modest when they say that understanding the movements and patterns of the universe do not determine all details of life but give, as they say, assistance in navigating one's life.

In summary, some astrologers believe that the position of stars determine one's life. Others take the position of stars as basis for divination and yet others want you to use the position of stars as guidelines for the conduct of your life.

Despite the high respect that astrology has had over the course of history and still has in the minds of many people today, I am convinced that there is superstition in play. Astrologers artfully veil the unscientific nature of their work with the sophistication of astro-charts, celestial maps and diagrams. They all look very elaborate – even scientific. But I cannot see a link between these charts and an individual life. Astrologers don't convince me when they claim that a certain constellation of the stars at the time of a person's birth determines if he becomes a lawyer, a taxi driver or a garbage collector. I nevertheless don't resist reading horoscopes sometimes in newspapers and in the internet for my semi-superstitious pleasure. Media regularly publish their horoscopes in highly ambiguous language so that everybody can read into them whatever they like to read.

The Bible calls someone who '*practices divination or conjury, interprets omens* as '*an abomination unto the Lord*" (Deuteronomy 18:10-12). The Bible does not criticize divination by saying that it is of bad quality and not reliable. The Bible leaves this rational question unanswered. It condemns it as sorcery only because you must listen to God and to nobody else and must also not listen to another God. If someone who does not believe in the God of the Bible and listens to divination, he is an '*an abomination unto the Lord*" not because he listens to diviners, who might make correct predictions, but because he does not believe in Him. After all, the Christian God admits that '*I the LORD thy God am a jealous God*' (Exodus 20:5).

The stars and their respective positions in the cosmos don't control our lives. Not even the full moon with its gravitational pull influences our lives as some people believe. Before we look at influences that remote planets and their constellation might have on our lives, we should look at more tangible factors and forces closer to home that shape the course of our lives.

Pre-determination of Life and God's Will

We find two opposite answers to the question what determines the course of our life. One answer says that we shape and self-determine all details as we please with a free will. The opposite position claims that God or another holy power has pre-determined all details of every human life from birth to death. Whatever happens in life is predefined as destiny or fate. We cannot change any detail, these thinkers claim. Stephen Hawking, the famous theoretical physicist, gave a short description of people who believe that everything in life is pre-determined and that they cannot change anything. He said that even these people look carefully before they cross the street.

For the believers in pre-determination, God or another ultimate deity is the author and designer of all human activities because the Almighty is omniscient and omnipotent as the term 'almighty' suggests. But God is nice. While he exclusively determines all details of our lives, he gives us the illusion that his plan is our self-made plan and that we execute his plan as if we had made the plan with our free will. Faithful Christians believe that God and his free will live in our body (1 Corinthians 6:20) and that our free will decides gladly and exactly what God wants us to do. Not our free will but the knowledge and acceptance of God's truth "*will set you free*" (John 8:32). Our will is free if we welcome God's commands and accept unconditionally his decisions. It is an expression of a free will if you '*do always those things that please him*' (John 8:32). I obviously disagree with such logical acrobatics.

Omnipotence and omniscience are the two qualities that God uses to pre-determine our lives. But these two qualities are mutually exclusive. They contradict each other and are inconsistent, as we will see below.

God's Omnipotence

Omnipotence might mean that God is able to do and to change without any restrictions everything as it comes to his absolutely free mind. Omnipotence will include the power to change arbitrarily the laws of

logic and of physics. This view is controversial because changing these laws, which govern the entire cosmos, is something extremely consequential that even the Almighty will not dare doing. There is even the possibility that these laws existed before God came into being and that God cannot exist without these laws.

Imagine that God fancies diminishing the strength of gravity. All objects, including the human bodies, would be lighter; all scales would have to be re-adjusted; water would flow more slowly down the hills. Gases of our atmosphere would escape into the cosmos and the moon would fly higher above the earth or could even disappear into the vastness of the cosmos. Airplanes would have to be re-designed. A different strength of gravity would also have an enormous effect on the positions and movements of stars in the cosmos.

If God changes gravity, there would be many more monstrous ripple effects that are difficult to imagine in all details, for example the paths of stars in the cosmos. Even for God, the Almighty, it might be a Tantalus task to adjust the entire nature on our earth and in the cosmos to the new strength of gravity. The risk of creating chaos is perhaps the reason why God has not changed the laws of nature during the last billions of years. Any changes would be too consequential and would overwhelm even somebody who is omnipotent.

However, let's assume that God changes the strength of gravity or other laws of physics, which will create chaos. However, I am sure that what looks like chaos at the beginning will become standard after hundreds or thousands of years. Mankind, if it survives, will get used to the new laws and will call it the new order. The Big Bang that we currently see as the mysterious birth of our current cosmos might actually not have created the cosmos from scratch but might have been the result of God's decision to change one or two fundamental laws of physics 13 billion years ago. If God is really omnipotent, we must assume that he can abolish all laws of physics. But this would not only create chaos. It would destroy all matter, which cannot exist if there are no laws of physics.

Atheists like Stephen Hawking say that '*the laws of physics can explain the universe without the need for a creator*'. By saying that the laws of physics can 'explain' the universe, Hawking seems to acknowledge that these laws don't control the cosmos similar to state laws that force people to behave in the prescribed way. Laws of physics and of gravity are not the forces and the energy that make matter exist, move and change. Scientists establish the laws of physics to describe regularities that they observe on earth and in the universe. The ancient Greeks called the cosmos and our world, 'kosmos' (κόσμος), which word also means 'order', 'harmony' and 'beauty'. If we discover discomforting deviations from regularity, that we cannot explain, we call it 'chaos'. If scientists find an explanation for deviations, they adjust the description of the laws of physics according to the new findings. For us humans the world is then in order again.

While the laws of physics can nicely explain our world and the universe and how they function, we don't have an answer to the question who or what created these laws. If scientists one day are able to establish that the Big Bang has created our laws of physics, the door – as always – opens for the subsequent two questions: who or what initiated the Big Bang? And: have there been other Big Bangs or similar events that created other universes with the same or with different laws of physics?

Insofar as I can see, nobody has so far claimed that God with his omnipotence has pre-determined the features of the Big Bang and the future size and shape of our cosmos. We don't have the skills and the necessary intelligence to figure out how the cosmos will change over billions or years or will one day disappear. It would be extremely speculative to assume that our omnipotent God has pre-determined all

this in a way that we are unable to imagine. But many people believe that their God has pre-determined everything from the development of the cosmos to all details of every human life.

The ancient Greeks also entertained the idea of godly pre-determination. They did not know the God of the Bible but believed that three destiny goddesses called Clotho, Lachesis, and Atropos determined a person's life. They perceived these goddesses as spinners. Clotho spun the thread of life, Lachesis allotted its length, and Atropos cut it off with her scissors. But these goddesses in the Greek mythology did not determine any details in a person's life. They were not omnipotent and had only clearly limited responsibilities. I speculate, however, that Clotho spun the thread of life in different qualities enabling a person to live a more or less fulfilled life.

Omniscience

Omniscience means that God knows all events and everything. However, this is logically impossible if God has an eternal life, which means that he is timeless. He cannot perceive any event because they happen over time. He might see all actions as if they were occurring simultaneously. With my simple human logic, I ask you what God will know about a person who was born on one day and passed away many years later. As an omniscient but timeless observer he cannot know that the person was born on 31 May 2012. A calendar does not exist for a timeless person. He will see this person's birth and his death as simultaneous events without any time in-between. Nothing is static – not even a solid rock. Everything moves as the Greek philosopher Heraclitus stated some 2,500 years ago with the phrase 'panta rhei' (πάντα ῥεῖ). This means that a timeless person cannot see anything even if it happens in less than an attosecond. This is the shortest measurable lapse of time and is one-billionth of a nanosecond long. An eternal and timeless God, therefore, cannot see anything unless you brush logic away as theologians often do.

If we now want to look into God's omniscience, we have to assume that God has not an eternal life. Dedicated Christians will not like this assumption but let's make it for argument's sake.

If God knows everything before it happens, he will also know ahead of time what he will decide because he knows everything, including what will happen in his brain – sorry: in his spirit. If he knows ahead of time what he decides and what will happen, God has not a free will. If God knew ahead of time that he lets Mount Vesuvius violently erupt on 24 August 73 AD, he was not free to decide this event. If I had known with certainty as a school boy that I pass my bar exam on 11 January 1969, my life would have become untenable or unsustainable as we like to say today. I therefore think that God is either omnipotent or omniscient but not both.

Obviously, the level and depth of omniscience depends on the questions what 'omni' means. The Bible gives the answer. God '*knows everything*' (1 John 3:20). God and Jesus both know all minute details of your life inside and outside your body. God knows all body functions like changes of heartbeat and levels of hormones. He even knows the number of *'hairs of your head*' (Matthew 10:30) and knows you personally '*before I formed you in the womb I knew you, before you were born*' (Jeremiah 1:5). God then also knows ahead of time more precisely than you when you go to bed or when and where you have dinner with friends or with colleagues. This might not be as interesting for God as it is for us.

Omniscience raises the question, how much time before an event God knows that the event will occur. In this case we have to wonder if God learns about the events just seconds before they happen or if he knows everything thousands or millions of years ahead of time. Omniscience also suggests that God remembers all past events even when they happened a few billion years ago.

It is clear for every believer of God's omniscience that he knows the entire curriculum vitae of every person from the time of birth until death – and beyond if afterlife exists. If a 'beforelife' exists, as the Mormons believe, God obviously knows also all details of the pre-mortal "first estate", as they call it.

The concept of omniscience also assumes that God knows all details for some eight billion human beings who currently live on earth and many more billions and trillions who have lived on our earth in the past and will live in future. Omniscience, in addition, suggests that God not only focusses on human beings but also on animals and plants and on innumerable stars in the cosmos. God '*determines the number of the stars and calls them each by name*' (Psalm 147:4). This reflects an astonishing capacity of God's memory given that there are in the universe an estimated 200 billion trillion stars that come and go over billions of years. I doubt the usefulness of such a gigantic memory.

Why could God or anybody else be interested in knowing every boring detail about peoples' lives? Is God omniscient out of unlimited inquisitiveness similar to human beings who find entertainment watching trivial TikTok videos or gossip in social networks? Or does God use a filter that shows him only certain things. If such a filter exists, what are the selection criteria? He might be interested and might only enjoy to observe people when they love him, praise him and worship him. This is likely because I conclude from several Bible passages that '*a jealous God*' (Exodus 34:14) has a penchant for narcissism. It is also possible that the filter that I have just mentioned, presents to God, the prosecutor, only peoples' main misdeeds that he can use as evidence against the misbehaving person on the day of the Final Judgment. We don't really know what the purpose of his possible omniscience might be. Totalitarian regimes want to be omniscient and deny the slightest privacy. Why would God do the same? The statement that God is omniscient in the strict meaning of the word does not make any sense except to remind sinners that they don't get away with their sins because a big brother is watching. You also don't have to worry that a good deed that no human can see, will remain without acknowledgement because big brother sees it.

Modern technology has created computers and devices that can detect a decision before a person decides. Scientists have used an MRI machine in experiments, in which they scanned the brains of test persons. They discovered clear impulses in the brain that looked as if the test person had made a decision shortly before he became aware of the decision and executed it.

Other scientists work for governments on the development of systems that collect systematically voluminous and detailed data about activities of individual persons. A powerful computer with artificial intelligence then analyzes all data and identifies attitudes, mentalities and ambitions of the person under observation. The computer not only uses the data to determine precisely a person's profile and thoughts. The computer also uses algorithms to predict precisely future behavior of a person. This is similar to a weather forecast that predicts a thunderstorm for tomorrow afternoon by observing and analyzing movements of clouds, changes of temperature, humidity and wind speed. This is pretty much the beginning of artificial omniscience, which indeed raises some doubts about the existence of a free will. If God or a computer knows what I am going to do before I know and do it, freedom of my will is definitely an illusion.

God's omniscience requires the collection of billions of quadrillions of petabytes of raw data in the entire world. God must store this gigantic amount of data in his brain or somewhere else in his spirit. Retrieving data from such a gigantic memory for a specific purpose is a difficult task. Computers with artificial intelligence are able to filter out from a huge database the persons with a certain profile. The user of the database can define a certain typical profile and the computer will list all matching persons. The computer can – for example -find all persons who plan action against the government. The omniscient God probably

can also use such a filter to handle the otherwise unmanageable amount of data for specific purposes that he freely selects and changes at his pleasure.

Let's now talk again about omnipotence. Being powerful and actually using this power are two different things. The statement that '*with God all things are possible*' (Mark 10:27) indicates for believers that God has limitless powers that he might or might not use. Christians believe that God has given evidence of his powers when he created the world and the cosmos within six working days. They further believe that God continues to use his omnipotence by creating thunderstorms, earthquakes and all other manifestations of nature. But we can explain these events with the laws of physics that operate without God's express commands. Once physical matter and the laws of physics are in place, all events happen automatically like in a perpetuum mobile.

The concept of pre-determination assumes that God has sufficient time to arrange individually with his free will all events and happenings on earth ahead of time no matter their importance and relevance. But since God is timeless. He has no time to do all this. And then: what happens if he forgets some arrangements or loses interest? Dedicated Christians assume that this will never happen. If it happens, I assume that laws of physics and biology will act on God's behalf.

If we assume that God actively shapes the course of your life, he decides – for example - on your behalf and before you know it, that you skip office next Wednesday and that you go on holidays next August. Why would God want to arrange for all these negligible events? Is he power-hungry? In addition, it is very daring to assume that God has wishes to arrange all this as if he had the psyche of a human being. It is even more daring – even pretentious - to claim that we know exactly what God thinks, feels and wants. The Bible, for example, mentions that '*the Lord was so angry with you that He would have destroyed you*' (Deuteronomy 9:8). God is often not only angry but also admits that '*I the LORD thy God am a jealous God*' (Exodus 20:5). He is also '*merciful and gracious, longsuffering, and abundant in goodness and truth*' (Exodus 34:6). There are many more Bible passages describing God's wishes, feelings and other human characteristics, including his curiosity and nosiness in all details of your life. There is one contradicting passage, in which the Bible says that '*no one knows the thoughts of God except the Spirit of God*' (1 Corinthians 2:11). If this is so, how could the authors of the Bible write down God's words and thoughts?

But clever interpreters claim that God has given his spirit the task to reveal to us his thoughts and plans. This sounds as if someone was saying to you that he does not tell you what he thinks but his mouth will tell you. As always, interpreters of Bible texts brush away all inconsistencies and contradictions with the powerful tool of inventive interpretation. Others say that, yes, God is a spirit and has not a body but he has a mouth and has ears by which he can talk and listen. They also say that God's spirit has the organs – possibly a heart - that allow him to be pleased, to be angry and to become jealous.

I cannot imagine that this God, whose intentions and human feelings his believers know well, bothers determining all minute details of all human lives. Why should he pre-determine many years ahead of the event that a person selects toothpaste in a blue box from the shelf of a supermarket instead of selecting a green box. But some Christian scholars say that God knows and loves every person individually and arranges all details of their lives. This is in contradiction to another idea according to which God evaluates and judges all activities of a person's life on the day of the Last Judgment. According to this belief, God judges what he has pre-arranged himself. It does not make sense for God to judge a person's life that he has pre-determined in all details and of which he knows and remembers everything thousands of years afterwards when the day of the Last Judgment arrives. It is weird that God punishes a poor soul for misdeeds that he had planned and arranged himself.

Secondly, since every cause – as minor as it might be – triggers an endless chain of effects and ripple effects, it is an intricate and very complicated business to arrange ahead of time the details of all effects of a person's activity. Let's assume that God has decided that James murders his wife Carmen on a pre-determined Saturday morning with poison. God has then to think about all details for James's actions such as the availability of the poison that James has to buy. The pharmacist has to keep the poison on stock at the right time. God will also have to plan for Carmen to be at the right hour on the fixed Saturday at the right place.

Murders trigger reactions by police, prosecutors and judges. Carmen's family, friends, neighbors and pets will all be affected by her disappearance and will react when they learn about the crime. All this has to be built into God's pre-arranged plan. I think we overstretch the might and wisdom of God and also his planning capacity if we think that he bothers pre-arranging ahead of time all these details for 8 billion people on earth every minute of all days, weeks and months for thousands of years. In this light, the idea or pre-determination sounds extremely strange.

If God has pre-determined everything in our lives, he must also have arranged for the proper strength of the sunshine. If God plans to lower the sun's output, we will experience another ice age. If he fancies to do this for whatever reason, God has to determine in all details the way, in which every human being in different continents adapt their lives to new living conditions. If this is the truth, we don't have to worry about the nasty effects of global warning. God has taken care of everything.

The bold idea that God or another sacred entity has pre-determined everything, including all my decisions, does obviously not convince me. I am more inclined to believe that the earth and the cosmos exist as a perpetuum mobile which is an endless sequence of causes and effects as Buddhism describes it as yīn yuan (因缘) or karma. All happenings evolve under the laws of physics and other inherent laws of nature.

Because of the enormity of the task to regulate all minute details on earth and in the lives of billions of living people, it is sensible to reject the idea of God's pre-determination. But it is a fallacy to conclude from the lack of pre-determination that there must be a free will. Absence of pre-determination is not evidence of a free will. Absence of rain also does not mean that we have sunshine because there might be clouds or fog or it is night time. Sunshine does not exist because there is no rain. Similarly, a free will does not exist because there is no pre-determination. Decisions and actions of human beings are the results of other verifiable and measurable factors.

Theologians, who oppose the idea of God's pre-determination and wrongly conclude that human beings therefore must have a free will, struggle to bring God back again into the picture. If God does not pre-determine everything, how can the omnipotent God avoid that human beings act against his will and mess up the beautiful nature that he has created? But this is what actually happens and God must feel pain to observe helplessly that human beings destroy his beautiful creation against his omnipotent will. We can escape this mental dilemma only when we believe that God has pre-programmed the destruction of our earth for the pleasure that he will have to spend another six days to re-create our world.

The dilemma is that human beings, if they have a free will, compete or even act against the will of an omnipotent God. True Christian theologians never fail to solve a dilemma. They have developed wonderful ideas that reconcile the co-existence of God's free will and a human free will. They start by saying that it is inadmissible that a man prefers his own autonomy and his own glory over and above the sovereignty and glory of God. What should not be cannot be. The creator of the earth must retain the right and the privilege to dominate the world with his omnipotence. A free will of humans must not obstruct God's divine will. Otherwise, how can he be omnipotent?

They derive a solution of the dilemma from -what else? – the Bible. They freely interpret passages of the Good Book in their own respective directions. They claim that Adam in the Garden of Eden was originally innocent and his will was perfectly synchronized with God's will. Adam wanted only what God wanted. There was no sin – not even thoughts of it and no temptation. All future human beings lost the grace of original innocence after Adam shared with his wife the forbidden apple. We, the descendants of Adam, have all become '*slaves of sin*' (John 8:34; Romans 6:20). But God's goodness and grace have equipped human beings with the option to become free from Satan's slavery. God gave humans the freedom to serve the Lord with obedience and faith and to become '*slaves of righteousness*' (Romans 6:18).

For someone like me, who strongly believes that slavery is an illegal concept anyway, it is inconceivable that a 'slave of righteousness' has a free will. The chancellor of Bethlehem College & Seminary in Minneapolis recognized the problems but has a recipe against such justified skepticism. He says '*that you not let* [your doubts] *keep you from believing what the Bible teaches*'. I cannot accept this chancellor's advice and I am unable to believe what is unbelievable ('credo quia incredibile').

An honest discussion about the existence of a free will is not a religious but a scientific issue. It is about the mental – probably biological - process by which we make a decision; it is not about accepting foregone conclusions from the text of the Bible. The Christian chancellor that I have just quoted, tries to kill a free debate. A discussion cannot be limited to what the Bible might or might not say about any topic. Our chancellor wants us to disregard the fact that the ancient authors of the Bible were wrong with many statements. They had not the faintest idea how decisions, feelings and opinions develop in the brain. These ancient authors were wrong by assuming that the only free choice that we have is to become slaves of the devil or of righteousness. The publishers of the Bible should have updated their text using the findings of scientific discoveries that humans made during the last two millennia. If Jesus had continuously updated the outdated statements in the Bible to today's scientific standards, we could now probably enjoy the 1,500th revised and updated edition of the Bible.

It is logically inacceptable if someone says that an action is evidence of a free will only if it is in line with morality or with religious teachings and that otherwise it is the result of an enslaved mind. You cannot just say that a good decision is evidence of a free will and that a bad decision is the result of a will that is deprived of liberty and is enslaved by the devil. We should look with a critical mind at the process in the brain, which produces decisions and intentions. Only then can we establish in which way and to what extent a person possibly controls his life and activities with an autonomous free will.

Autonomy and Control of the Brain

I met people in China who declare somebody insane if he uses his brain to think about how his own brain works and if he has a free will that controls the brain.

Practical people as most Chinese are, tell you their suspicion that someone who thinks and writes about how his brain works, has reached a worrying state of delusion. Because thinking about how we think – metathinking - is not useful and is even dangerous. They seem to fear that thinking too much about the brain's functions could interfere in its proper operations. Trying to find out how it works might derail the brain from its normal path or might make the brain even implode. I remember that, as a boy, I wondered sometimes how our brain works. I had the ominous fear that searching too deeply could auto-destroy the brain's functions in some kind of short-circuit. I thought that such research could be like the search for a forbidden fruit.

Indeed, the brain might get disturbed if I have to make an important decision and at the same time - in a self-test- try to observe how my brain functions in such a situation. It might have the same negative effect

as for a tennis player who does not exclusively focus on playing tennis but who simultaneously studies and analyzes during a match why he moves in one way instead of another. 'Just do it' will be the practical advice of his trainer because a mind that is too mindful can decrease its efficiency. As a procrastinator, who I am, I know what I am talking about.

Incidentally, the slogan 'Just do it!' was an extremely successful slogan that Nike started using in 1988 to promote its sports shoes. The slogan is an invitation to act instead of thinking or mentally fussing around. The slogan originated in a situation, in which a prisoner who was sentenced to death, was just about to be executed. He got impatient with the lengthy formalities that the executioner had to complete and told him 'Just do it'.

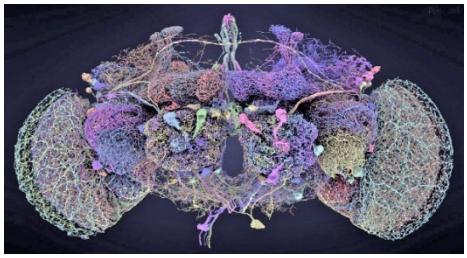
As always, I reflect in my essays on issues from the perspective of a lay person who has consciously looked at phenomena in his life with a critical mind. I therefore describe things as I have encountered them. I look back at how I made important decisions in the past and if I was always the master of my destiny. These are questions that neuroscientists might explain in general but cannot answer for my decisions. I try to find plausible explanations that scientists cannot answer. After all, physicians in past centuries had next to no knowledge about the human body. But they nevertheless wrote extensively about it and we still benefit from these writings. As these ancient people and Forrest Gump did, I mention everything in my essays with the proviso 'Insofar as I know' and 'as I have seen and experienced in my own life'.

Structure and Constitution of the Brain

We commonly think that the brain is the control center and headquarter of the body and of the mind. But we have to realize that all organs and even every of the body's 28 trillion to almost 40 trillion cells have their own intelligence, including memory. We call this bio-intelligence. The body's functions are mainly decentralized and the brain just coordinates some of these functions, which work without our knowledge and without waiting for our conscious input.

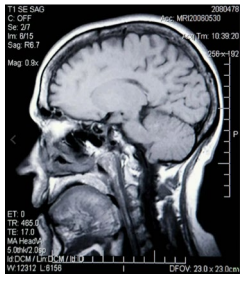
Scientists have now a quite clear understanding where in the brain the memory is located and which part of the brain controls – for example - fear and anxiety and other feelings. Scientists have clearly established where, how and when electrical impulses move trough the brain. But we do not know what the contents of these impulses are and we also don't know the source code of the brain's software that produces the impulses and their content. I am a lay person and not a neuroscientist. I have not the skills and expertise to identify the functions of each region of the brain and their interaction. How can I dare writing about the brain? I have picked up only some basic medical facts about the brain, which I briefly describe below. You will see that these facts are very interesting but they provide no clues for an answer to the questions how the brain develops ideas, feelings and decision and if there is a free will that controls the work of the brain.

In the 2nd half of the last century, many machines like MRI and CAT scanners appeared. They allow a look into the brain.



Complete Brain Map of single female Fruit Fly

They allow to diagnose brain tumors and other structural anomalies in the brain. Other machines, that they call functional magnetic resonance imaging (fMRI), make the flow of blood and impulses in the brain visible.



Magnetic Resonance Image (MRI) of the Brain

Researchers from the Princeton University in New Jersey have used these new technologies to create a complete map of the brain of a single female fruit fly. The wiring diagram, which they call 'connectome', contains some 140,000 neurons of 8,453 different types. It is impressive that we know all this but scientists don't explain how all this works and how the brain produces certain results.

The most intriguing and complex organ of the human body is definitely the human brain, which houses the unbelievable number of 85 to 100 billion neurons and other cells. The Milky Way, which is only one of many galaxies, counts a couple of hundred billion stars. To put this in perspective, scientists believe that the universe counts around 200 sextillion stars, which is the incredible number of 200 billion trillion stars. But as small as the brain might look, it is an incredibly complex cosmos in itself.

All cells in the brain are connected amongst themselves, which connections that we call 'synapses'. Scientists, who had taken one cubic millimeter out of a patient' brain, have established that this tiny portion contained some 57,000 brain cells (neurons) with the unbelievable number of 150 million synapses. The scientists who have mapped the brain of a fruit fly shown above, have found more than 54.5 million synapses in this tiny brain and were able to identify the regions of the brain that became active during specific behaviors of the fly.

The Brain cells are also connected with the nervous system of the body. This system includes the spinal cord as main hub. The secondary or peripheral nervous system has sensory and motor nerves which are the outposts of the nervous system in all areas of the body. This network functions like a data and information highway, which is some 150,000 kilometers long. This is 3.7 times the length of the equator. Information in the nervous system travels at a speed of up to 400 Kms per hour. This is an astonishing speed given the short distances that information has to travel within the brain and in the body. It is like walking through the living room at 400 Km/h. Scientists estimate that the brain can store information with the equivalent of some 2,500 terabytes in two regions of which they precisely know their location in the brain. We have a short-term memory and a longer-term memory and the brain decides mostly on its own, which information coming from the senses it will retain and store in one or the other of the two sections of the memory and which information it will discard. You might be able to use tricks like a 'memory palace' to increase retention rates but you certainly don't control what information your brain forgets and how the brain retrieves information from its memory. You certainly cannot tell your brain, in which location of its memory it can find a certain information. The brain finds information using its secret methods of – probably – associations.

If the brain is active, it uses some 25 Watt of the energy that the body produces. In comparison, a notebook computer, which is far less powerful, uses up to 60 Watt. A supercomputer uses 100,000 times more energy than the brain without coming close to the performance of the human brain. While the brain, which contains 73% of water, makes up only 2% of body weight, it consumes 20% of the energy and oxygen that the body needs to function. Up to one liter of blood flows through the brain every minute to provide the oxygen and nutrition that the brain needs. In this context it is interesting to know that giraffes manage to pump blood to the brain, which is 2.5 meters above the heart. This requires a blood pressure that would be deadly for humans.

These facts about the structure and workings of the brain are amazing. It is even more impressive that biology develops this fantastic organ – together with the entire body – autonomously by itself from one microscopic initial cell. Behind these developments are for sure not the free will of the mother or of the foetus. I would like that someone explains to me at which point of this biological process a free will – if it exists – arrives in the brain. Similarly, it is not clear to me at which time a soul – if it exists – arrives in the embryo or fetus during the development of a baby in its mother's womb. Both the soul and the free will

look to me like constructs that our forefathers developed because they did not know the scientific facts. They had not the slightest idea which forces and processes make the brain grow and make people think, feel and decide. They gave these unknown phenomena the name of 'free will' and of 'soul'.

The brain cells, as they increase in numbers during development of the brain, have the innate ability to multiply and to organize themselves, which is referred to as the brain's plasticity. This capacity of auto-growth and auto-adjustments is very strongly at work when the brain develops in a baby and in a child. The brain's ability to re-organize its wiring and to grow new neurons according to new needs – for example after light brain damage - remains more or less throughout the life of a person but decreases obviously with age when the brain's structure becomes more firmly established and less flexible.

Plasticity is not limited to the brain. It is the general capacity of nature and biology to adapt all its components to changing conditions and environments. It is the engine behind evolution with its biological intelligence that is built into every living cell. It works like software. Plasticity is an expression of survival instinct because if the body and its parts don't adapt themselves to changing environments, they will fail. We don't control the level of plasticity.

The blueprint for the brain's complex structure – actually also for the entire body - is contained in one tiny cell from which its development starts autonomously by itself at the moment of the conception of a baby. We can comprehend this wonder if we compare the development of the brain and of the body with the hypothetical situation that the blueprint with all details for the construction of Burj Khalifa, the world's tallest building with a height of 828 meters in Dubai, was contained in a grain that is much smaller than the tip of a tiny needle. This hypothetical tiny grain would not only store the architect's plans and blueprints for the finished high-rise but also the entire construction procedures that make the building grow. If we continue to compare the construction of a high-rise building with the growth of the brain, we will plant the tiny grain into the soil as we plant seed for vegetables and flowers. We will then see that the initial grain grows autonomously to become the high-rise building.

The construction process for the Burj Khalifa, to continue the comparison, extracts from the ground all necessary building materials, including the equipment needed to finish the tower. In contrast, more than 12,000 people worked on the Burj Khalifa project at the peak of construction. The construction of the brain is fully automatic and does not require anyone and no free will to control and supervise the process.

It would be an awesome task to write software that builds a brain from scratch and to squeeze this software into a space as small as the tiny cell, from which nature develops the brain. Car manufacturers have managed to build cars almost automatically but this is a little child's play compared to manufacturing a brain.

If we human beings had to perform consciously all normal functions of the brain to control heartbeat, digestion, production of bile and blood etc. we would be overwhelmed. Fortunately, most of these functions do not need our conscious input. Actually, many other activities in the life of a human being are also on autopilot. We become aware of only very few of our brain's activities. The tiny part of the brain's activities, of which we become aware, gives us the impression that we control our bodies and our lives with a free will. But this is an illusion.

The cells multiply and grow autonomously into a functioning brain. They don't need and don't use an external soul or instructions from a free will to develop. Why and at which moment will the intelligent brain voluntarily give up its autonomy to become a slave of an external free will – if such a will exists?

If software developers tried to emulate the brain's control functions for the body, they would face insurmountable difficulties to squeeze all data and operating instructions into a computer of the brain's

size and weight. This is currently still impossible but perhaps in the far future this might become reality. Software already exists that can perfectly clone the voice of a person when a user enters words and sentences into a keyboard or if a monitor shows the words and sentences. Software with artificial intelligence can already produce a video that perfectly emulates a person's appearance and behavior without the person's input. Therefore, we are slowly getting there and might see the arrival of an artificial brain in a couple of hundred years if natural or man-made catastrophes don't interrupt further evolution of mankind. On the other hand, I cannot visualize our world that is dominated by science and technology that thousand-fold more advanced than today if they continue to evolve over the next thousand years at the same speed as they did during the last two hundred years. I cannot imagine that there is no limit for the progress of science and technology. But I am probably as old-fashioned as our Greek ancestors who could not imagine that mankind after 2,500 years would split atoms, transplant hearts, edit genes or travel to the moon. If mankind had in the past reached one state of technological and scientific development they always looked further. But where is the end of such development?

Scientists are already trying to influence some functions of the brain with connections to computers. Vice versa, they develop devices that allow the brain to control computers with brain waves. In 2019, China presented at the 3rd World Intelligence Congress in Tianjin a Brain-Computer Codec Chip (BC^3), called Brain Talker, that allows a person to control a computer with brainwaves. They also presented a chip in a computer that can read very basic content of a person's thoughts. These were rudimentary devices that point in the direction were development will go.

The American government was fast in accusing China to use biotechnology to develop "brain-control weaponry" as the US labelled it. These weapons want to paralyze the enemy's will to resist. The weapon could possibly also bring the minds of Chinese citizens back on track if they dare opposing the communist party. The American accusations against China obviously do not mention that the US probably work secretly on similar projects. Every world power wants to stay competitive and does not want to limp behind other nations in technology that is relevant for the military. Ethics and morality are only unwelcome impediments.

The Nuremberg Funnel (Nürnberger Trichter) was an idea that started in the 17th century. It is the dream of a device ('funnel') through which teachers push knowledge into the brain of children. Once the operators of the funnel have completed the procedure, children have no longer to go through the pain of learning. Such a funnel could become reality in some future when IT technicians can link a computer with the human brain and upload – for example - the content of an encyclopedia.

If IT gurus develop such a technology, children no longer have to memorize learning content but will receive it with a treatment as they now receive vaccines against measles or polio. It will be like a vaccine against ignorance. I can also imagine the construction of a wireless – e.g. Bluetooth - interface that allows a person to transmit commands mentally to a mobile phone. The device then searches the internet for certain subjects and transmits the search results directly into the brain. The device then displays search results in our eyes either directly or by smart contact lenses, which some companies already develop. The interface between the brain and the internet could literally be a blue tooth that they implanted into the mouth. The company Apple, if it still exists, might sell the device with the brand name of 'i-Tooth'. Or the brain-computer interface could be a chip that a special surgeon installs in the brain with a standard procedure in the backroom of the computer store. Developing the facility as an artificial tooth might be less invasive than a computer chip in the brain because you can easily replace an outdated i-Tooth by unscrewing the old one and replacing it with the newest model, called i-Tooth 2 or i-Tooth 3. A further technical development could even make the intermediary of a mobile phone redundant if the technology

of the mobile phone fits into a tooth or into a chip. Future IT gurus might even develop devices that transmit ideas directly from brain to brain. This would then not even require the intermediary of an external mobile phone.

The famous Greek philosopher Socrates, whose mother was a midwife, had excellent ideas that he did not write down himself. We know about his ideas only because his student Plato wrote about them. According to Plato, Socrates developed in the 4th century BC the theory that knowledge and insights already exists in the brain by birth. Teachers will not have to teach this knowledge during lectures but they can bring out of their students' brain the pre-existing knowledge. They can do this, as Plato wrote, with the help of questions that allows the teacher to give birth to knowledge similar to a midwife who assists a mother to give birth to a baby. This theory, called maieutics, sounds amusing but seems to be in line with the philosophy of natural law, which believes that knowledge of good and evil is innate in the human mind and has not to be put into the brain from outside by educators. If we spin the theory of maieutics a little bit further, we might become able to use IT devices to extract from the brain knowledge that the human brain stores but does not reveal. This device will overcome the weakness that human don't have 'alien intelligence' that honeybees and octopuses allegedly have. This type of intelligence allows these animals to perceive and to see things with which they are – like human beings – confronted but which the human brain does not reveal. Many invisible, inaudible and not detectable odors, molecules and magnetic waves continuously bombard our human senses and bodies and influence our bodies and minds without us becoming aware of these influences. If we had a different type of intelligence like the alien intelligence of honeybees, we would be able to detect these occurrences. Future ICT technology might correct this weakness and might develop a device that enables us to see, hear and feel many things of which we currently don't become aware. It will be like the cameras in space telescopes that make visible many phenomena in the cosmos that we cannot see with the naked eye.

If future software developers create a device that allows to populate the human memory with knowledge from digital encyclopedias, I advise them herewith to consult Socrates' work. They should consider that this knowledge might already be stored in the brain and has only to be activated. Going one step further with Socrates' brilliant idea that knowledge is pre-existing, our future software developers could download the brain's memory by just opening the brain's gates and creating a person's encyclopedia. I don't know how many pages the book will have that these IT people could produced from my brain and how many downloads would find any buyers.

Let's assume that we can in future download the entire memory of the brain into a computer. The problem then will be to establish the sort order, in which the brain stores information and in which order we can bring it out. There is apparently in the brain no table of content and the content of our memory is probably not indexed. When we retrieve data from our memory, we do not do it by locating the information in an index ranging from A to Z like in the catalogue of a library. The brain retrieves information from its memory with more or less systematic associations.

The other day I wanted to remember the first name of a childhood friend. I tossed around in my mind some first names containing an 'A' because I thought to remember that an 'A' was somewhere prominently in her name. Nothing came out of this exercise. I gave up and did something else. Around two hours later, my brain had found her name, and the correct name 'Annette' came suddenly up in my mind while I was busy with something else. This shows that my brain had continued working secretly behind the scene on the task of retrieving her name. The brain is continuously active in the background while we are doing and thinking other things. I guess that artificial intelligence and machine learning tools that we use for internet searches will replicate the brain's process of retrieving information from its

memory not by using an index or a table of content but with association techniques and rules similar to modern data mining or Knowledge Discovery from Data (KDD).

Researchers work on the use of virtual reality in education. Based on the realization that learning is more efficient if the learner immerses in the environment of the learning subject, they want to use virtual reality to confront the student with the environment of the learning content. They also claim to have found out that some technologies like head-mounted displays can increase the learner's capacity to recall information that is associated with other details in this environment. They call it virtual memory palaces that was a concept in the 16th century. Giulio Camillo, for example, described memory palaces, in which a person maps learning content spatially with the environment and its attributes and recalls it with the associated mappings. Virtual reality can present the learning content in such a memory palace and can make it easier to learn and to recall the content of learning. Virtual reality, for example, could put a student in the situation of a doctor when he performs a post-mortem to examine all parts one by one inside the body. This would be a much more efficient method to learn about human anatomy.

I attended as a law student a lecture in criminology, in which a professor conducted a post mortem. I was sitting some 10 meters away with many other students on an elevated stand, which was not sufficiently close to watch all details. The professor opened with a knife the body of a dead man and took out organ after organ to inspect and show us their interior conditions. He then cut open the skull with a saw and explained the different parts of the brain before he put it into a glass container with preservation fluid. He ended his session by taking out the upper leg bone, called femur, took it to a backroom from where we heard the noise of a chain saw, with which he cut it from the head to the knee joint. Holding the two halves triumphantly in both his hands when he came out of the backroom, he explained the inside of the femur bone. This lecture was a memorable and informative event but I would have learnt much more if the entire post mortem had been presented as virtual reality. I would have watched the post mortem through the professor's eyes and with the thoughts that he had during the post mortem to find out what had caused the man's death.

Writing software that performs all functions of the brain is an overwhelming task that even the smartest people will probably never realize or will realize only for a small number of these functions. Scientists and researchers have started working on the development of artificial brains. Some of them plan to recreate a few elements of the human brain anatomy with some 2.5 million artificial neurons. This is a very modest beginning since the human brain uses close to 100 billion neurons. With this approach the scientists hope to create some features of the visual and motor cortices. Other scientists do not try to emulate nature with artificial biology but want to create an intelligent supercomputer to perform some of the brain's functions. But scientists using either approach agree that creating artificial brains is a gigantic task, for which science and technology are currently not yet well enough equipped. It might become possible in a couple of hundred years if the development of technology continues on a straight line and is not interrupted by natural or other disasters.

Artificial cardiac pacemakers, which patients regularly use today, are examples of tiny computers that regulate the heartbeat if the natural pacemaker of the heart has become deficient. Surgeons implant these little devices into the heart. The pacemakers are able to sense the physical activity of the patient. They then use algorithms to adjust the heartbeat to the body's requirements. Similarly, some patients already use brain pacemakers, which doctors implant into their brains. Brain pacemakers can stimulate brain functions or can diminish these functions to alleviate symptoms of epilepsy, Parkinson's disease and depressions. To eventually replace the brain, we will need several thousands of these little computers

and will have to coordinate all these computers with a central controller. Scientists agree that such a scenario is hundreds of years away if science and technology continue their progress undisturbed.

The brain works under an operating system and software of which we do not know the source code. We know only some of the inputs and outputs of the brain but not the software that processes inputs and produces outputs. We don't control how this software works and what its goals are. The brain does not work under our supervision.

The brain's software seems to have built-in some switches or configurations that steer the brain's thinking without our control into certain directions. We can call these switches mental predispositions or attitudes, of which optimism and pessimism are examples. Risk adversity and courageousness is a pair of other configurations of the brain and so are the attitudes to be obedient versus being contradictory. Inclinations for stereotypes and biases might be other examples of the brain's configuration, which the brain develops from the genes and DNA at birth and further develops afterwards through education and experience. These pre-configurations are cocktails of neuro-transmitting hormones and act like switches in the decision-making process.

When the mental process in the brain encounters such a switch, the brain will shape the output according to these predispositions. You can tell a pessimist to be more optimistic or an optimist to become more realistic. This will not work because a pessimist will always and against his will develop gloomy ideas and an optimist will always disregard risks and dangers. He will always say "No problem". Similarly, an outgoing person will not behave like an introvert person. Not the free will but the neurotransmitter dopamine pre-programs the extrovert and gives him the stimulus to seek external rewards and pleasure.

The brain's plasticity – or neuroplasticity as it is also called - allows the brain to modify its connections by its own initiative without our instructions. The brain can re-wire itself, can grow if necessary or will disable certain parts that you consistently don't use. The brain is able to create by itself new neural connections and can generate new neurons when problems are challenging or when a person faces life-changing experiences. The plasticity of a small child's brain is extreme. This allows a baby to absorb for permanent storage huge amounts of new impressions and observations, including cultural and religious indoctrinations that will stick with the baby for the rest of its life.

Babies learn much faster than adults because the adult brain is fully loaded – even saturated - with habitual or useless content. Plasticity of the brain diminishes with age and because challenging experiences, which sustain plasticity, become rare. Scientists have established that the brains of wild animals – for example wolves - are larger than the brains of domesticated animals like pet dogs. New daily challenges keep the brain of wolves busy. The brains of spoilt lapdogs do not face daring problems. Lack of challenges makes the brains of lapdogs sleepy.

While the human brain grew considerably during the evolution of mankind until about 35,000 years ago, there are reports that during the last 10,000 to 20,000 years, the average human brain has shrunk by 150 cubic centimeters due to a more comfortable lifestyle compared to the dangers and challenges that our ancestors have faced in the dangerous life as hunters in a threatening environment that demanded alertness. The human brain might further shrink if modern life becomes easier. Much of the thinking that we used to do ourselves is now outsourced to intelligent computers and to artificial intelligence.

Scientist have researched the ratio of body and brain sizes in many species of the fauna and they have also tried to establish the level of intelligence for different brain sizes. They found out that a honeybee with its brain size of fractions of milligrams is relatively more intelligent than an elephant whose brain is five-million-times larger. Scientists hypothesize firstly that signals in the elephant's large brain take longer

to travel from one side of the brain to the other and they secondly assume that the elephant needs a larger brain to manage organs and cells in its huge body, which consumes much energy that is not available for intelligent or smarter tasks of the brain. If the latter hypothesis is correct, it would confirm the popular but wrong opinion that obese people allegedly show less intelligence than people with normal body sizes no matter if low intelligence leads to obesity or, the other way around, if obesity is the cause for lower intelligence.

I find it interesting to observe that street dogs and spoiled pet dogs show different behavioral patterns in public areas. Street dogs seem to be more alert, wittier and more entrepreneurial than pet dogs. They are also more apt to smell dangers and risks. The Walt Disney cartoon "The Lady and the Tramp" (La Belle et le Clochard) is a marvelous depiction of the behavioral differences between a pet dog (the lady) and a street dog (the tramp). Findings of scientists that I have quoted in the previous paragraph, support the observations that the cartoon depicts. We can also see differences of behavior and attitudes of children similar to the differences between the lady and the tramp. Pampered children often look helpless in an unfamiliar environment. Children with a liberal education or street-children can easily handle a new and foreign situation with more wit and alertness.

Traffic lights are an example of an invention that changed our behavior. Most people lost the habit to detect carefully various dangers in traffic but they lazily observe only traffic lights.

Neuroscientists have studied the brains of pregnant mothers and the many changes of the brain that unfold during the gestational period. They established that during pregnancy those parts of the brain increased in size that are responsible for the attention and love that a mother will give the baby after birth. As a matter of fact, all cells in the human body have the capacity to adapt to new situations and to develop autonomously innovative features. All cells in the human body – not only brain cells – are intelligent. They know their respective roles in the body and are able to fight viruses, to repair damage or to restore missing parts. We call this bio intelligence that perfectly works without our conscious inputs. A free will, if it exists, is not involved.

The human body, though, cannot regrow missing parts as salamanders do when they regrow a lost tail. The claws of male fiddler crabs also regenerate if they are lost. In addition to limited regenerative capacities of the brain, the human liver is the only organ that can regenerate itself. Even if only one quarter of its tissue is left, it can regrow into a complete organ. While regeneration capacities are limited, the human body is able to heal automatically wounds or to compensate for functions that got lost through injury. The brain is no exception. The brain develops by its own initiative in many situations some workarounds if parts of it are missing or have become weak.

Computer programmers create sophisticated software with so-called artificial intelligence (AI), that can emulate some creative functions of the brain. While scientists are at it, they try to make their software even more innovative than the human brain. This is what Elon Musk predicted when he said that within the next five years, the capabilities of AI will probably exceed the intelligence of all humans. But we certainly cannot tell our brain to become more intelligent By doing exercises, drinking coffee or by meditating we can revive some intelligence or improve, for example some cognitive brain functions, that have become weak through disuse but we will not be able to enhance brain performance beyond the original design of the brain.

The endeavor to create machines with superhuman intelligence might be as ambitious as the – failed – construction of the tower of Babylon, which an angry God boycotted. Let's see how God responds when he sees that humans try again to outperform him by building an artificial brain of high intelligence that

might compete or even outperform the God's brain. The "*jealous God*" (Exodus 34:14) will probably prevent human beings to produce brains that are as smart or even smarter than God's own brain. This scenario assumes that God has a brain like human beings, which assumption sounds correct since "*God created man in his own image*" (Genesis 1,27). This apparently means that humans have God's brain – obviously in miniature.

Computers can recognize faces. Property managers already use face recognition devices and might soon use palm-scanning devices to give individuals access to buildings. Governments can equally use face recognition technology to identify and track persons of interest in crowds on public places.

Software can also recognize voices and can automatically generate intelligent answers to certain questions. I was a few years ago in China impressed by a GPS-based system to pilot drivers of cars to their destination. I heard a few years ago, when this was a novelty, the following dialogue:

Driver	Hello Operator
Operator	How can I help you
Driver	Where is the next gas station?'
Operator	Five kilometers straight on the right-hand side of this road. Anything else I can help you with?
Driver	Thank you – not for the moment
Operator	You are welcome. Please be careful when driving. There will be a construction site 750 meters ahead with a speed limit of 50 km/h but there do not seem to be radar controls. Good Bye. Have a nice day.

This dialogue is only a simple beginning many years ago when it surprised me. There are now more sophisticated virtual agents than the one who acts in the highly specialized area of guidance in traffic. You can now have intelligent discussions with virtual interlocutors about any issues, including scientific topics. Character.AI, for example, offers chatbots particularly for young people who can chat with a virtual friend. The company designs the features of these virtual friends from popular games or from television shows like "Game of Thrones" that the user can select.

Artificial intelligence now produces many services, texts and videos without human inputs other than prompts. IT companies like ChatGPT, DALL-E, BERT, Bing, and Midjourney to name only a few, developed software that creates autonomously text, pictures, videos from huge data sources. Because of its creative capacities we call the software 'generative artificial intelligence'. The applications can replace the brain, for example, of a journalist by producing articles about all kinds of subjects without any other human input than a prompt or a query. I have written more about ChatGPT and generative artificial intelligence in my essay 'Trying to predict the future'. In this essay I alleviate the fear that software with artificial intelligence could suddenly develop an uncontrollable free will. We should rather fear that the developers of such software made the mistake by not anticipating situations, in which the software can malfunction.

The brain controls a myriad of body functions and has worked well so far for me. I hope that my brain will continue to function well and does not weaken as my hearing and eyesight do with age. I can accept losing hair and getting wrinkles in my face and elsewhere in my skin. But I would hate falling into dementia even though I might then not realize my dreadful condition. My brain will probably adjust to such a bad situation and might – without error and fail – make me feel unconditionally happy. Happiness is possibly only the result of ignorance of nasty facts. If some parts of the brain malfunction, the brain manages to make us feel that all is clear. Only if all parts of the brain stop functioning the body is 'brain dead', as the law and doctors say, even if fingernails and hair might still grow for a few days. Until the brain is dead, it

will continue developing a variety of ideas and feelings that give us the illusion that we are in control of our lives – even if we suffer from dementia. Many small children and other persons who are totally immature and unable to make reasonable decisions feel mostly in control of themselves, which they objectively are not. Further below we will talk about the illusion of a free will.

Inputs into the Brain

The brain works similar to a computer. The brain receives inputs, processes these inputs with what we can call its software and produces outputs that the brain addresses to the body's organs. We mostly don't become aware of these outputs. They remain in the background. The brain also produces outputs like feelings, opinions and decisions of which we become aware.

Let's now focus on the inputs and let's at the end assess to what extent an autonomous free will is one of these inputs by which we direct the brain to produce certain outputs.

The body features many organs and glands that produce and release into the body and into the brain substances like chemicals, nutrients, hormones and enzymes that the body, including the brain, needs. Some of the substances that organs and glands produce go directly to the brain and influence the way it works. Organs use the nervous system to send information to the brain about their state of affairs. There might, for example, be the message from the stomach that food was spoilt or too greasy. Ghrelin is a hormone that an empty stomach produces for the brain to let you know that you should eat something. Ghrelin makes you feel hungry. All this is automatic.

Complex microbial communities live in our gastrointestinal tract. They are called the gut microbiota and produce without our conscious control some 90% of serotonin, which influences emotions. This is why we call the guts sometimes the second brain.

The chemicals and substances that the guts, organs and glands produce, influence many functions of our brain and of muscles and also influence biological functions related to growth and development, metabolism and reproductive capacity. The composition of substances, which glands release into the blood, influences - for example – our mood and our responses to stress. Our genes instruct organs and glands to produce enzymes like dopamine, serotonin, and norepinephrine, which directly stimulate or weaken the activity of the brain. Serotonin is a neurotransmitter which can stabilize a person's mood and calm him down. Another enzyme, referred to as 'warrior gene', is mono amine oxidase A (MAOA). If it is not correctly dispensed it generates anger and violence in situations of stress and conflict. Finally, some scientists, like Dean Hamer in 2004, have identified a specific gene, called vesicular monoamine transporter 2 (VMAT2), which is commonly called the 'God Gene'. This gene, they say, makes people susceptible for mystic experiences including the connection to a God and to the universe. Dean Hamer concluded that faith is hardwired into our genes and not the result of a free decision to adopt a religion. Other scientists build on Hamer's findings and suggest that we can use medication containing or influencing VMAT2 levels to regulate the strength of faith and to fight religious extremism or even to eliminate religions and superstition. If a God gene exists, I am sure that my VMAT2 level is quite rudimentary either by birth or because it was trimmed by the education that I received in early years of my life. I have become a rational person who does not want to believe unbelievable statements. I want to repeat that this mental attitude is not the result of a conscious decision. Even if I decided suddenly to become religious, it would not change anything in my way of thinking.

I had recently a correspondence with a South African friend who is, like her parents and her entire clan, a dedicated Christian. To test my way of thinking, I expressed to her my suspicion that she had become a Christian not by her free will but under the influence of her parents and under the impact of special genes

and hormones that made her susceptible for religious beliefs. She angrily replied with a short and sharp message that she was following God because "*I was called to follow God and it is out of free will that I have chosen to do so*". I learnt from her reaction that I had inadvertently insulted my friend by expressing my suspicion. I therefore apologized and accepted her clear request to end this specific discussion. But I continue to think that her answer is not correct and possibly self-deceptive. Firstly, she definitely became, in the first place, a Christian because her parents had her baptized right after birth. Her educators subsequently subjected her to Christian teachings before she was mature enough to think with a critical mind about what educators had told her. In addition, the teachings fell onto a mind that was favorably pre-configured by a standard level of VMAT2, which we casually call the God Gene as I have mentioned above. If there was a free will involved, it was not the decision to become a Christian. It was rather my friend's decision not to become an apostate, which the church discourages anyway by threatening with severe punishments in the afterlife, including eternal torture in the hell's lake of fire. I cannot see a lot of free will involved in the development of my friend's religious beliefs. If there were a free will, I would expect that a more considerable number of children chose a religion that is different from the religion that they acquired by birth. But the overwhelming majority keep the religion at birth. They behave like water that always uses its free will to flow downhill.

Drugs like LSD, hallucinogens (psychedelics) and substances like alcohol regularly push the brain in certain directions. People consume these drugs intentionally for pleasure, to escape stress, to have spiritual experiences or to receive creative inspiration. Such self-medication and flight into another mental world are not the result of a free will but the effect of deeply unsatisfied desires. If you are hungry, you eat. If you feel cold, you dress warmly or you move to warmer regions. If you are profoundly unhappy, you might take drugs if your friends tell you that this helps.

The law states that high levels of substances, like alcohol and some drugs, exclude legal responsibility for acts under their dominating influence. But the law considers that most substances and factors that seriously influence decision-making don't exclude legal responsibility. If you are not totally drunk but only tipsy and you make a decision that you would not have made otherwise, your decision is not really free-willed but the laws will still hold you responsible for your acts. Similarly, if you are a compulsive buyer, you still have to pay for your senseless purchases even though psychologists recognize it as a disorder that needs treatment.

Love makes blind

When cortisol levels rise, the neurotransmitter serotonin comes automatically down. If low levels of serotonin are combined with high levels of dopamine, oxytocin and vasopressin this potpourri can trigger obsessive-compulsive behavior. With this dangerous cocktail of substances in the brain, a person's capacity of making critical assessments becomes seriously compromised.

I am not talking here about a relatively rare medical condition like a compulsive shopping disorder or a similar mental condition. The same neural mechanism emerges very often when someone seriously falls in deep romantic love. If someone makes silly decisions under the blinding influence of love, nobody will say that he was not legally responsible even though love made him irrational and irresponsible. The level of hormones eventually comes down again with time. This is why we say that love makes blind but marriage is the best ophthalmologist.

As a matter of fact, we should declare many marriages null and void because the couples married under the overpowering influence of infatuation. This condition disables their free will and their capacity to judge and to evaluate rationally the probability of a happy outcome. 'Love can move mountains' is the title of a song by Celine Dion who was the 14th child of a very poor family in rural Québec. All family

members were gifted musician. Love and passion for music kept family members together and eventually made Celine famous and rich. In this context her confession that love (of music) can move mountains is understandable. But obviously, an onslaught of romantic love cannot move mountains and cannot remove practical problems. Only real love between partners, which takes many years to grow, can make practical problems more bearable. Infatuation cannot move mountains but is rather an obstacle for a wise management of life. When I use the term 'wise management of life' I am not referring to the wisdom that the person has, but to the judgment of an outsider who thinks that a person has made a decent decision. As always, the view from the outside is regularly very different from what a person sees and thinks about himself. A radical young Islamist is probably convinced that committing a suicide bombing is a wise decision and his superiors support him in this belief. But many outsiders like me obviously see it differently.

Dramatic love stories ending in tragic outcomes are favorites in theater and in movies. These stories celebrate true love that can give strength. We are all longing for strong and lasting love and the power that it gives people who love each other. The love stories in movies and theatres don't describe the fact of normal life where love is normally not strong but vulnerable. In real life, love will break like fragile glass if we don't nurture it carefully.

We find an exquisite example of a love story in Greek mythology. It is the tale of Psyche, a Greek princess, and Eros, the God of love. Psyche was exceptionally beautiful – even more beautiful than Eros' mother Aphrodite, the goddess of beauty. Aphrodite understandably became jealous of Psyche's beauty and feared that she might supplant her. Instead of going to Aphrodite's temples, people had already started to go on pilgrimages to the place where Psyche lived to catch a glance of Psyche's beauty. When Aphrodite learnt about the love between Psyche and her son, she became determined to destroy Psyche. She did her godly best to boycott the liaison by imposing on Psyche unworkable tasks with the threat to kill her if she did not complete these tasks as she requested. But Psyche's love was in this Greek story so incredibly strong that she overcame all obstacles. Zeus, the king of gods, whom we know as a great lover of mortal beauties, arranged for Psyche to drink some ambrosia, which normally is a drink for gods only. This elevated Psyche to a goddess, which removed the last obstacle for an otherwise unacceptable marriage between a god and a mortal. Psyche and Eros celebrated the happy end with one of the greatest festivities of history. Most gods of the Greek mythology attended this feast in which Psyche was at the same time welcomed as a new member of the fraternity of gods.

A famous story of a forbidden love is the tale of Romeo & Juliet that William Shakespeare wrote at the end of the 15th century AD. Unlike the story of Psyche and Eros, Shakespeare made it end in tragedy. Juliet and Romeo had incurably fallen in love and they married secretly. The marriage was against the will of their respective families. These were the Montagues and the Capulets, sworn enemies in Verona, Italy. Juliet's father who remained unaware of the secret marriage arranged for her wedding with a groom that he found suitable for his daughter. To avoid the wedding, Juliet agreed with Romeo that he would make off with her but she did not tell him that she would fake her death with a potion that made her sleep. Romeo arrived to abduct her. When he saw Juliet and believed that Juliet was dead, he killed himself. When Juliet woke up and saw the dead Romeo, she killed herself. No tragedy can be more tragic.

The famous 1961 musical film 'West Side Story' transposes Shakespeare's plot of Romeo and Juliet into a working-class neighborhood of New York City with captivating songs and music from Leonard Bernstein. Tony and Maria fall in deepest love. But one belongs to the Puerto Rican gang known as the Sharks and the other to their white rivals, the Jets, which disapproved the liaison with tragic ends for both lovers.

Steven Spielberg did not resist to remake this musical in 2021. In both versions of the musical, however, dance, songs and music have become more important than the plot.

If I were a movie director, I would make a movie out of the following recent episode of a love affair with deadly end. But Stanley M. Brooks has already turned this story into a movie with the title 'Bad Romance'. Here is the story:

Female prison guards happen sometimes to fall in love with a male inmate or vice versa. Prison guards who badly miss feelings of love in private life can easily fall victims of love-induced blindness. Frequent daily contacts with the opposite sex can automatically trigger the production of the hormone oxytocin. This neurotransmitter creates the well-known mother-infant attachment and other love-related feelings. It is for this reason also called the 'love hormone'.

Vicky White, 56 years old assistant director of corrections in a prison in Alabama is such an example. She fell in love with Casey White who was charged with murder and was already a convicted felon. The sameness of the name was coincidence. Her blindness became complete when she helped the inmate to escape prison and ran away with Casey. When police eventually captured them, she committed suicide.

Vicky White and Casey White

Vicky White would have been punished in a court of law if she had survived the episode. However, I think that she should not be held responsible if a free will of the offender is the precondition for punishment. An uncontrollable onslaught of the love hormone – not her free will – has triggered Vicky White's irresponsible escape from prison and the dramatic end of this love affair. In my essay about the death penalty, I have come to the conclusion that the free will as a condition for punishment is an artificial ideological construct. Vicky White would have been punished anyway to deter her colleagues from emulating her.

I have read more stories, in which love made women blind when they started love affairs with convicted murderers. If their lover had committed only one murder, the loving women thinks the crime away by putting the fault on other negative circumstances like drugs that do not reflect the person's otherwise lovable character. Blinding love does not stop some women to fall in love with mass murderers. Carol Ann Boone is one of many examples. She began her relationship with Ted Bundy and had a child with him when he was on trial for two murders. She explained that she fell in love with Ted immediately when she saw him for the first time. She testified for him in the trial as a character witness. She gave the delusional explanation that her lover has murdered other people only because he was 'railroaded'. The love between Carol and Ted survived many years even though Carol had to visit him in prison but not with the privilege of conjugal visits. She eventually broke up with him after he confessed thirty more murders.

Scott Peterson, a quite handsome young man, is another example of a criminal who attracted women who were blinded by love. He had in 2002 murdered his wife and his unborn child because he wanted to be a free man again. A Superior Court in California sentenced him to life imprisonment without the possibility of parole. He received incredible numbers of marriage proposals before and after he had to report to prison. There is for sure blindness to blame for these marriage proposals but I am not sure what kind of blindness it is. On the other hand, a handsome husband who is in prison cannot be unfaithful, which might attract women who do not need physical contacts and sex but are happy with a platonic relationship without the risk of extramarital affairs. The wife cannot lock up her husband at home to prevent him from becoming unfaithful. It is therefore more convenient if he is in prison.

I myself are not easily blinded by romantic feelings because the analyst, who I am, always tries to keep control and to bring rationality back into play before feelings take control. But this did not prevent me getting into a marriage with subsequent divorce. I was blind and unable to consider all the facts that were relevant for a perfect marriage. As a matter of fact, nobody knows the conditions that must exist for a perfect marriage. In retrospect, I now think that love was at play. But it was not love that blinded me. I decided because I had at that time started to have my own income. I was marriageable by age. Society expects that a young man in this situation gets married rather sooner than later. Parents, friends and people were waiting for me to get married. In other words, there was a high 'readiness potential' as psychologists call it. There was in this situation only a little trigger that I needed to 'just do it' as Nike's slogan suggests. This trigger appeared in the form of a girl that was equally ready and that my parents and friends praised as suitable as they judged by her proper age and appearance and by her courteous manners. She and I were like a lock and a key that matched to unlock and open the door into a totally unknown shared future. The usual fog of ignorance was hiding all main facts and features that a marriage needs to become perfect. I refuse to call a decision free-willed if it is a shot into the dark. I made this decision under the dominating influence of ignorance about most relevant facts and under the influence of strong encouragement by parents, friends and society.

Incontrollable Behavior and Reactions

Some glands release automatically liquids like saliva, sweat or water into our eyes. We don't control this. Glands receive instructions for the production of chemicals and substances from various sources but mainly from a master gland called Pituitary Gland, which receives instructions from the brain. We consciously do not control these internal communications. This is why – for example – we get excited or break out in sweat or in laughter or we flush without controlling our composure.

After having given birth, young mothers can suffer from postpartum depression, which makes their behavior uncontrollable. The mood of women during menopause, also, becomes often erratic as a result of a temporary imbalance of hormones. This behavior is by no means willful. I experienced a severe case of uncontrolled female behavior in Vietnam. The Vietnamese project director interrupted publicly my closing remarks in a key workshop. She did not control herself and violently criticized me publicly during my presentation without apparent reasons. The onslaught was so violent that I decided to cut short my speech. I felt as if my project director had thrown a shoe at me, which is the most offensive and insulting gesture in the Middle East. After the incident I did not ask her for apologies, which would have caused her to justify her behavior with far-fetched excuses. It is often counterproductive and dangerous to remind a woman of a misdeed after the fact. I waited instead and did afterwards not mention to her how the workshop ended; she might not even have remembered. Then, a few days after the incident, she surprisingly apologized and explained her unjustified behavior with the menopause that made her sometimes lose control as she admitted. I had no choice and accepted her apologies knowing however that she might become a repeater against her will. Women can in intervals uncontrollably be natural and pure and then artificial and provocative as Coco Chanel has put it. Totally pure women who behave like saints or angels, might probably not attract men.

One day a female presenter in a workshop, who liked to make long discourses, asked me after one of her speeches what she had told the audience. She could not, as she admitted, remember what she had said. Her brain must have been on auto-pilot when she made her presentation. In another situation, a very good female friend in China had made an hour-long telephone conversation. I asked her what this long chat had been about and she seriously answered that she did not remember. In both cases it is possible that the two ladies were conscious when they spoke but have immediately forgotten what they said. It is also possible that it was not a lack of recollection. Their brains probably produced their respective

speeches automatically without prior plans and without populating the memory to start with. It is like walking home semi-automatically in a very familiar environment. We see everything while we are walking but do not remember any details once we arrive at destination. When I have two alternate routes to walk home from the office, I sometimes don't even remember which of the two routes I had selected.

Sleep talking, called somniloquy, or sleep walking called parasomnia, are examples where someone makes speeches or goes for a walk while not aware of it and not remembering. Some sleepers get up from bed and walk or eat food from the fridge while sleeping. Yet others masturbate during an onslaught of sexsomnia. In all these cases of sleep disorder, the sleepers don't remember anything next day. Their brain was on autopilot.

I talk sometimes in dreams as I remember afterwards without recalling any details. While sleeping, I do not talk loud as my partner confirms who sleeps next to me. I talk in an internal monologue without using my voice and without the words populating my memory. If people are drunk, they often also speak and act without voluntary control of their words and their deeds. They do not remember afterwards what they had said and done. This shows that the brain can have a double life: one of which we are aware of and a second life of which we remain unaware. However, impressions and sensations, which we don't remember, are not totally null and void. Many of them continue to influence us from behind the scene like a secret and silent prompter.

When I have a more serious problem to solve or when I have to send an important email, I regularly follow the healthy advice to 'sleep on it' and trust the proverb that the 'night bears advice'. The French say 'La nuit porte conseil', which means that the night, which you spend sleeping, brings good advice and fresh ideas. This is not superstition. I firmly believe that overnight and during the sleep the brain continues working subconsciously on the issues that you considered during the evening of the previous day. Similarly, I received as a child the recommendation to sleep with a schoolbook under the pillow because this would assist memorizing its content. I thought that this idea was superstitious but I followed the advice with the idea that it did not hurt – neither me nor the book – and that it might possibly help. In hindsight the recommendation might have some merits if you consider that the brain probably continues processing the ideas and thoughts that you had in mind when you fall asleep. It is obviously not the book under the pillow that creates an effect with invisible emanations of wisdom. It rather will be the thoughts from the book that you had in your mind when you fell asleep and which your brain continues to process.

Having a fresh look at something that you had written down the previous day is a good method to improve the text. It is different from the 'sleep on it'. Re-reading a text starts in the brain a fresh thinking process for the same subject on a new pathway, on which the brain produces new results or additional thoughts. The brain – so to speak - is re- kneading the dough in a different bowl. I had this experience quite often when my brain got stuck solving a problem during the evening. When I sat down the next morning in front of my problem with a fresh mind, a solution often came up in no time without my conscious intervention.

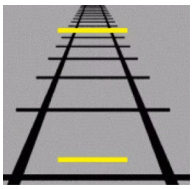
Unreliable Perceptions

Our eyes, ears, nose and all other senses receive information from the outside world and forward them to the brain through the nervous system. The objective features of this outside world and the way we perceive this world are not identical.

We must realize that our senses admit only a limited number of sensations. Our ears cannot hear, for example ultrasound. Our eyes can also not see most of the light's electromagnetic spectrum like ultraviolet and infrared. There are many things that human senses cannot capture. The nervous system

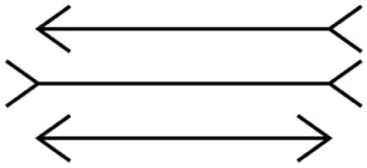
sends what the senses were able to capture to the brain. Some elements of the captured information might get lost on the way to the brain. Visual impressions, for example, that last only for a few milliseconds, by-pass the visual cortex, which is the area of the brain that processes and interprets images. The brain then processes the incoming signals in its own way using pre-existing information in its memory that might be biased. The brain has its own intelligence to produce neurochemicals and electrical signals, which it sends the to other organs and muscles. The organs and muscles respond accordingly with physical movements, biological reactions or by creating emotions or pain. The brain is like a control center that coordinates all vital functions of the body, including decision making. We don't consciously control most of it. The brain even works like a censor who eliminates sensations of which we don't become aware. The famous elephant in the room is an example of something big and imposing that we nevertheless don't notice if we focus on something else.

A popular saying is that 'Seeing is believing'. But you should not believe everything that you see. A visual inspection provides in many instances evidence. But we know that not seeing something is not evidence that it does not exist. We also must know that the brain has weaknesses by misinterpreting some inputs and we see often things that do not exist or exist in other forms.



Ponzo Illusion

Nothing is perfect – not even the fantastic brain. Optical illusions or visual illusions are examples as shown here. The horizontal lines in each drawing have the same lengths but they look as if they had different lengths.



Muller-Lyer illusion: All vertical Lines have actually the same length

What the brain shows us is not the reality. An example of an optical illusion in daily life might occur when you see a light from a lamp in a mirror or in a glass window. If the lamp slightly shakes, you automatically assume that it is the light that moves. But it can also be the mirror or the pane in the window. When a light at a distance blinks, it might not be the light that goes on and off but it might be an object that moves in the space between the light and your eyes and obscures intermittently the light.

Nature presents many optical illusions like rainbows or so-called sun dogs.

Sun Dog in Banff, Canada

A sun dog is an optical phenomenon appearing in the sky when the sun shines through a thin cirrus cloud with ice crystals of certain shapes and positions. These phenomena are real only in our minds, which raises the question what reality is.
We would possibly not become victims of optical illusions if our brains were equipped with an 'alien intelligence' that I have mentioned above.

A honeybee probably does not see a sun dog, which does anyway not exist as such in the sky.

One other example of cognitive malfunction is our perception that the sun moves through the sky starting with sunrise in the east and ending with the sunset in the west. Since the 17th century, when Galileo Galilei provided evidence, we know with our intellect that the earth actually turns around the sun. But the easterly spin of our planet still creates every day for us the wrong illusion that the sun, which is static, moves across the sky. This is why, when I see a sunset in the west, I always try to realize that our earth is spinning upwards so that the sun disappears behind the horizon. Vice versa, in the morning, the earth has made a turn and moves the horizon downward in the east so that I can see the sun appearing from behind the horizon.

At the same time, I try to realize when I look at the seemingly static landscape that I am actually sitting on

a big ball, our earth, that spins at 1,699 km/h (at the equator) around itself and moves at 107,986 km/h around the sun.


Moon behind temple in Izmir, Turkey

Nature presents us another optical illusion when we see the moon near the horizon. The moon then appears to be much bigger than the same moon that we see in the middle of the sky. A common misconception explains that when the moon is on the horizon, we subconsciously compare it with nearby objects such as trees and buildings, making it look relatively bigger. But the real reason is that we generally perceive distant objects as bigger than objects closer to us, as the Ponzo Illusion above shows us
Even if we tell our brain to stop the nonsense, it will stubbornly and autonomously continue fooling us with optical illusions. This is one of the reasons why a judge in a court of law must be very careful before believing an eye witness.

Some outputs of the brain can be utterly wrong like typical fallacies and blatantly wrong conclusions that sound logical or plausible on the surface. Other outputs will be blatantly wrong because the brain produces results without having access to necessary information. The brain is lazy or – let's say – energy conscious – and presents us its results as soon as it has found a solution that sounds plausible and convincing – no matter if data and information is missing. It is only in hindsight when we remember or identify more facts that we realize that a decision or a conclusion was wrong because our brain has misled us.

The most controversial type of input into the brain are instructions to the brain that many thinkers say are expressions of a free will or are instructions that a person's soul has freely developed and issues to the brain. These people seem to say that the soul is a strange essence or even a physical thing that exists separately from the brain and controls its processes. Many people see the soul also as the facilitator of a life after death. They claim that the soul is not only responsible to shape the personhood of a human being during his life but they also claim that the soul makes afterlife possible. I discuss this controversial issue in the essay about afterlife. To summarize the opinion in my essay, I firmly believe that the soul and afterlife do not exist and that the free will, which allegedly comes from the soul, is a self-deceptive illusion. Laws of physics and of biology do everything on their own.

Involuntary Actions and Behavior

If your knee has a problem and you feel pain in your knee, it is not the brain who tells your knee to become painful. It is the other way around: Your knee's pain receptors send a signal, called neurotransmitters, to your brain. The knee's message to the brain will be different depending on the seriousness of the problem. The brain then processes the incoming information by interpreting the signal and comparing it with previous signals that it had stored in its memory. If the brain concludes that the problem is minor it will not respond. If it concludes that it is serious the brain might trigger a response by making you, for example, look at the knee or to touch it with your hand for a check.

When a mosquito bites you on the cheek, the brain will trigger the often rehearsed movement of your hand to chase the beast away. When your hand touches a hot object, your hand will automatically move away very fast. In all these situations you don't have to develop a strategic plan to do this. In situations of urgency, the dorsal horn in the spinal cord intercepts the signals from body parts or organs on their way to the brain. In many instances, like in the case of the mosquito or the hot object, the dorsal horn sends an impulse to the hand that causes a reflex movement before it might or might not forward the signal to the brain. All this information exchange happens in tiny fractions of seconds without our conscious intervention.

The brain pilots and steers the body, our activities and emotions mostly automatically without interference by its owner. We do not control all our movements and activities. If we experience a funny situation we will laugh without control. In a sad or terrible situation, we respond without control by sweating, having faster heartbeat or by screaming. Our brain acts on its own – and this happens not only in the petty examples of automatic laughter and cries. The brain also controls many other more important body functions and actions without or our conscious inputs.

Polygraphs, that we call lie detectors in daily language, use the automatic reactions of our bodies to gauge if we tell the truth. These devices measure and compare a number of physiological indicators such as blood pressure, pulse, respiration, and skin conductivity when a person answers a series of questions. Scientists have not confirmed the reliability of the polygraph technology but some governments use it anyway, particularly in criminal investigations and before hiring staff in spy agencies. It is undisputable that every significant acoustic or visual perception triggers emotions and physiological responses that we cannot control even if we try with countermeasures not to show our emotions. I am sure that if I see a series of many different national flags physiological changes will occur when I suddenly recognize the flag of Germany. The operator of the lie detector, when he discovers the physiological changes in my body, will conclude: "He says he is Canadian, but his body reaction to the German flag proves that he is German". But he will become confused because he sees similar reactions of my body when I see a Canadian or a French flag.

The polygraph is only a primitive forerunner for a better device that can in future detect lies much more reliably. Interrogators will use fMRI (functional magnetic resonance imaging) machines to find out with more precision if a person tells the truth or if he lies. The interrogator will with the first models of this machine not yet be able to read the content of your thoughts but can detect changes in your brain that might indicate that you are insincere. Scientists and technicians will in a next step of technical development go further and will produce machines that can read and understand the content of brain activity. The operator will then not even have to wait until the person that he interrogates, answers a question. His machine will read the answer directly from the brain.

Nature could have given us more conspicuous and more easily visible indicators about the truthfulness of what people say. Depending on your commitment to the truth you would find this feature nice or annoying. Conductivity of the skin is for most of us too difficult to ascertain without a polygraph. Some people claim that they can detect lies when they see some changes in the eye. But it would be much more efficient if there were more visible signs – for example if human beings had tails that wag automatically like a dog's tails when they observe something exciting or if they don't tell the truth.

As a side note I might mention that during the evolution from animal to hominoids the tail got lost. Scientists have not yet found a final answer to the question why human beings have lost their tails. It might have been a genetic accident or it happened because our ancestors millennia ago did no longer need a tail for climbing trees or because a tail was inconvenient for upright walking on two legs. An evolutionary remnant of the tail is the still existing tailbone, called coccyx, in our human skeleton. An ultrasound doctor told me that an embryo, in the early stage of its development, shows a tail, which later disappears. Our tailbone is not the only ancestral leftover that we have in our bodies. There are many more "vestigial structures" that provide evidence of the origin of human evolution.

Coming back to the issue of body language, I watched a television comedy in which people's foreheads turned brightly red when they were lying. They became green when they were telling the truth and blue when they made claims without knowing the relevant facts. I found speeches and interviews of politicians very entertaining because their foreheads were in the movie fireworks of these three colors. As listeners

we could save much energy if a speaker's forehead turned grey if he talks nonsense. We could then turn off our attention until another color appears on the speaker's forehead.

When I gave presentations in workshops, I always looked into the faces of listeners to detect signs of attention like agreement with what I said or indications that they did not very well understand what I said. Eye contact is an efficient communications tool, which works well in many countries but does not work in countries like Fiji, Vietnam and China where the faces and eyes of people often do not show any signs of their state of mind. Black eyes that all Chinese people have, are anyway not as expressive as eyes in other colors. Some people in the audience looked as if they had been sleeping while they were actually listening. Others looked at me with widely open eyes. They looked as if they were listening but did not show any expression of emotions or might not even have listened.

I sometimes felt that I might have lost the attention of my listeners. In China and in Vietnam, where I worked in each for many years, it is useless to ask questions to ascertain if they have understood what you said. Listeners are too shy to answer. They avoid eye contact when the speaker asks a question. I tried therefore to turn on their attention by suddenly clapping my hands or by asking with loud voice a silly question like "Who is hungry?". Such a surprise question brought automatically back their attention. Food is extremely important in these two countries. If for example, someone proposes a meeting in the office at 11 am, he will immediately hear the question "But where are we going to eat?" Towards the end of a lunch, you will often hear the question "What will we have for dinner?" Pronouncing suddenly the word 'hunger' in a presentation strikes an important chord because it automtically triggers the expectation and hope to have some food and will bring back the listeners' attention even if they had just come back from lunch.

Countermeasures to avoid physiological changes during a polygraph test or in front of a person are possible. You can, for example, think about something pleasant if a person talks annoying nonsense. You can also autosuggest sympathy for a speaker whom you actually despise. A successful real estate agent in Winnipeg, Dick Huston, told me that he regularly autosuggested that he liked a prospective purchaser even when he thought that this person was stupid or arrogant or otherwise awful. This – as he claimed – worked reasonably well but did not prevent him from displaying disgust when the prospective client was really offensive and stupid or when he himself was too tired to autosuggest sympathy.

There seem to be cultural or ethnic differences in the intensity of automatic physiological reactions. Law enforcement agencies in the USA, which regularly use polygraphs, have noted that some Eastern European and Asian people had little difficulties defeating the polygraph. Americans, in contrast, develop more easily symptoms if they lie. One operator of a lie detector told me the reason. Educators in the west, he explained, bring up their children to tell the truth. They later show physical symptoms when they lie.

It troubled me during the first years of my work in Fiji that local colleagues did not show the slightest signs in their faces when I explained something. They did not even show any sign in their faces when I talked about something that I thought was sensational. They showed not even a blink in their eyes. They also produced not the slightest sound that indicated that they were with me. Their behavior was quite different from what I was used to observe – and to enjoy - in the western world. Interlocutors in western cultures regularly express agreement, doubts or disagreement in their faces by frowning. Fijians never interject by saying "Yes" or asking "Really?" or "Is that so?". Fijians remained expressionless and just raised slightly their eyebrows at the end of a presentation. They never said "Yes, I agree". They also rarely said something when they disagreed; they just did in such cases not show any movements in their faces as indicator of disagreement, acceptance or of other emotions.

Some people are so much fixated on one idea or on the pursuit of one plan that their minds under no circumstances let loose their idea – come hell or high water. They focus so strongly on their own ideas that contradicting ideas, perceptions or emotions, which they don't notice, are like water on a duck's back. They are immune to deviating ideas.

The capacity to show no reactions is necessary when a person gives priority to the achievement of goals and sacrifices truthfulness to achieve his goals. Actively defeating a lie detector is an example that I have given above. A spy who works under changing identities is another example where a person has to switch automatic reactions depending on the character that he impersonates. By way of autosuggestions, he replaces one set of automatic reactions with a set of other automatisms.

Displaying a poker face is an important means to avoid that a co-player detects tensions or confidence when he holds his cards in front of his eyes. It is actually not only the face that the poker player must manipulate. He must also control his voice and his body language. It is quite evident to me that these manipulators must work very hard to control all muscles of face and body, eye movements etc. in all situations as they come up suddenly and surprisingly. In this way they predispose themselves to act automatically according to what they want to achieve. They literally paralyze all body functions that might reveal what they know and what they think. I read many years ago a detective story where the female suspect disguised as a man and sat on a bench in a park. The detective threw a ball onto his lap and the suspect moved his thighs apart in a reflex. This showed the detective that the man was actually a woman because women can more easily catch a ball with their skirts when the move the thighs apart. Men will rather move their thighs together.

I was brought up not to be a manipulator. My parents told me to give always honest and complete answers from the bottom of my heart. They said that I should convince others with the clarity and directness of my words and not by flattery, lies or other undue and fake maneuvers. My parents' directives included the advice not to say something and meaning something else as diplomats and politicians frequently do. The only exceptions that my parents found acceptable were in situations where telling the truth was insulting or would hurt the feelings of the listener. Instead of lying and to praise a woman's dress as beautiful if it was awfully unpleasant, my mother rather recommended not to comment on the dress. My mother recommended to rather ask the woman where and when she had bought her expensive dress instead of talking about the beauty of the dress or about the lack of it. Therefore, if a woman wearing an unpleasant outfit, asked my mother if she liked it, my mother would answer with the question "Where did you buy this exceptional dress?" An unusually ugly dress is indeed exceptional and the question does not formally present a lie . You might argue that my decision not to comment on an ugly dress is evidence of a free will. But it is actually the result of the education by my mother.

Doctors are some times in a dilemma when it comes to the question whether or not to tell the truth. They often don't tell a patient that he is going to die in the near future. This would discourage the patient and we destroy the good spirits of the persons who have to care for him. Telling the useful lie that the patient will recover, avoids such a situation. Doctors learn how to avoid showing a pessimistic face in such cases. It is this type of adherence to professional standards that doctors learn as standard behavior.

Obviously, lawyers have to develop and to apply strategic thinking, as they call the task to create manipulative arguments. A lawyer has to mention in his plaidoyers only the facts that are favorable for his client. He has to filter out negative facts and must leave it to the lawyer of the opposite side to uncover such facts. This is not dishonest. It is professional conduct. A lawyer also has to learn how to turn off any reaction when his opponent surprises him with a statement that is negative for his client. He has to remain calm and motionless with a poker face even when he knows that the other lawyer has made a valid point.

This method of professional thinking and behaving, which I adopted as a lawyer in a professional setting, did never enter my private life. If someone wanted to denounce me of something negative and asked me for the telephone number of the person to whom he could launch a complaint against me, I always gave him more or less automatically the correct telephone number instead of making his action against me difficult. Some people say that it would be cleverer to pretend not to know the phone number or even to give intentionally a wrong number. I was always unable to be smart like this. I automatically gave the correct answer in such a situation.

A lack of manipulative skills in private issues is the reason why lawyers are generally well advised not to represent themselves in court cases because they might apply private methods of thinking instead of behaving professionally. "The worst lawyer is a lawyer who represents himself", so the saying goes. The legal jargon for a lawyer who represents himself, is 'Pro Se Litigant', a Latin term. In one divorce case, in which a lawyer represented himself, the lawyer for his wife confronted him with the allegation that he had drawn his wife by the hair across the floor of the living room. He admitted the fact but he claimed that there was nothing wrong with this because the floor had been well polished. This reply was certainly not the result of strategic thinking that is required for lawyers.

Interaction of Mind and Body

The brain keeps the body healthy but if stress or negative emotions dominate the mind, the brain can send negative signals to the body, which then might develop symptoms of psycho-somatic illnesses like ulcer and cardiovascular disorders. Al-Razi (Rhazes), an outstanding Islamic physician in the 10th century declared that the immune system of a person is '*based on the beauty of the surroundings and letting him listen to the best music and allowing his best friends to be with him*'. Pleasant feelings send healing signals to the body. Buddhist philosophy also stresses the inseparable interaction between the mind, the body and the outside world. Here again, we cannot tell our mind or our brain to be happy. We can only carefully create the circumstances that might or might not make us feel happy.

Fortunately, I was never seriously hit by negative psycho-somatic health issues because the optimistic predisposition that I have inherited from my father, did not allow bad circumstances to get the better of me. I was in bad situations always trying to look forward to a more pleasant future. The 'Principle Hope' (das Prinzip Hoffnung), as Ernst Bloch called his famous but difficult-to-read publication, was always at work as an engine in my brain. If I had been predisposed to worry all the time; I might today sit in a wheelchair or sleep deeply underneath green grass.

'Mens sana in corpore sano' (a sound mind in a sound body) is one of the very short proverbs that the Latin language has left behind for us and that some grandmothers adopted in their own language. In practical terms the proverb reminds us that we should keep a healthy body to maintain a healthy mind. And vice versa, a healthy brain and a vigorous mind will support body functions better than an unhealthy brain and a worried mind. There is an intimate psychosomatic relationship between the brain and the body. It is a mind-body connection. Scientists have identified the mitochondrial complex I, a group of proteins, that energizes the brain. Good experiences in life create higher levels of these proteins and stronger immune systems while psychological stress does the opposite. Scientists have dug deeper into the interaction between brain and body. They have, for example, identified the region of the brain that is involved in positive emotion and motivation. They call this region 'the ventral tegmental area (VTA)' and have studied how this region interacts with the heart. Experiments with mice, they claim, have shown that stimulating this region of the brain can improve the immune system in the heart. And they believe that, vice versa, a heart problem 'de-energizes' this region of the brain and creates negative emotions.

Asya Rolls, a neuroimmunologist at the Technion–Israel Institute of Technology in Haifa, went as far as to say that '*You can call something psychosomatic, but in the end, it's somatic*'

A doctor in China, who specializes in cancer diagnosis and treatment, told me that he always asked patients if he suffered from worries and anxieties prior to coming to the office. He intuitively believed to have noticed that patients who are plagued by serious worries and fears, had more often cancer than optimistic and worry-free patients. These observations are actually in line with some systematic studies, which established that many men – not women - over 40 who suffer from generalized anxiety disorder are more than twice likely to develop cancer than men who are worry-free. Experiments have also shown that wounds will heal faster if the mind has a positive attitude towards healing.

This is where religions come in. Most religions recommend that in a situation of pain, despair, and sadness the faithful believers find solace by turning to their respective Gods: "*Those who believed and whose hearts find rest in the remembrance of Allah. Verily, in the remembrance of Allah do hearts find rest*" (Quran 13:28). Similarly, the Bible tells its believers not to worry about daily necessities "*But seek first the kingdom of God and his righteousness, and all these things will be added to you*" (Matthew 6:33) and "*Set your minds on things above, not on earthly things*" (Colossians 3:2). Karl Marx wrote in 1843 that religions work like medicine – like opium, as he said – that reduces people's suffering by giving them pleasant illusions. And indeed, some research seems to indicate that regular prayers and regular attendance of nicely performed church services provide some health benefits. But this is not because God responds by taking away the reasons for worry – they continue to exist. It is because prayers and – more so – Buddhist and Hindu meditation detract the mind from worries and create some refreshing distance between the mind and the perceived problem. Music like Mozart's piano sonatas do the same for me as does a relaxed and calm view of a beautiful natural landscape.

While we tend to take the Latin proverb 'mens sana in corpore sano' seriously and take care of our bodies, we should also consider which mental exercises we can use to keep our brains healthy. Muscles shrink if we don't use them. The brain, or parts of it, will also shrink after longer periods of disuse. The phrase "use it or lose it" applies equally to the brain and to muscles. If the loss of grey cells is unusually significant, we call it atrophy. When certain neural connections remain consistently unused, they eventually weaken, shrink or disappear.

Habits are absolutely essential in daily life to ease the brain's burden of avoidable thinking and to safe energy that the brain uses when it is active. On the other hand, we should kick some habits to re-vitalize the brain. In this respect it might, for example, be useful for a right-hander to use temporarily the left hand. A right-hander should use the left hand from time to time, for example, for the operation of the computer mouse or for playing badminton. This apparently activates connections of neurons that remain unused if you use only your right hand. As a right hander by birth, I followed up on this idea and used the computer mouse with my left hand during some years. After a couple of weeks, I got used to using the right-click button as the left click button. But when I broke my left wrist and had to use my right hand again to operate the mouse, I noticed that my right hand had kept its old habit and I consistently right-clicked when a left-click was required. This indicates that muscles, in this case, the muscles of fingers, have their own memory.

Obviously, as always when someone makes recommendations, you will hear people who warn about side-effects if you change permanently from right to left handedness or vice-versa. They talk about side-effects particularly if parents force their left-handed children to switch to the right hand. People during medieval times associated left-handedness with witchcraft and until recently, people still considered left handedness as a stigma almost as serious as having unorthodox sexual orientations. Any behavior and

feature that deviate from normality are for some people evidence of mental or physical sickness. But they are actually only variances that nature creates during the development of a baby in its mother's womb or that develop afterwards through education. I remember that my parents did not speak nicely about left-handedness. If I was left-handed by birth, which I cannot exclude, my parents, who perceived left-handedness as a problem, have successfully changed this through education. As a matter of fact, researchers now believe that genes are only with 25% behind handedness while 75% is education. A left-hander's club, which fights remaining discrimination against left-handers, launched in 1992 an International Left-Handers Day as an annual event on 13 August to increase public awareness of the advantages and disadvantages of being left-handed.

I seem to be an outsider with the suggestion to regularly train the brain to maintain the innate level of performance. Most people talk about vitamins and regular physical exercises to reduce a risk of brain power. The recommendations to use vitamins and to do physical exercises are generally good for the whole body and not specifically for the brain. Training the brain will be more targeted. Up to his old age, my father trained his brain by regularly learning poems by heart – mostly his own poems. His mind remained clear and precise to his end. But obviously the soundness of his brain might have been the result of his excellent healthy constitution and not necessarily the result of learning poems by heart. Learning texts by heart – particularly Bible verses –was an important credo in last century's education systems. As school boys we had to learn lengthy Bible passages by heart and had to recite them from time to time in front of the class.

Brain and body are interdependent. One cannot exist without the other. I think this is very obvious and clear. I don't even have to mention this. The question remains what makes body and brain work together peacefully and what we can do to make their cooperation successful.

Al-Razi (Rhazes), the Islamic physician whom I have mentioned above, stressed that it is important for the health of the body to live in a beautiful environment with good friends and with music. One of the pillars of Traditional Chinese Medicine (TCM) is also the harmony of physical and mental work and the interaction between body, the mind and the environment. Taiji, Qigong and similar Chinese practices want to establishment this harmony between body and mind with deep breathing exercises that they combine with movements and meditation

TCM sometime combines the emphasis on harmony between body and brain on one hand with the harmony between the body and the cosmos on the other. But the idea that you can create and maintain harmony between a tiny little human existence and the immensely vast cosmos seems to me far-fetched. Both the human body and the stars in the cosmos share the same laws of physics, which you might call a commonality rather than harmony. But this does not mean that stars in the cosmos influence our body. Your body does also not influence the stars. We share only the laws of physics and the elements and atoms that make up all matter, including our human bodies.

How Feelings, Opinions and Decisions develop

I want to remind you again that I am not a scientist and not a neurologist. I am also not a psychologist who has dedicated his life to the question how feelings, opinions and decisions develop. Even if I had studied these issues as a scientist for many decades and had come to certain conclusions, there would be many colleagues who – as always - contradict and criticize the opinion of a colleague. They will routinely also criticize the following text.

I form my opinion about how people make decisions by looking back how I made important decisions in the past. I also listened to people when they told me how they made their decisions. Finally, I have

sometimes read informally some articles in the internet and in popular books that scientists have written for the dummy general public, of which I am a sample.

Not being a scientist does not exclude me from telling you how I see and judge the path on which I made decisions in my life and how I formed opinions. You don't have to be a scientist to make decisions. Without scientific background, you can also think afterwards about what motivated your decision and what could have improved the quality of a decision that you have made. But we don't even know what the criteria are for the quality of a decision. A decision might be good for me but bad for someone else. A decision might be good for now but bad for the future. I might judge that a decision that I have made is a good decision but somebody else might argue that the decision was not wise.

I don't need a scientist to become in hindsight aware that I formed opinions and made decisions that I have based on insufficient knowledge. We often have to make a decision, which we should not make because we do not know all relevant facts and have not the necessary education and experience. But we must make decisions under questionable circumstances. Otherwise, the situation develops merciless without a decision. However, dodging and not deciding has sometimes acceptable results. As a procrastinator I experienced quite often situations, in which I did not make a decision. But the situation often evolved quite nicely without any decision.

It would be interesting to see what happens to my life if I went on strike and stopped making decisions. If I did this, I would certainly not stop breathing and my heart would not stop beating. But I would probably still run away from an oncoming car and would also continue eating because my body needs food for survival. I would only stop eating if I had made the decision to kill myself in a hunger strike. Also, if you cannot decide whether or not to commit suicide, life will make the decision for you when you pass away anyway.

One of my wife's sisters did after a failed marriage not re-marry or re-partner, as some people now call it. After she had as a young girl married a man and later divorced, she actively looked for a new husband but was unable to decide which other man to choose. She was paralyzed in her belief that not one single man on this earth was good enough for her but she still continued with her desire to get remarried. I jokingly commented that the good result is that another man would not get trapped in an unhappy marriage. She is a person with a negative mind. She is a pessimist who sees only the harmful aspects of a person and of a situation. This attitude is certainly not conducive to selecting a husband. She avoided an unhappy marriage by not deciding even while she desperately looked for a perfect husband. "You should compromise", is the advice that I often hear. This advice is evidence that we rarely get what we really want. Our free will is limited to what is possible in a specific situation but we never know if something better is possible. We are blinded by ignorance.

People often request that we make a decision or that we voice an opinion even if we are not competent. Governments in a democracy always ask their citizens to cast their ballots in an election or to voice their opinion in a referendum. Most people in both cases have not the necessary knowledge and competence.

Politicians adopt certain solutions and policies not because they have technical merits. They rather look at what ignorant laymen in the general public think about their policies. Politicians know that the populace has not the capacity to judge but they listen anyway. They listen not because they trust the expertise of the populace but because they want to please and want to get elected and re-elected. They know that most people are ignorant and have – at the best – the illusion of knowledge. But politicians take the illusions of their electorate as the truth because they themselves are mostly as ignorant as their

constituents. The blinds lead the blinds. Such an environment does not look to me like the kingdom of a free will.

Opinion polls and vox pop interviews often ask laymen questions that are beyond the required knowledge and thinking capacity of the respondents. One polling institute in Germany for example, selected randomly people in the street during an election campaign. They asked them who of the three candidates was most competent in foreign affairs. Even if some of the respondents watch foreign politics regularly on TV, they will not know which competencies are required for a minister of foreign affairs or for a secretary of state as they call this person in the US.

One other pollster selected randomly people in the street to ask the question: "How strong is your Local Economy (strong – medium – weak)?" This is also a silly question because every layman has different opinions about what 'local economy' means and how you could possibly measure its strength. Equally silly is the question in vox pop interviews in which journalists ask people in the streets, if one or the other presidential candidate will handle the economy better than the other. Even economists who usually contradict one the other, don't know

The results of mindless surveys are an accumulation of bias and vague feelings. Every respondent has a different understanding what 'economy' and 'better' means. If you pile up thousand opinions of incompetent people, it will not suddenly become a source of wisdom. If you put rotten apples together, it will not become a healthy fruit basket.

But the determined pollsters want to publish the peoples' opinions because publishing is their bread and butter. They are paid for publishing, not for investigating and finding the unknowable truth.

Most of these polls assess vague feelings, intuitions and illusions of the respondents. The journalists often don't even give people the time to consider an answer when they ask them by surprise while walking in the street. The respondents don't answer with knowledge and with rational considerations. We make most decisions in our lives like these pedestrians intuitively and only with limited knowledge of the relevant facts. Illusions of knowledge fill the space that is filled with ignorance.

A journalist of Bloomberg TV in Ulaanbaatar invited me to come to the studio for a live interview about a project that my team designed to improve technical and vocational training in Mongolia. Upon arrival in the studio, a receptionist asked me to sit down and wait at a desk with Bloomberg's logo on the wall behind me and some video equipment in front of me. I thought that the journalist, whom I had never met before, would come to prepare with me the content of the interview before she would air it. A very young energetic and attractive lady, the journalist, appeared after 10 minutes of waiting and formally greeted me by introducing me to the public viewers. This is how I found out that we were already in the middle of a live interview. She surprised me with questions that showed me that she was not familiar with the project and with my work as the team leader. I was forced to develop quickly some answers without embarrassing her and me. I felt like a man who walks in the street thinking about where to find hot coffee but is suddenly in front of a live camera to tell a journalist what he thinks as an expatriate about abortion rights in Mongolia. I had come to the studio to talk about weaknesses of technical skills in certain occupations that our project planned to improve but the young journalist wanted to extract from me different ideas for which I was not an expert. I answered as a layman as intelligently as possible in order not to look like a fool. What I said was not the result of deliberate considerations but it was aired anyway. This seems to be journalism today. It is as haphazard as the situations, in which we make decisions for our lives.

When people cast a ballot in elections, they are laymen with intuitive bias. A retired person will vote for the party that promises rent increases. Others vote for a party that promises the construction of a swimming pool or pledges support for the transgender community or for the right of abortion. Promises that candidates make during election campaigns guide the voters even though they know that most politicians forget their promises once they are elected. Since I have currently no requests for government action, that could make my life more enjoyable, I do not know whom to give my vote and I don't know what is in the best interest of the community in short term and in longer term.

If somebody forces me to voice an opinion about a politician or to cast a vote for any politician, I must admit that I will be under the influence of irresistible statements that mostly selfish politicians make during election campaigns and during publicity stunts. I am not at all immune against general preferences for politicians whose faces look honest and likeable and their body language expresses dynamic. Who would vote for a politician who looks like Frankenstein even if the candidate is honest and intelligent and offers solutions that are spot-on? Even God, the omniscient, would win a democratic election only under the condition that he looked like a movie star. It is a smart thing for God not to show his body and his face. This keeps everybody's illusions alive and keeps phrenologists away who would inspect God's skull and face to detect bumps that indicate if he is hot-tempered, weak or loving. Black people would be disappointed if God showed a white face and members of the LGBTQ community might not like to notice that God is heterosexual or asexual.

The physique of a politician is a factor that works in two ways. On one hand, the public seems to think that a tall politician is powerful and important. And indeed, many political leaders are tall like Justin Trudeau (186 cm) and Charles DeGaulle (196 cm). American voters in particular seem to prefer tall candidates over smaller ones. They have shown this with their elections of presidents Barack Obama (187 cm), Ronald Reagan (185 cm), John F Kennedy (185), Joe Biden (183 cm), Bill Clinton (188 cm), George H. W. Bush (188 cm) and Lyndon B. Johnson (192). Donald Trump claims that he is 188 cm tall. But this seems to be one of his usual narcistic exaggerations. We would detect that his statement is a lie when he stands, for example, next to Trudeau who is officially 2 cm shorter than him. Some journalists suspect that Trump did not attend, as is customary, the inauguration of his successor Joe Biden because standing next to Biden would not only have highlighted that Trump is obese compared with Biden but also that Trump is by far not as tall as he claims.

On the other hand, undersized politicians can develop what we call a Napoleon Complex. Napoleon was actually 1.67 meters tall, which was around the average height during his time. But British cartoons disrespectfully depicted him as a short and relentlessly ambitious man. Napoleon felt insulted and complained later in his lonesome exile that these cartoons '*did more than all the armies of Europe to bring me down*'.

People with a short stature tend to compensate this perceived weakness with domineering and aggressive behavior. Silvio Berlusconi, Joseph Stalin, Nicolas Sarkozy, Vladimir Lenin and Nikita Khrushchev did all not reach 1.67 meters in height. If politicians with small physique meet taller counterparts from other countries, they make usually great efforts to hide the difference in heights. Giorgia Meloni, the Italian prime minister who is 1.76 meters tall, did not care when she met her Albanian counterpart Edi Rama, who is 2.02 meters tall. I am sure that Vladimir Putin, who is even 6 cm shorter than Meloni, would not allow a photographer to take such a photo.


Prime Ministers of Italy and of Albania

In the opinion of average voters, the leader of their country should not only be tall but should also look handsome like John F Kennedy or like Justin Trudeau or, if there are no better options, should look like Vladimir Putin who is not tall but, as some say, is handsome. He certainly looks dynamic, which he never fails to emphasize. Most Russian people that I observed in St Petersburg in 1999 when Putin became prime minister, believed that he was trustworthy. They were all excited when he became the leader of the nation. They found out twenty years after Putin started governing Russia that he is a reckless war monger and tyrant. Only deeds and activities reveal the quality of a governing politician but voters have no reliable means to predict the outcomes when they walk into a polling station. Many politicians who gain power once they are elected, don't resist anyway the temptation to abuse this power. Power corrupts and '*Absolute power corrupts absolutely*'. This is how the British politician Lord Acton has put it in the 19th century. Many people before him had expressed this truth with similar words but it was only Lord Acton who became famous with these words.

Voters also have no guarantee that a democratically elected president or prime minister use their powers after the elections to dismantle the democratic system and civil freedoms. Hitler and Vladimir Putin and Narendra Modi in India, to name only three examples, did this while voters disregarded all obvious and clear indications that this would happen.

For many decades I did not exercise my right to cast my ballot in general elections. I had firstly the impression that my single ballot will not change anything of the result, given that millions of other people cast their ballots as well. However, in retrospect I was wrong. I should have followed Immanuel Kant, the German philosopher, who established his categorical imperative. I should have asked myself what would happen if everybody does not go to the polls. If nobody goes to the polls, democracy would be dead if it is not already at a dead end. But I had secondly a valid reason not to cast my ballot because I knew that I did not have the complete and correct information and insight to make a valid decision. To get back to our friend Immanuel Kant, I could also ask the question: "What happens to a democracy if most voters are morons?" My answer is that it will be a fully-fledged liberal democracy.

After these initial remarks, I now try to answer the question to what extent I determined the course of my life with decisions that I made and how I formed these decisions. I want to understand the decision-making process. As you will read further below, I come to the conclusion that we don't control autonomously our minds and our actions. We decide the course of our lives as decisively as we control the course of our country in general elections. We mostly don't know what we are doing. We are like swimmers in the middle of a vast ocean with a strong current and believe that we control our voyage by swimming right, left or straight ahead. At the end, powerful waves will wash us ashore like flotsam and jetsam on a desolate island.

The so-called free will is an illusion that the Bible promotes by claiming that God, the autonomous ruler of the world, has created humans '*in his own image*" (Genesis 1,27), hence with autonomy. Animals have in contrast no feelings, no reason and no consciousness. And worst of it all, animals don't love and worship God. This disqualifies them to be in the same league as humans.

I conclude further below that we don't have a free will. This conclusion is not the result of systematic research. I came to this conclusion by looking at the factors that have shaped the course of my life. A few books and publications in the internet have confirmed my opinion. Daniel Kahneman is the author of one of these books. It has the title "Thinking, Fast and Slow". I found many statements in this book conclusive. The other more populist book is Rolf Dobelli's "The Art of thinking clearly".

I want to find an answer to the question what or who determined the decisions that I made for the course of my life. I could have searched for an answer more deeply in the Bible, in the Quran and in other holy books or scientific treatises. Had I invested more time to read these books I might have come to another conclusion. But it is more likely that I would have become more confused by reading all these books, which frequently present mysterious and contradicting statements. Four different religions have five different answers and four scientists might present six different opinions. The more you study such controversial issues, the likelier it is that you find support for any opinion as weird as it might be. It also seems clear to me that mainstream opinions are not necessarily right and that the truth is often hidden in the fine print or in footnotes. Albert Einstein had this experience in mind when he stated that '*There comes a point in your life when you need to stop reading other people's books and write your own*'.

When we look for a biblical statement that a free will exists, we find a passage, which refers to Adam, which Hebrew word (אדם) also means 'man' or 'mankind'. God told Adam and Eve in the Garden of Eden that '*from any tree of the garden you may eat freely*' (Genesis 2:16). If selecting and eating a fruit is a metaphor for all activities of human beings, we could interpret this biblical statement as the confirmation that God has equipped human beings with a free will not only for selecting fruits but for any activity. However, we read right after the sentence above the restriction that '*from the tree of the knowledge of good and evil you shall not eat, for in the day that you eat from it you will surely die*' (Genesis 2:17). The threat of being punished with death discourages you for sure to let your free will deviate from God's demands.

But Adam and Eve did not die after having eaten a forbidden fruit. This indicates that the death is a metaphor that stands for punishment. God voiced the threat of death to deter Adam and Eve of violating his godly rule that you should not eat apples or certain other fruits. This rule sounds arbitrary but the forbidden fruit is probably a metaphor for everything that God does not want you to do. It is the request to fight evil temptations.

We can read into the above passages that God has granted the freedom to do everything that is not expressly forbidden. But mankind lost this generous freedom when God expelled Adam and Eve from the Garden of Eden. A totally different lifestyle started for mankind outside the garden where we have to ask ourselves permanently if we are allowed to do something or if what we want to do is forbidden.

The statement that humas are images of God seems to say that we have a free will. But other passages say the opposite. The Bible says, for example, that '*In their hearts humans plan their course, but the Lord establishes their steps*' (Proverbs 16:9). In another passage, the Bible says that '*Many plans are in a man's heart, but the purpose of the LORD will prevail*' (Proverbs 19:21). Finally, a third passage says '*that a man's way is not his own; no one who walks directs his own steps*' (Jeremiah 10:23). The Bible seems to say that humans are free to design a plan. I guess that this means a plan for the course of a person's life. But God determines the purpose of the plan and defines and controls all steps in the execution of the plan because nobody directs his own steps as the Bible continues saying. All these quotes do not sound like the existence of a free will. A person cannot be judged to be free if God defines the purpose of the plan that he makes. There is even less freedom if God determines all steps in the execution of the plan. It does not make sense if someone has the freedom to plan a trip to Frankfurt but cannot determine the purpose of the trip nor how to get there.

To start with, it is not clear to me what the passages above mean by 'plan', by 'purpose' and by 'step'. The plan of an adolescent might be to obtain an academic qualification. He then plans to study law and plans, as I did, to move to Tübingen to study there. He further plans to specialize in criminal law and to complete his studies in eight semesters. Since each step for the execution of a plan has to be planned, all steps are also plans – sub-plans so to speak.

I now assume that the decision to obtain a university degree is the 'plan' in the meaning of the above Bible quotes. I must then conclude that the adolescent's freedom is limited to that decision and that God unilaterally determines all subsequent 'steps' without input from the adolescent. If the plan is to make money, even the decision to go to university is a 'step' that the adolescent is not free to decide because the lord makes this decision on his behalf if I understand the Bible quotes correctly. According to the Bible, the adolescent who plans to go to university, is not free to determine the purpose of this plan. It is God who decides for him that the purpose is to study law. There might be different purposes, for example to become a lawyer or a law professor or just to get rich. According to what the Bible seems to say, God the almighty selects one of these purposes for the student. All this does not give evidence that our adolescent has a free will for his decisions.

Clever interpreters of the Bible, who always sanitize inconsistencies, say that we are free to chose our way but we are not allowed to determine what results come out of that choice. It goes without saying that we don't control the outcomes of our decisions. Decisions are often shots in the dark because we never know what their outcomes actually will be. Having to make decisions without knowing the outcomes speaks against the presence of an autonomous free will. Decisions and actions trigger a more or less long chain of effects which we cannot precisely predict and which random and coincidences dominate. It is far fetched when these interpreters conclude from the quoted Bible passage that God has planned precisely all outcomes no matter whether they turn out to become the results that we intended to achieve. If someone gets married "until death do us part" but gets a few years later divorced, some people might say that this was God's planned outcome. But how do they know that this end is according to God's plan? God never confirms that this was his plan, we can fatalistically assume that any outcome – no matter if bad or good – was God's plan. If a plan fails, we might say 'It wasn't meant to be' ('es hat nicht sollen sein') but it would be strange to assume that it was God's intention to make our plan fail.

I believe that there is no free will but I don't think that the omniscient God bothers to determine all details of the lives of billions of people. It is rather the laws of physics, of biology and of logic that make things in this world, including humans, move in a sequence of causes and effects. If not the Big Bang but God has created these wonderful and intelligent laws, he is no longer involved in the daily workings of these laws.

A Christian maxim is that you make the right decision if you live up to Jesus' and God's commands, which is to love God and love your neighbors. The commandment to love your neighbor might give hints how to decide in some situations. It might prevent you from doing harm to others if we take the 'neighbor' as metaphor for all other people. Loving your neighbor in this sense is good and creates benefits for the people around us. But loving God does not create any tangible benefit for God except if we anthropomorphize him and claim that God appreciates being loved as we humans love being loved.

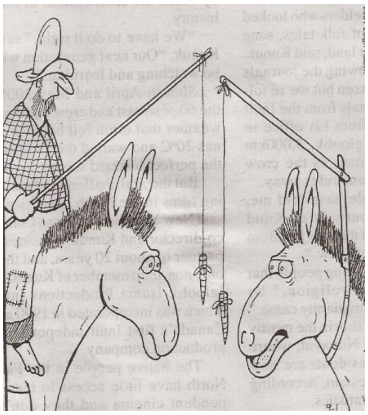
If love of God is, as they say, an attitude that guides our behavior and our decisions, this love can for sure not explain how it influences the process in which you select the field of learning at university and how you select from a shelf in the supermarket one box of toothpaste instead of another. Most people also do not choose their spouse out of love for God even though your church, which you love, can make the decision for you. The leader of the Unification Church Mr. Sun Myung Moon, who passed away in 2012 at the age of 92, organized mass weddings for couples that he generally did not introduce to each other until the wedding ceremony. He handpicked each couple in God's name using an algorithm that he did not reveal. The church members don't have the freedom to select their spouses. It is God who does this for them using Mr. Moon and his successors as intermediary.

The law and society and practical necessities impose regularly on us certain decisions for which we have no choice. We have to go to school when we are young, unless parents opt for home schooling. We have to earn money for our livelihood, we have to stop at a red traffic light etc. These are obvious examples where we have no freedom even though we have the possibility to disregard the obligation with the unpleasant consequence of receiving a fine.

Punishments and threats are anyway the ubiquitous tools that societies, religions and educators use. If birth has equipped a baby really with a free will, punishments regularly break this will with great success. Societies, religions and educators use an ingenious system of punishments and corrections similar to the techniques that we use to break a wild horse or to domesticate animals.

If we feel in some situations free to make decisions, we base them usually not on the love of God but on facts that we evaluate. This trust in facts has two challenges. Firstly, we don't know all facts that are relevant for our decision or we become victims of fake news by which an ill-wishing person – for example a politician during an election campaign –tries to twist our decision in his favor. Secondly, during the decision-making process, we have no clear method to evaluate with any precision the importance and relevance of the facts that we face. There is unfortunately no scale available that helps us measure the weight of one fact against the weight of another. Even a computer that uses the current version of artificial intelligence (AI), and proposes a decision, will fail to measure exactly the relevance of facts and the future impacts of the decision. The capacity of AI to weigh more precisely all relevant facts, will probably come in future. But by following the computer's decision, we certainly give no evidence of our free will. AI will decide for us.

The American economist Frank Knight investigated the way we make decisions and concluded in 1921 that only a small portion of our conduct and only a small number of our decisions are solidly based on accurate and complete knowledge of the things that we are dealing with. The Nobel Prize winner Daniel Kahneman whom I have already mentioned, investigated many years later through experiments the process of decision-making and observed systematic biases of decision makers and '*intuitive preferences that consistently violated the rules of rational choice*'.



Hey Pancho, when are you gonna quit workin' for the man and take control of your own destiny?

The most important decisions that I made in my life were to study law, to get married and later divorced and to leave Germany to start a new future. These were in this sequence the four milestones of my life which made me eventually come to live in China.

Did my rational free will control these four life-changing decisions? To answer such a question, we must look at the process, by which these decisions came about and must include in our considerations all factors and forces that influenced the so-called free will. If a free will exists, it is not operating in a vacuum but in a specific environment. This environment is filled with many different facts that come upon us without our control. We evaluate our situation in a way that we cannot fully know and understand. The correct evaluation of facts is ideally the task of a scientific and rational mind, which we unfortunately don't have. The laws of logic and science - not a free will – should control a correct evaluation of facts. The hypothetical scientific evaluation of a situation would for sure not be the result of a free will. You might argue that you always have the option to decide against a scientifically accurate evaluation of facts and the resulting correct decision. But deliberately making an incorrect decision with unforeseeable consequences would be like throwing a coin and putting your life in the hands of random and

coincidences. Let's imagine the highly hypothetical situation that a scientific evaluation of facts is possible and indicates that only one decision is correct. If a person decides to act against this correct decision, he would act like a drunkard whose acts nobody considers as free-willed.

I believe that Knight and Kahneman are right. I made life-changing decisions without a complete knowledge of all relevant facts, without a precise analysis of the facts and without the ability to consider clearly the consequences. My decisions remained intuitive rather than rational and I ignored many alternatives that existed. My decisions were shots in the dark with a gun that I did not control.

Ray Saunders 1977

Clockmaker Ray Saunders built with great passion and dedication between 1974 and 1977 the famous Gastown Steam Clock in Vancouver. He enjoys his life very much, when he repairs mechanical clocks and watches. People come from far away to have him fix precious old clocks and watches. He is famous for this. If I had known the captivating story of Saunder's life at the time when I decided to study law, I might be a clockmaker today.


Ray Saunders 81 years old

I now intuitively feel that clockmaking is a fascinating and is an emotionally rewarding occupation that fits my love for details and for precision. But given my old age, I am now not free to become a clockmaker.

Enjoying as a clockmaker every day a well-equipped solitary workshop and repairing passionately mechanical clocks and watches must feel like the life of a happy monk that I would in hindsight have preferred to be. But my father, who was a lawyer, pushed me gently but firmly to become a lawyer.

We consider facts in the decision-making process. We obviously use only facts that we know and that our selective memory wants us to know. Our bias discards certain facts. When we finally make a decision, there are always many facts that remain in the dark. Or we evaluate these facts with the bias of our pre-conceived opinions. We also evaluate facts differently depending on the person from where an information comes. We tend to give more credibility to information coming from people that we like. We usually don't challenge opinions of our friends but will not easily believe what our foes say.

Memories of past events and experiences continue to subconsciously influence our way of judging without much voluntary control. If you had a bad experience with one type of person, your mind, your intuition and your guts will develop a bias against similar persons. If you stumbled and fell down to the ground in a specific situation, your brain will store in its memory a gut feeling and will send a red light whenever in future you are in the face of a similar situation. I once fell down and hurt myself badly on uneven stairs at the entrance of our apartment building in Zhuhai. Subsequently, my mind always signals 'attention' whenever I cross these stairs again or when I approach stairs that look similar.

I conclude that when we make decisions, we are victims of scarcity of facts and of the bias that past experiences produce in evaluating the few facts of which we become aware.

During the night when you dream, you might experience strong happenings and a flag is set in your brain that makes you forget most or all details. But good or bad feelings that you develop during a dream remain and can considerably influence your mood and behavior during the day. Events in a dream change our mood and behavior during the day even if we do not remember that we had a dream. A decision that you make after a bad dream will be different from a decision that you make after a peaceful night of deep

and dreamless sleep. I talk later in more detail about dreams, which have a significant influence on the subsequent decision-making processes even though they mostly escape our consciousness.

Types of Decisions

We make different types of decisions. They develop on different paths in the decision-making process. We make routine decisions in daily life. We make completely different types of decisions in a professional setting as a judge or as business executive. Playing chess or gambling are other types of decisions. Finally, we make decisions that, as we feel, change the course of our lives. This happens when – for example - we get married or if we chose at young age the field of learning in a trade or in an academic profession. All these different types of decisions don't develop in one uniform process. They develop on different pathways that we cannot crudely characterize as either free-willed or not free-willed.

Routine decisions in daily life like taking a shower or going to bed do not require serious evaluations and analyses of facts. Typical situations trigger these activities as habits. They don't involve a significant decision-making process. Their execution is pre-programmed like from previous rehearsals. We behave like an actor on the stage of a theater who repeats his role in the play many times. Most decisions that we make are of this type. Routines and habits are deep-seated and last for a long time. Routine decisions can be temporary – for example - during a stay for a certain period of time in a hotel when you find – after two nights - the toilet of your room in absolute darkness without thinking. I did a test and changed the right-click button of the computer mouse to become the left button. It took me every time only one day of thinking which button to click until I got used to the new setting of the mouse and clicked automatically the correct button. Similarly, when I have to complete repetitive tasks on my computer, my fingers after a set of keystrokes, act more or less automatically as if I had programmed my fingers like a macro.

The decision-making process in businesses operations are another type. Researchers have used and abused much paper and ink to describe business decisions and group decisions in organizations and how to improve the quality of these decisions. Many consultants advertise their costly services in this field with impressing descriptions how they can help companies to improve speed and quality of corporate decision making. I do not want to bother you and me with normative models of this type of decision-making. I just want to express my opinion that not much of a free will determines corporate decisions. Decisions are rather influenced by the way, in which the company organizes the decision-making process. Measuring the quality of a decision is a difficult other story.

Before a judge in a court of law decides, he follows the rules that the law defines. We might call them structured or regulated decisions. I will talk about this process in separate section below because as a trained lawyer I am particularly interested in how judicial decisions develop. In the following text I want to deal with life-changing decisions that we make as individuals. I also want to deal with the different process when we decide things in daily life when they are not already controlled by habits. Examples of such decisions are purchases of major consumers goods and of costly services. Sellers use many tricks of their trade to control the will of costumers who are almost without exceptions all vulnerable to temptations that the sellers generate.

Decisions, Gut Feelings and Predispositions

An example of a decision that changes the course of life is to propose to a woman that you want to marry or when you decide as a woman to accept such a proposition. If the answer is "Yes, I do", most people think or desire that the decision to marry is "until death do us part". They discard the possibility of a subsequent divorce even in the face of the well-known statistical fact that a divorce follows in approximately half of all weddings.

Another example of a life-changing decision is when you embark in a specific field of learning at university or in a trade. The life of somebody who decides to study law will be extremely different from the life of someone who decides to become a medical doctor or a clockmaker. We don't know the details of these differences when we make the decision but we decide anyway.

Most life-changing decisions narrow the space, in which you can make future decisions of similar significance. Every decision restricts your freedom and locks you into a new situation. This space becomes narrower with the years that go by until there is no other option than to accept the end of your life.

You cannot put toothpaste back in a tube and you can also not undo a decision as you can in a computer by pressing the <CtrlZ> buttons. You can only add a new decision to mitigate the damage that a previous decision might have caused and to give your life a new direction. But nobody can erase the past. You don't have the freedom to wind back your life and to start anew from a certain point in the past. I would fully endorse the concept of reincarnation if it included the option to live a new life starting from one specific point in the old life.

If you have decided to study law and you have graduated, you might have the freedom and still the time to study an additional subject but the freedom to start afresh disappears as years go by. If you decide to become an accomplished tennis player you will spend many years to improve the performance of your body and of your skills until your body weakens. It then becomes very unlikely that you can become a wrestler. There is no more time left to execute such a new decision. Freedom to decide vanishes with time. Towards the end, you cannot any longer make decisions that greatly change the course of your life. There is only a short straight line left that leads to the grave. You were not born by your free will and you don't control the end of your life with a free will. Many external factors decide the main features of life between these two events.

If you believe in the existence of a free will, you must assume that you make your decisions rationally and that you consider all consequences. The more a decision impacts on your future life the more you think that you should carefully consider before deciding. But complete rational considerations and evaluations are practically not possible or you don't even want to go through the painful exercise of a scientific evaluation. You are always a gambler who puts his life in the hands of random and coincidences.

Our decisions are by no means rational. Let's take marriage as an example for a life-changing event. Firstly, the decision to give up your freedom and to live - till death do us part - as a married person is not self-determined. It is the product of social norms that pressure most people into the decision to get married. Society expects you to marry no matter whom and your sex drive makes you comply particularly if 'no sex before marriage' is the moral rule. People call an unmarried older man a bachelor or 'still available' which is relatively free of any value judgment. But we call unmarried women disrespectfully spinsters. When I was 25 years old, I was ripe to get married like all other men at that age. Not getting married did not appear in my mind as an option. I was ripe like an apple for a woman to harvest.

Secondly, marriage requires a choice of a partner. In an arranged marriage young people don't choose their partners with their free will anyway. In all other cases, when we believe that we choose our partner with our free will, we don't base the choice on logic but on gut feelings and on incomplete knowledge of facts that influence the future of the partnership. In another essay I talk about what makes a marriage perfect. When we decide to get married to the person of our choice, we consider only vaguely some of the ingredients for a perfect marriage, but we cannot evaluate the importance of relevant factors if we become aware of them. Most of the ingredients for a perfect marriage remain in the dark. Love and

passion usually neglect obvious facts. We are mostly guided by an imposing onslaught of love and optimism. There is the saying that love is a temporary insanity curable by marriage.

We believe that we make a conscious decision by selecting one partner but we are actually following our intuition. The brain produces feelings of certainty without our input. Your gut feelings tell you "This is the right partner" but you don't really know why your guts tell you that. In the worst case, you might decide in favor of one partner because you have reached the age when you fear that you miss the boat by remaining single. You feel that it will be too late if you don't do it now. The German language calls it nicely 'Torschlußpanik' (last minute panic), which is more prevalent in women. 'Just do it' is another irrational consideration.

You might think that the marriage candidate is beautiful and that your friends will envy you for this. Or you might cherish the delight that you have during physical contacts or during witty discussions with a partner. But you are blinded by the wishful thinking that this delight will last forever.

But all these and possibly other observations are biased and not relevant for a perfect marriage if we know at all what 'perfect' means. Your gut feeling that a person is the right partner is not the product of balanced considerations of all relevant factors but a signal that your brain in cooperation with neurons in your guts produces based on mysterious inputs by neurotransmitters. Obviously, parents or friends also provide significant inputs into your decision-making process. If they praise your future partner, you might just do it without further ado. If family and friends voice criticism, you might either follow their advice or you might stubbornly go ahead anyway because you don't like to be managed. Outsiders are usually very fast in judging if two persons form a perfect couple or if they don't match. They base their judgment not on facts and on rational considerations but on gut feelings that have different origins and different relevance than the gut feelings that the couple develops.

We cannot say that a decision is based on a free will if someone follows his intuition, his gut feelings or his sixth sense, as we also call it. Gut feelings might show with physical responses like butterflies, while intuitions are not physical. But in our context, we can neglect this difference. It is anyway a decision that your brain makes for you by giving you the feeling of certainty that the decision is correct or even compelling. At the same time, you develop the illusion that it is your free will's decision. A Chinese friend of mine always made fast decisions. He considered the quality of his decisions only afterwards when he re-considered the outcomes. "I think that I made the right decision", he often stated if he was not suspecting having made a wrong decision. He made only ex-post evaluations based on results that he observed after the fact. We often make in less important matters tentative decisions if we are free to reverse and correct them. A student might, for example, start university in one field and changes the faculty after the first semester if he does not like it. But such a reversal is for most more serious decisions practically not possible.

Gut feelings give the overall sensation and certitude of knowing. We feel, for example, that we are in danger. We instinctively feel that some food is not healthy or that the person in front of us is a friend or a foe. The guts produce in these situations a feeling either of unease or of comfort. You might call this implicit bias or unconscious bias. It is not clear, in how many areas of life or in how many situations gut feelings develop and how reliable they are. We only know that gut feelings exist and that we trust them. If they are very strong in certain situations we feel – as we often say – butterflies in the stomach and we storm ahead in the belief that we do the right thing. We often do it fast if we have the impression that we otherwise miss out on something.

Experts often develop and follow gut feelings if they are scientifically trained. A doctor, for example, who sees a patient with certain symptoms, might immediately develop the opinion that a certain cause is at the origin of the symptoms. His brain might present this opinion more or less convincingly from professional past experiences that the doctor's memory has stored. Similarly, an expert in arts might spontaneously judge that a painting is fake even though only a detailed scientific analysis can confirm or disprove the intuition. As an experienced lawyer you will also develop gut feelings when you are confronted with a legal case. A judge in a lower court claimed that he can 'smell' if cheating is involved in a case.

Many farmers, to give a last example, can smell the upcoming rain. They are not meteorologists and don't know the scientific details but they have gut feelings that come from living constantly in nature. It is like instinctive meteorological intelligence.

When it comes to choosing as a young man your wife, you usually don't have ample experience with life and with women as the farmer has experience with the weather. But gut feelings nevertheless develop based on limited information that your brain processes. If you desperately want a loving partner or something else you will probably disregard or under-valuate all factors that speak against the person or against an option. 'Beggars can't be choosers' is the saying. The German language is more graphic when it says: that the devil in dire need will even eat flies (in der Not frißt der Teufel sogar Fliegen). This is how free your will is when you desperately want something.

Scientists tell us that gut feelings develop through the interaction between two factors. On one side is the microbiome of billions of gut bacteria, viruses and fungi in the body and particularly in the intestines. On the other side works the emotional (limbic) part of the brain. Chemical messengers in the blood facilitate the bidirectional communication between the two. Scientists call this cytokine transmission, brain-gut axis or brain-gut connection, which forms the enteric nervous system (ENS). This interaction is mainly responsible for the orderly function of the digestive system but it also functions like a second brain. It seems that the partnership between brain and the digestive system is able to memorize snapshots of certain actual or imagined situations without making us aware of the details. When a similar situation arises, these memorized snapshots re-appear and might make someone decide and act semi-automatically in a way that was beneficial in a previous situation or he might decide the opposite if a similar situation had brought him bad luck or pain. It would be highly speculative to assume that a free will or an omniscient spirit or any similar holy or unholy authority outside the body produces gut feelings.

To cut the long story short, I believe that we get married because firstly we follow pressure from society. They describe marriage as a warm and holy union and make it a social obligation to get married. If nobody arranges the marriage, we secondly select a partner using our gut feelings. A rich, famous or beautiful woman might particularly attract a man but the decision to propose to her is still irrational because beauty and money give no guarantee for a functioning marriage. The man's passion for beauty or for money creates a bias that makes the decision immune from rationality.

Until after graduation from high school, I had no preference for any professional career. My mother did never consider any technical-vocational occupation for me. This would have been below the social standing of our family. She often called me a 'born lawyer'. She made this suggestive statement every time when I had done something wrong but I sneakily argued that I was actually not wrong. To do this, I used a flow of words full of apparent logic. One day when I was very young, I presented the joke that I would buy later in my life a small mountain or hill overlooking a beautiful valley. I said that I would build a one-way street to the top and then collect fines from all visitors driving down in the wrong direction. This idea had nothing to do with law – rather with the opposite – but my mother then called me jokingly

'a born lawyer'. She repeated this remark many times in different circumstances probably because her husband was a lawyer. By repeating the remark, she has placed an 'anchor' in my mind, which probably encouraged me to make senseless arguments more convincing and ultimately contributed to my decision to study law. I remember the situation a few days after graduation from high school. My parents and I were standing in the living room. They surprised me by saying that a new semester was soon starting and asked me in which faculty at the University I wanted to enroll. I answered that I had no clue. I felt that many different subjects were interesting and advanced the idea to travel the world for at least one year before enrolling anywhere. We call this a gap year. The idea of taking a gap year was at that time only slowly evolving and the concept of 'worldschooling' was still many decades away. Schools and universities in the home town were still the only places that provided education and where you found education. My parents considered adolescents as bohemians if they decided to learn outside educational institutions in different settings in the wide world.

My mother, snubbing the idea of a gap year, took the word: "Why do you not study law?" This is good for many different occupations; she argued, and added that many successful men and members of parliament had a law degree. She also pointed out that I might later even be able to take over my father's notary office. 'Why not' I thought and the decision was born against my longing to discover the world before any decision. Her argument that I could become my father's successor in the notary office did not convince me. Notarizing one after the other more or less standard documents looked to me boring. I did not want to walk in my father's professional shoes and did not want to start a boring professional life. But my parents and I had made anyway the apparently unavoidable decision to study law since my father had been a lawyer before he became a notary public.

Going to University after graduation from high school was for my parents – and hence for me - as natural as sunrise and sunset. This meant enrolment in the University of our home town, Mainz. This university had an average reputation but a university in another city than Mainz did not show up on my parent's radar. Therefore, the possibility to enroll in Oxford, Harvard or in any other elite institution was outside my destiny and not commensurate with the middle-class social group to which my family belonged. The freedom of enrolment in prestige universities exists only for more privileged families with the money that makes these options come up in their minds. It was not an option for me. There was again no free will involved neither in my mind nor in the mind of my parents. I was mentally framed by the standard pattern and options for our type of family, which demanded to obtain a university degree, to get a good job, to get married and to have two – and not more - children. And so, it actually happened afterwards – at least for many years.

My parents did not consider that I could learn an interesting trade like carpentry or precision mechanics. Occupations in ICT, which would have attracted me, were in the early 1960's not yet on the horizon. Learning a trade was not at all an option for the son of a notary public. This would not have become an option for my parents even if an aptitude test had clearly shown that I would have made an excellent electrician, motor-mechanic or clock maker.

Many parents have the paranoid desire and determination to send their children to university. They assume that their offspring will automatically become 'something better' with a university degree. This attitude became politically very powerful in the 2nd half of the 20th century when the majority of parents evoked the principle of equality. Many parents vehemently demanded that governments provide access to universities for all and not only for gifted kids or for children of wealthy families. Democratic governments had no choice and gave in to this pressure with foreseeable consequences. Universities lowered or abolished tuition fees to give access to all youths no matter their academic inclinations.

Universities also lowered the standards for academic degrees to make them obtainable for all. High academic standards put less gifted students at a disadvantage, which is inadmissible in a liberal democracy. Everybody must have the same right to success in academia.

An Australian colleague in a project in Lahore the capital of Punjab province of Pakistan, had on his business card a 'PhD' printed behind his name and not in front of the name as is customary in German culture. The 'Ph' in the acronym is an abbreviation for 'Philosophy' which my academically educated mind associates with teaching of philosophies from Socrates, Plato and likes. I then found out that my colleague had obtained his PhD in Australia after completing a course in firefighting, which they now call fire science. The study program, which for example 'Bircham University International' offers as online course for more than $12,000 USD, teaches the classifications of fires and fuels and explains without practical exercises the theory of preventing and fighting fires. A doctor in fire science might never in his life have seen a house on fire and will in all likelihood never have been involved in putting out a fire. This unclassical variant of PhD is the result of the policy of 'University for All' or 'PhD for All'.

Universities that offer such Doctorates apologetically point out that the original meaning of 'philosophy' has in our current culture a different meaning. The original meaning of the Greek word philosophia (φιλοσοφία) was 'lover of wisdom'. Modern universities now say that the new meaning of the Greek word is 'lover of knowledge'. They don't distinguish between knowledge and wisdom and don't acknowledge that wisdom goes beyond knowledge. Wisdom comes eventually with many years of scientific and philosophical activities. They teach in their online courses theoretical knowledge about different types of fires and fuels but don't even expose their learners to practical experience that firefighters need. They offer courses that are not concerned with wisdom and also not with a true trade or vocational occupation.

Academia has expanded to other areas. The Institute for Dark Tourism Research (iDTR) at the University of Central Lancashire is an example. It advertises its services as '*the world-leading academic center for dark tourism scholarship, research and teaching*'. The scientists of dark tourism focus on popular dark destinations like Auschwitz, Chernobyl, Ground Zero or the Killing Fields in Cambodia. Dark tourism scientists might also consider cemeteries or zombie-themed events as fields of research, of learning and of dark academic pleasure.

If distant learning universities further abandon the distinction between academia and practical knowledge and skills, they might offer theoretical online courses for PhD degrees in carpentry or in hair dressing. Graduates don't need to know how to use chisels and clamps or thinning shears and clippers. It is sufficient that they know that they exist and what they look like and what their theoretical purpose is.


Dogtor Loki

While we are at it, we should not forget to confer academic honors to meritorious animals. This is exactly what the University of Maryland in Baltimore did with a 5-year-old therapy Rottweiler, called Loki who had provided extraordinary service during the Covid-19 pandemic 2020 - 2023. His handler outfitted the dog with the traditional cap and gown that university students wear at graduation. The Rottweiler then received from the university a 'honorary Dogtorate of Medicine' to become "Dogtor" Loki. This is casual academic carnival.

As a side note I want to mention that dogs provide indeed health services to their masters. A Siberian Husky and Golden Retriever mix, Bear is his name, serves as example. When his owner, Darren Cropper, got a serious heart attack in the middle of the night and was lying on the floor of the basement in his house, Bear leapt on his chest and jumped up and down for several hours. By doing this, he kept his master's blood flowing. By practically performing CPR and howling to wake up family members, the dog saved Darren's life. The remarkable and intriguing detail of the story is that both of Bear's parents were

service dogs. Bear was then inducted into the Purina Animal Hall of Fame. Purina is a division of Nestlé Canada Inc. and is the longest-running Canadian pet recognition program, which has since 1968 inducted 194 animals who performed outstanding acts of heroism. Needless to say, that Purina's main business is the production and sale of dog food.

An Ottawa school board is in line with the idea that academic awards are a human right for everyone. They have abandoned the previous policy that students celebrate their graduation under exclusion of students who did not pass. They argue that they must base such academic celebrations on equity. They should be more inclusive and not only for students who have technically passed their final year. The school board also considers to reform the entire system of academic awards. They don't want any longer to discriminate against students with '*diverse educational journeys*' and experiences. All students must have the opportunity, they say, '*to be celebrated, including those who have historically faced challenges within the education system, both in the past and in the present*'.

A politician in Vanuatu sarcastically called the hyperactive contributors to social networks 'Graduates of Facebook University'. Indeed, many internet addicts take Facebook and TikTok as the only sources of truth and contribute to this truth as they wish. Numbers of followers are the only criteria to measure success. 'Social Media Influencer' is a new vocational occupation that some advertisers pay well if the influencer manages to attract a high number of followers. Does this not entitle the social network activists to a degree of PhD of Influencing?

A 'Facebook University for Data Analytics (FBU Analytics)' actually exists and is now called 'Meta University'. They offer a paid ten-weeks '*summer internship program that consists of training and hands-on project experience guided by a Facebook mentor*'.

We might end up bestowing a PhD to everyone who knows how to read or how to write or who is even fluent in both. If this happens, universities might start offering studies towards a 'SuperPhD' or a 'PhD+' degree and the fight for academic inclusiveness and equity can start again with the goal to give everybody the entitlement for a 'PhD+'.

The policy of 'University for All' had a second effect. The universalization of higher education created an oversupply of university graduates who cannot find a job in their academic fields of learning. On the other hand, employers, for example, in the construction industry, are struggling finding skilled roofers, water proofers, glaziers and bricklayers etc. Labor market statistics show that the unemployment rate of graduates in higher education is generally more than the average rate in the labor market because economies need more skilled and experienced workers and much fewer academicians and even fewer philosophers. Many graduates of universities end up as taxi drivers or as waiters or find only part-time jobs in their respective fields of learning.

But let's get back to the subject of decision-making. If I look back at the mental path on which I made the main decisions in my life, I conclude that studying law and getting married were not decisions of my free will. These two decisions came upon me like rain from the clouds at a time when I was not protected by an umbrella against undue outside influences. If I had selected with a free will my professional career from all possible options, I might have decided to acquire more practical knowledge and skills. If I had not been under the overwhelming influence of my upbringing, I might have become a clockmaker like Ray Saunders whom I have mentioned above and who is exactly my age. But if someone asked the clockmaker today which occupation he would have selected with a free will when he was young, he might answer that he would have selected to become a lawyer.

Everybody has opinions and preferences, which develop at one point of a person's life. It might be the preference for a special genre of music or it might be the admiration of a certain type of personality that he would like to emulate. Many of such preferences are pure bias. If the bias becomes very strong due to education or to strong life experiences, we might call it a compulsion, obsession or just stubbornness.

As a boy I harbored the opinion that my parents were old-fashioned because they liked to listen to classical music, which my schoolmates and I found outdated. I preferred what my 'cool' schoolmates preferred. We liked Jazz but more so Rock 'n Roll, which appeared in Germany much to my parent's disgust at the time when I was a teenager. My parents still shared the opinion of the Nazi regime, which condemned Jazz and similar music as unpatriotic. They called it 'negro music' (Negermusik). They denounced this type of music as a feature of unculture from the other side of the Atlantic. This music was for them as despicable as Coca-Cola, Basketball and Mickey-Mouse. But we boys liked the songs of Elvis Presley, Fats Domino and music from Bill Haley and his Comets. As to Elvis Presley, America was divided when he started his career. Apparently, the Los Angeles police told Elvis Presley that he was not allowed to wiggle his hips onstage because they considered this as too sexy and an offense of traditional values.

One evening I listened with my brother by coincidence to Mozart's Little Night Music (Die kleine Nachtmusik) from a small 45 RPM vinyl record. This inadvertently created a bias for classical music, Mozart in particular. I have not lost this preference until today. Researchers at a university in Philadelphia have established that Mozart's Little Night Music had pain-killing effects on newborn babies but they have not studied longer-term effects as this music had incurably with me.

I lived as a baby during the first years of my life in a Kinderheim. It is possible that I had one day stomach ache, which disappeared by coincidence when the nurses played Mozart's Little Night Music. This might have created unconsciously a permanent and pleasant association between the music and the disappearance of the pain. This soothing association then has survived the moment and has triggered my preference for Mozart.

The development of a preference or of an antipathy is not a decision in the usual meaning because no action follows immediately. A preference becomes an influencing factor only in future decisions. It develops in the same way as a decision but works in the background as a simmering influencing power. The penchant predisposes you to act subsequently in one way or in another if an opportunity comes up that matches the preference.

You might call the development of a preference a strategic or tactical decision or simply an opinion, which forms a guideline – or bias - for future decisions such as selecting a certain concert, declining an invitation from a person that you dislike or inviting someone whom you like.

The preference for a certain type of likeable person is a regular bias of voters in a democracy. The decision to like a certain type of person predisposes people to select a certain candidate no matter the program for which he stands or his moral standing. On the other hand, if you have developed a preference for a conservative political party, you might vote for this party even if their candidate has only little appeal to you. You cast your ballot primarily for the party and its ideology and not for the candidate that the party presents. Even if you don't know the candidate well, you might think that he must be a good person because he is a member of your favorite political party or of your church.

Other types of strategic decisions or intentions are decisions to emigrate, to commit suicide or to undergo surgery for sex change. These intentions might simmer more or less consciously and with different levels of seriousness in the back of the mind. They lie in wait for the right opportunity before we might convert them into action. They remain without consequences if opportunities don't come up. But if an

opportunity comes up, the person with the corresponding intention will jump on it while a person without such intention does not even see the opportunity.

Changing my sex has never crossed my mind except vaguely thinking about what it would feel to be a woman. If a friend or - God forbid - my teacher had seriously talked about a sex change and its benefits when I was a small boy, the remote thought of gender alignment might have moved more to the foreground. There is probably only a small step between wanting to know how women actually feel and wanting to become a woman – and if it were only temporarily.

Suicide flashed three or four times up in in the foreground of my mind as an option for sudden relief. I deal with suicide in another essay.

The intention to emigrate smoldered relentlessly in the back – and sometimes in the foreground - of my mind until a door opened and I actually had an opportunity to move to Canada. The destination of this move was not as important as the move away from where I lived. This is a fine but important distinction. The main motive can be to get away from a place that you don't like and to move to greener pastures no matter the features of the host country. If this is your motive you are glad – at least for some time - to have left behind your home country. But the main motive to emigrate can also be the attraction of another country's culture and its opportunities. If such a motive drives you, you will probably leave behind and sacrifice the home country with a heavy heart. I had decided to move away – no matter the country. The intention to emigrate did not develop because I did not like Germany. Interest in a specific other culture did also not create this intention. It was rather impatience to gain knowledge of the world by immersing into another culture. It was innate Wanderlust. This desire was waiting in the background of my mind until an opportunity came up and let me jump on it almost automatically. However, if an opportunity had not come up, I would probably still live in Germany. My desire was either not strong enough to create such an opportunity by myself or my character as procrastinator let me only consider but not actively seek opportunities.

Generally speaking, everybody develops wishes, urges, desires and intentions that never lead to actions unless compelling circumstances push the person to follow up on these desires. I think that psychologists call 'readiness potential', when the brain detects in a certain situation a pattern that looks favorable for a pre-programmed action. This is also the origin of the proverbial saying that opportunities make thieves. Opportunities lower the threshold for an action. Extremely desirable opportunities might make thresholds vanish.

Intentions and decisions are not real until we actually execute them. They are mostly as weak as New Year's resolutions. Many people, for example, might think that it would be nice to live in the South Pacific. These ideas are games of the mind, which live until they die because new and different preferences appear over the horizon.

After my move away from Germany I visited my country of birth occasionally. Many people told me that they also had decided to immigrate to Canada - as I had done. They said that they envied me but they never followed suit. Their decision had the same effect as decisions that politicians announce during election campaigns. They are words with little or nothing behind them.

If someone experiences the same type of an unpleasant situation several times, he might every time react only mildly and politely because of his traditional education. But the brain will over time develop a plan for a more decisive action, which he does at the beginning not execute. He puts the action on hold under the influence of an enzyme called serotonin. This enzyme is a neurotransmitter in charge of stabilizing the person's mood and calming him down. If the unpleasant situation occurs for the umptieth time, the person might execute spontaneously the plan that his brain had prepared. He acts like the water in a bucket that overflows when one little drop arrives. A few decades ago, some psychologists called it the 'Water Toilet Theory', which is more descriptive than the theory of the overflowing bucket.

High level water toilets that we used some time ago, accumulated water slowly in a high container. Its user discharged it with a pull on a chain that dangled from the container above. Psychologists compared this pull on the chain with the reaction of a person who discharges his slowly accumulating anger with a spontaneous action. The feeling of 'enough is enough' triggers the action when a threshold-crossing event occurs. We find in a different context a similar discharge of stress in the so-called emotional geyser effect. A person explodes in anger or tears after unresolved stress and pain has accumulated below the surface. The person releases internal pressure without conscious control in a situation that does objectively not justify his explosive behavior. No free will is involved. It is like gasping for air if you lack oxygen.

Influence of early Life Experiences

Experiences in the early years of a life create large parts of intuitive powers and of gut feelings, which become active later in life and influence many decisions. Some people rightfully claim that a child's emotional and social education is basically completed during the first eighteen months of life. This phase of development is decisive for the development of the brain and the acquisition of intellectual, social, and emotional skills. As a child reaches maturity and grows older, changes of the personality become more and more unlikely. Society also discourages such changes by saying that a person should remain true to himself (sich selbst treu bleiben). People like to see stability and predictability in a person instead of volatility and surprises. If someone at the age between 40 and 60 years changes his behavior, people might disrespectfully say that the person suffers from mid-life crisis. Otherwise, it is in human nature to stick more or less stubbornly to well established ideas particularly if people grow old. On the other hand, I find it admirable if someone is able to change his mind or his opinion of long standing after someone else has successfully challenged this opinion with convincing arguments. But in the eyes of the public, politicians are fickle if they change their political stances.

As a side note I want to mention scientists. They have to defend their findings resolutely against colleagues who regularly voice different opinions with often unfriendly undertones. Albert Einstein is a famous example. He firmly maintained that the universe was static and not expanding. He defended his opinion against other scientists who were able to prove that his opinion disagreed with Einstein's own equations. But Einstein did not give up and added to his equations a factor, that he called 'the cosmological constant'. We must admire him that he was able to repudiate his opinion when evidence appeared that the cosmos is expanding. He publicly declared that the introduction of his cosmological constant was the 'biggest blunder' in his life.

But let's get back to the question how we develop into a person with certain ideas and opinions that we form and decisions that we make.

Genes create physical and mental predispositions that then form the basis for the development of personhood. Experiences that a baby makes during the very first periods of life have for sure a decisive

and imperceptible impact on decisions and behavior later in life. If I had been lost as a baby in a forest, I would have had the same genes that nature had given me by birth but if wolves had adopted me for two or three years as a feral child, I am sure that I would have acquired wolf-like features that no psychologists and no educators would later have been able to neutralize. I spent the early years of my life not in the forest with wolves but in a Kinderheim without my mother and without my father. This did certainly not fail to leave deep marks in my character. During the first years of a human life, it is not a free will that grows. Instead, bias, preferences and habits develop.

Some people, who by profession observe the development of fetuses with ultrasound scans, believe that babies receive important and lasting impressions even before the babies see the light of the world. Starting in the middle of a pregnancy, not only the substances in their mother's blood influence the development. Fetuses are also able to sense and to distinguish between soft and hard voices and register movements of their mother. I can imagine that a fetus will notice the lively movements of a regularly jogging mother. Such a fetus, I assume, will develop differently from a fetus of a mother who spends much time on a sofa to spare the baby undue shocks.

We can in any event assume that the first dramatic experience in life is the birth. The exit from the mother's womb is probably more painful for the baby than for the mother depending on how difficult the birth was. Hunger follows this painful experience. Babies right after birth drink sweet milk from their mother's warm and soft breasts. They also take in their mothers' scents, which remain forever in their memories. Babies usually hold the mother's breasts gently with both hands to guide their mouths to the nipples. If I had experienced this soothing situation as a newborn baby, it was probably only for a short period during postpartum. I did not ask my mother if she had breast-fed me. Such a question was in the years of my youth as inappropriate as the question "How was it when you came down with me?".

Breast-feeding is not only good for the health of a baby as doctors claim. It also creates subconscious and lasting memories for babies. These subconscious memories influence subsequent feelings and emotions even if the origin of these feelings is afterwards not present in the mind. A typical man's attention to female breasts might be the result of this initial experience as a baby. Even if I was drinking my mother's milk only for a short period of time as a newborn baby, I am still warmly touched when I see the happy face of a baby that drinks milk from its mother's breast.

Lip-to-lip kissing does rationally not make any sense. There is even the risk that we exchange harmful bacteria while doing this. Why do we do this nevertheless? Some anthropologists suggest that romantic lip-to-lip kissing, which half of the world's cultures have been practicing since time immemorial, has its origin in the experience of a new born baby when it drinks mother milk right after birth. The fact that Chinese mothers have not been breast feeding their babies as much in the recent past as in other cultures, might explain my observation that Chinese couples rarely kiss and – God forbid – not in public.

Other anthropologists claim that kissing became an innate habit that stems from our ancestors who did not have baby bottles or spoons. They pre-chewed food for babies and transferred it directly from the mother's mouth into the babies' mouth. This technique, called premastication or kiss-feeding, is a common practice that chimpanzee, the biological species closest to men, use to feed their young offspring.

Many sensory information like visual and audio impressions and smells during the first months of life influence feelings and intuitions for the rest of life. Babies suck up any impression uncritically because they cannot judge them by using past experience for comparisons. They cannot associate – for example – the shapes of new faces that they see with the very few faces that they have already seen. When they

see, hear and smell something like a face, they attach to it either joy or pain that they feel while watching. This might influence the way in which they later in life look at faces with similar shapes or listen to voices with similar sounds. They might spontaneously either like or dislike a person that has a face, voice or smell similar to what early experience has subconsciously engraved in the mind. Some psychologists call this 'implicit bias'.

We can assume that a baby easily absorbs uncritically new impressions because it cannot compare a new impression with what is already stored in memory. Memories of previous other impressions are still missing. When a first set of images and experiences fills the baby's memory the process of observation changes. As the baby's memory becomes populated with previous impressions and experiences the baby will no longer absorb new impressions directly and automatically but will put them in the context of other impressions and experiences that exist in the gradually growing memory.

It is at this early stage that indoctrination with religious issues and the threat of God's ire and punishment enter the brain without any resistance. The '*inculcation in a belief in God*' produces an unavoidably strong effect in the children's minds '*that it would be as difficult for them to throw off their belief in God, as for a monkey to throw off its instinctive fear and hatred of a snake*'. This is how Charles Darwin has put it in his autobiography and harvested with this sentence quite a bit of criticism, including from his own family. But I personally agree in general with his statement.

Associations begin to develop in the mind of a baby that link new observations and impressions with the ones that already exist in the system. Religious indoctrination is efficient and lasting because it exposes the child to only one religion and avoids exposure to other faiths. An adolescent will later consider another faith as strange, foreign or even as illegal.

Let's assume that you grew up in an environment exactly like the environment in which you spent the first years of your life except that there were no cars. If you then see a car for the first time in your life, you will wonder what this strange thing is. The picture and idea of a car are not yet part of your brain's system. However, if your grandmother has often talked about ghosts that are roaming around in your environment, your brain will establish the association with ghosts and you might believe that you have met a ghost when you see a car for the first time in your life. If your parents have often talked about the visits of aliens from outer space, you might spontaneously think that the car is an extra-terrestrial object. This might be the reason why many people who see strange objects in the sky automatically think that these objects are UFOs by which extra-terrestrials arrive on earth. Their brain cannot easily dig out of its memory any other possible association. Researchers call 'availability heuristic' the ease by which the energy conscious brain retrieves ideas easily from its memory and will not dig deeper.

More than 25 years ago a young girl from Wallis and Futuna, Marielle was her name, arrived for a visit in Suva, Fiji. The self-governing French territory Wallis and Futuna in the Pacific Ocean north of Fiji has a total population of 11,000 who live on one of the two main islands. Marielle was born and lived on Uvea island in the capital city Matâ'utu, which has a population of not even 350 people. Suva had at that time a population of around 200,000 inhabitants. This was for the girl a gigantic city. Marielle had not seen anything like this before and had not considered that such thing could exist. She spoke only French and my colleagues referred her to me because they knew that I speak French. This young girl had never before in her life seen a multi story building with (can you imagine?) elevators inside. She did not at all like what she saw. She also did not like that she could not hear the waves of the ocean. Marielle was able to hear this soothing noise from anywhere in her tiny city. The omnipresent noise of waves was part of her identity.

Cook Islands Parliament

I heard a similar statement from Tony Armstrong, a friend in Rarotonga, the small but main island of the Cook Islands. We walked along the seashore of Avarua, its capital, close to the sea port, where he was the harbormaster. He suddenly took his fishing knife out of his belt bag, walked towards a rock in the water, broke an oyster from the rock and opened it with his knife. While he enjoyed the oyster, he told me that he had travelled the world as a seaman but confessed that he would be unable to live in any other environment. Unfortunately, Tony passed away in 2018 when he was member of the Cook Islands parliament.

People having grown up in Manhattan will for sure have different personalities. They have different preferences than someone who knows only an environment like Rarotonga or Wallis and Futuna. You cannot transplant people like Tony or Marielle from pacific islands to the Big Apple.

In addition to the general childhood environment, which heavily influences the personality, the experience of punishments has a very strong impact on the development of a baby. Educators use punishments and corrections to mold and influence the decisions that children make later in their lives. Even gentle corrections or soft punishments will leave deep traces in the mind of an infant and will influence its future behavior.

I talk about punishments in my essay about the death penalty. I conclude in this essay that punishments, sanctions and disciplinary measures are constant and indispensable tools in education and in the development of a person's mind. Modern educators might be more critical towards punishments and might even condemn them. But lack of punishment and abandonment of corrective measures in education will also strongly influence the development of children. Educationalist disagree if this new concept is for the better or the worse for the children and for society.

Babies also receive positive or negative feedback from their own actions. When they cry and get food any time of the day because the mother immediately offers her breasts or a bottle of milk, the basis is laid for a child that will become impatient and forceful. Such a child expects to get what it wants immediately from others. On the other hand, we will see a baby that received food only at regular meal times and has experienced that it cannot change the meal times by crying. This baby will probably become more patient and less demanding later in life. It is through such early childhood experiences how the personal characteristics of patience and impatience probably develop. I was a baby of the second type because my nurse in the Kinderheim worked on a fixed time schedule and was unable to respond outside meal times when I cried for food. The nurse was experienced and able to distinguish my cries for food from screams that indicate a health problem or just an indisposition. Many mothers with their unbridled love and concerns for their children don't have such ability and propose food whenever they hear the cries of their babies. An experienced nurse knows how much milk a baby needs and how much it drank. A mother with too much love might also know but will easily be misguided by cries to believe that she must calm down her baby with milk, hugs and kisses.

Some over-protective parents always tell their children not to do things that they fear might hurt their jewels of kids. This can be counter-productive because many children are routinely tempted to act against the advice of persons with authority. That is in their instinct. Quite a few Chinese people that I met, are marked by such experience of parental authority. If someone gives them advice or warns about a danger they answer with determination "Don't manage me!". As a matter of fact, an adult's habit of disliking advice and becoming allergic against warnings might be the psychological reaction to over-abundant

advice and warnings that they received from their parents or from teachers during their childhood. A bad experience that a child or an adult has made on its own can be a better lesson than advice or warnings from parents, from colleagues or from friends.

Consumer Decisions

Decisions that consumers make are prime examples of situations where a free will is conspicuously absent. Consumer psychology makes these decisions for you.

Advertising companies, sales professionals and politicians use sophisticated toolkits to influence the decision-making process. Manipulations of consumers' decisions include the deceptive trick to make the customers wrongly feel that they decided with their free will. Sellers claim, for example, that their product is the talk of smart people in town and suggest that buying their product is a clever move. Who does not want to be smart? It actually saves you money if you are smart and click the 'Save now' button which actually means 'Buy and pay now'.

Most websites, for example from news services, show the advertisements of their paying clients. They make these advertisements pop up automatically against your will and make it difficult for the user to close them. There might be a 'close' button in fine print and in light grey but this button might work only after a certain period of time during which you have to see the advertisement against your will.

Internet news services have the annoying habit to show advertisements every time you access a news item. CNN, for example, showed videos of all speakers at the 2024 congress of the Democratic Party in Chicago. I enjoyed powerful speeches that Michelle and Barack Obama or Tim Walz gave, but between each video of a speaker they showed exactly the same 40-seconds video, in which the government of Turkey advertised its country as tourist destination. CNN showed these repetitive identical advertisements according to the correct saying that you can throw shit at people and some, for sure, will stick.

A so-called free will of the customer is actually not at work. The manipulator created the illusion that you make a wise decision by buying something that you actually don't need and did not want to buy when you entered a store or visited the website. Advertisers skillfully inundate the consumer with messages to trigger decisions that bypass voluntary control.

One regular trick is to praise the product with catchwords that sound sensational or appealing. They praise a product, for example, as sustainable or as the result of pioneering ideas that have surprised the scientific community. These advertisements use such catchwords and associations as positive anchors without specifying what they might mean.

Another regular trick is to offer a product for $9.99 because researchers have established that a person associates this price tag with $9 rather than correctly with $10. Experts call it 'charm pricing' that, as they have established with experiments, results in sales increases by 25%.

Advertisements show items with a certain price tag and offer them 'for Sale' in bright and big letters. This creates the impression that there is a discount. By offering a discount the sellers convey the message that they sacrifice profits for the benefit of the customers. Psychologists have told them that this will trigger the innate social mechanism of reciprocity, which makes the customer feel obligated to return the favor.

I see quite often things in the internet that sellers offer with incredible discounts of up to 80%. These excessive discounts try to make the product irresistible. The claim of a discount is in most cases a lie. I never see in the internet any item that is not offered with a discount. In addition, sellers deceitfully claim that discounts will be given only today. But they make the same false claim on all subsequent days. The

advertisement might say 'Hurry – do not miss out", "Special Offer ends in 48 hours" or something similar to give the customer the false impression that he must make a fast decision if he does not want to lose a bargain. Retailers use this common trick regularly to influence the decisions of customers. Everyone wants a bargain even if it is not something that the customer really needs. I know people in China who buy things that they don't need only because they think it is a bargain. When a husband tells his wife who returns from shopping, that they don't need what she bought, she will answer 'But there was a steep discount. We cannot miss out on this'.

Many sellers buy email addresses from Google & Co. They then mass-email their advertisements to these addresses. In an email of 12 October they say, for example: '*Use Code XYZ20 at checkout to save 20% now! Offer ends October 13th*'. With this manipulative email they wrongly claim that you are a privileged customer who can exceptionally get a discount of 20% but only if you act fast.

One common trick that internet news services use, is to make an advertisement look like a news item. Media companies often put advertisements in the same format as a news item between two real news items. The advertisement then looks like news. Its title might read "New Drug against Diabetes". This sounds like medical news, which it is not. They might add in very fine print the notice 'Paid Partner Content', by which they inconspicuously mention the fact that the 'partner' is actually a paying advertiser. CNN, to give another example, publishes a series of webpages entitled 'Hospitality Partner Programme', which looks like a journalistic report for travel enthusiasts but is actually a collection of advertisements by hotels, which pay CNN for their publicity services.

If you subscribe to CNN's 'Weekly space and science digest', which they send you free of charge, you receive in your inbox every week very interesting scientific articles interspersed with advertisements that have exactly the same format as the scientific articles. You have to look twice to discover the notice in fine print that it is 'sponsor content', as they call the advertisement.

Designers of websites include many features which we call 'dark patterns'. These tricks intend to deceive the customers when they click, for example, a checkbox for which the website designer does not make clear if checking the box means 'yes' or 'no'. They display the small checkbox, which is pre-checked, next to a large green button with the label 'Continue'. This misleads the visitor of the website to believe that the more favorable price will be applied since the box is pre-checked but he actually has to uncheck the box to receive the better price. Political parties and charity organizations, that ask for donations, often display on their websites inconspicuous pre-checked boxes for recurring donations. The advertisers expect that people forget to uncheck the box and will then drain the account of the supporter.

I saw in the internet an advertisement for a service that usually costs several thousands of dollars. It said on a button in large bold print 'Today Only: Order now for Just $149 USD'. The advertisement showed in very fine print in light grey color the word 'Down', meaning that the advertised amount was just a downpayment. If the visitor of the website presses the button, the advertiser and seller has achieved the first phase of success. It is to rouse interest and to obtain an opportunity to skillfully deal with a potential customer who has shown interest.

There are dozens different dark patterns that overwhelm visitors of commercial websites.

You can conveniently and simply press a button to buy the product online. But the button does not say 'Buy Now', it will say 'Save Now' to generate the wrong impression that you do not spend money by pressing the button but you save money by spending your dollars. Manipulators try to inculcate that we are not going shopping; we are going to the department store or visit the website to save money and to

increase our savings. In addition, some websites make it difficult to remove items from a shopping cart before they lead you to the checkout page of the website.

Advertisers for services regularly offer in the internet subscriptions in large letters as free or for one dollar but the fine print, which most bargain hunters don't read, says that the free subscription is only for one month. The company will after this month charge high subscription fees to your credit card. One provider advertised in large print his services as 'FREE'. But he indicated in very fine print that this was only for the first month and that the service will cost afterwards only 67 cents per day. This sounds incredibly cheap and creates an 'anchor' but adds up to $19.99 USD per month starting with the second month. The even finer print on the website said that the monthly subscription fee is charged annually. The consumer who clicks the button 'Secure our Free Service', has 67 cents in mind starting with the second month but the provider will charge the credit card with $239.88 USD after the first month and might even add sales tax of $24 USD if applicable. Because the seller has the details of the credit card on record, it is no problem for him to collect $239.88 USD which he charges after the initial period of the free service. If the advertiser were honest, he would not offer the subscription as FREE service but for '$239.88 USD plus applicable tax, including one free month'. But deceptive practice is common. The Financial Times, to give one prominent example, offers interesting news articles but require to 'unlock' the publication by buying 'unlimited access' for 4 weeks for one dollar. The fine print explains that after this period they will charge the subscriber $75 per month. When the visitor of the website clicks the button 'Keep Reading for $1', he has to give the details of his credit card that Financial Times will subsequently use freely to charge annually $900 if the user forgets to cancel the subscription.

Some service providers who make a subscription easy in the internet, give their customer a hard time if he wants to cancel the subscription. One trick is to renew a service one or two months before expiry. When the time comes for you to cancel the service, the company has already renewed the service. I experienced one nasty case. The service provider who allowed to subscribe online allowed a cancellation of the subscription not on the internet but only by a phone call to their help desk that they operated only during office hours in the time zone of eastern standard time while I lived in the far east. They eventually answered the phone after a long waiting loop. When I complained they mischievously claimed without going into details that they had established such a discouraging procedure for my own protection.

Consumer protection agencies like the Federal Trade Commission (FTC) have difficulties following up on deceptive dark patterns that e-commerce uses. There are huge numbers of websites that they must monitor and some tricks are so sublime that it is difficult to establish if they cross a red line. FTC has busted some big and honest looking participants in e-commerce that had used deceptive patterns. AT&T had to pay $105 million USD because they had systematically added fees to phone bills, without their customers' knowledge. Epic Games had to pay $245 million USD for also using a deceptive payment system. Diet app 'Noom', to give another example, paid $62 million USD for its deceptive auto-renewal practices for subscriptions. These are only some of the big fish. There are many smaller participants in e-commerce who don't get caught when they use dark patterns in the internet.

Shop owners use music that they shower on their customers to influence their victims' willingness to buy goods that they actually do not need. Experiments have shown that milk cows, if they are made happy with appropriate music, will give more milk. Music will also release more money from the pocket of a shopper. One trick – I think it is illegal – is to show a customer a video, that contains a horrible and disgusting photo of a competitor's product. The advertisers show this picture for a fraction of a second, as little as 13 milliseconds. The viewer does not realize what his eyes have seen because the picture by-passes the visual cortex for a conscious view. The horrible picture enters directly the brain's amygdala,

which is responsible for how we process strong emotions like fear or pleasure. When the customer is later in front of the competitor's product, the brain will dig out the terrible picture as unconsciously as it had entered the brain. As a result, the customer runs away from the demonized product and, instead, selects the product of the manipulator. Political parties probably also use this dirty trick during election campaigns by showing in a video clip for a millisecond the leader of the opposing party looking like Frankenstein or their own candidate as Jesus Christ in action.

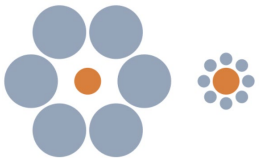
As a side note I want to mention that some therapists use unconscious exposure to horrible images as therapy to treat phobias and other fear-related conditions. If a patient suffers, for example, from excessive fear of spiders, which we call arachnophobia, the exposure therapy might help. When the therapist exposes a patient several times for milliseconds to the picture of a spider, the patient will see the spider unconsciously and might lose his fear because every time nothing bad had happened afterwards.

One day in the future, shop owners might shower their customers with mind-influencing smells – if they don't do it already. They might also spray chemicals that tell the brains of the customers to spend money uninhibitedly. Smell of freshly brewed coffee has a marked effect on me in this direction. It relaxes me and gives me the feeling that the world is OK. Looking further into the future, shop owners might equip their premises with devices that influence the customer's mind more precisely than with smells. These devices could be computers that read the minds of customers and can send impulses into the brain that make the customer buy exactly what the shop owner wants to sell.

The trick with the music or with smells are only examples. Skillful arrangements of the display of merchandise are other common tricks that exploit automatisms in decision-making. Shopkeepers present merchandise skillfully to manipulate the customers with visual impressions. Shop owners who are keen to sell a certain product that customers had not planned to buy when they entered the store, place the merchandise in conspicuous locations, for example at the check-out lane, to lure the customers into buying while they are bored waiting for their turn at the cash register. Since customers are often in the company of their kids, shop owners place sweets and small toys in the check-out lane with the result that the young folks pressure their parents into buying. The displays are the carrots. The stick is the feeling of guilt that parents will face if they deprive their loved offspring of sweets and of small toys for which the kids are longing.

In supermarkets you will find on tall and wide shelves hundreds of different boxes with, for example, toothpaste one next to the other. Which one to select? You will feel the agony of choice and you do not know which box to choose. You are also not familiar with what makes good quality of toothpastes. Nobody actually knows – probably not even the manufacturer. But a clever shop owner knows how to sell the toothpaste that gives him the highest profit margin. He knows that customers usually select boxes of a certain size and color that he places at eye-level next to smaller boxes with less attractive colors but with the same price tag. In this way, the shop keeper makes the decision for you. I also observed regularly that shop keepers place the merchandise with lower price tags not at eye level but on a shelf at the bottom so that you have to bend down to see it. If you do this and you bend down to look for cheaper alternatives, the shop owner tries to make you feel that you are a stingy person who looks for worthless stuff.

Even if you are determined to avoid manipulations of your mind by outside influencers, you will follow unconsciously the clues before you decide. Advertising professionals call these clues 'anchors', that sellers plant in your mind without you noticing the manipulation.



Ebbinghaus Illusion

An object that is surrounded by bigger objects looks smaller than the same object if it is surrounded by smaller objects as you might notice in this picture. The German psychologist Hermann Ebbinghaus discovered this optical illusion in the late 19th century. The context, in which an object is planted, forms an 'anchor'. The context creates optical and cognitive illusions, of which I have shown others above.

When you see on the shelf of a store two bottles of similar body lotions side by side of which one costs $50 and the other $25, you might select the cheaper one because you believe that this is a bargain. But it might well be that the store owner has planted the bottle with the higher price next to the cheaper bottle with the intention to plant an anchor in your mind. You are led to believe that body lotions generally are expensive products and that the cheaper one is a bargain even though the bottle for $25 is already be overpriced. This selling trick, which researchers call 'unique pairing', pays off for the shop owner in two ways. In addition to the customers who buy the overpriced bottle for $25 because they think that it is a bargain, there are silly customers with big money at their disposal who blindly buy what is expensive because they wrongfully think that everything expensive must be high quality. The intention of the seller is not to sell his goods at a proper price but to get as much money as possible out of a customer's pocket.

Cosmetics are a prime example for an area, in which sellers manipulate their customers with inflated prices. The users of cosmetics typically do not have any clues about what is quality in cosmetics products. Many people - women in particular - panic when they feel that their skin might show signs of aging. They will try everything to avoid the unavoidable. Their panic is an ideal breeding ground for cosmetics companies to manipulate their customers. They do this by putting inexpensive creams in expensive-looking jars and by describing their products with innovative semi-scientific terminology. They add in their advertisements the claim that dermatologists recommend the lotion but the sellers usually don't disclose their names. By telling their customers that you do not need a prescription for their anti-wrinkle crème, they create the impression that the crème is almost a medical product. And finally, since there is the belief that perfect beauty has its price, they try to give more credibility to their products by using a high price tag, which many customers accept. No husband dares talking his wife out of buying an overpriced anti-wrinkle cream or other expensive beauty products. He fears that his wife will criticize him for being stingy. The wife might also accuse her defenseless husband of boycotting her beauty.

Advertisers also place an anchor in the mind of customers, when they show a famous and beautiful young actress to promote an anti-wrinkle crème costing 400 USD. Many women – as old as they might be - will believe that they will look like the young actress if they use the advertised crème. The actress will probably not even have used the crème or might have used cosmetic surgery. Advertisers also use Photoshop to make models look young and blamelessly beautiful. The wife will afterwards tell her husband that she saved him $100 USD because she bought – modest as she is - the cheaper crème as a bargain for 'only' $300 USD while the production costs of the wonder crème are only $15 USD.

When Liliane Bettencourt, the heiress of L'Oréal died in 2017 she was reportedly the richest woman in the world. Francoise Bettencourt Meyers, the heiress of Liliane, became in 2023 the first woman in this world having a net worth of 100 billion USD. Their enormous wealth was certainly not due to the efficiency and quality of her company's products but was in all likelihood the result of l'Oréal's inflated prices that they manipulated their customers to accept. Well-known brand names benefit from the common but false perception that large companies are serious and honest. But large companies might be as cunning and clever as a little seller on the street corner except that the big companies are also very skillful and

have the financial resources to hide unserious practices. Large companies spend big money to create the illusion of seriousness.

Banks try to build a reputation of being trustworthy and serious when they look after your money. Wells Fargo, for example nurtured systematically its reputation and managed to achieve rank seven in the list of the worlds “Most Respected Companies” that Barrons’ weekly financial newspaper published in 2015.

Banks look indeed at your money but in their own interest. Wells Fargo, was involved in a major scandal in 2016. It had opened some 3,5 million bank and credit card accounts without customers’ permission. Regulators fined the bank $185 million USD at that time. Wells Fargo had then in 2023 to pay $1.2 billion as settlement for defrauding its shareholders. What bothers me are the two facts that the banks firstly pay these fines from money that they have collected from their customers and secondly that these fines are tax-deductible, which means that the government shoulders some 50% of the fines.

Regulators in the US, also found out in 2023 that the serious looking Bank of America had harmed their customers systematically by double-dipping on bank fees, not paying promised credit card rewards and opening fake accounts without knowledge of their customers. The US authorities ordered the bank to pay their customers a total of more than $100 million US in addition to $150 million in fines that the Bank had to pay to the government. And this is only the tip of the iceberg of fraudulent behavior of banks to which we are exposed as customers practically without alternatives because we need banks and they all behave in the same way.

Back to cosmetics, I want to mention a friend in Germany, who was also a client of my law office and unfortunately passed away too early. Let’s call him Joachim. He was a fully-fledged specialist in the production of lotions, crèmes, shampoos and other cosmetics. He had learnt this trade in former East Germany (DDR), where he was responsible in a state-owned company for the production of cosmetics with export quality. Joachim became an important person for the communist regime, which appreciated the receipt of much needed foreign currencies. He always drove the latest and biggest model of BMW while his fellow countrymen had to wait many years to buy for the price of a BMW a meek car like Trabant. People called this vehicle, if it merits this name, the "Saxon Porsche" or “spark plug with roof". They also called it “plastic bomber" because the vehicle had a body made from Duroplast, which is a composite plastic mostly used for toilet seats.

At one point and despite his privileged status, Joachim moved to West Germany to set up his own manufacturing business. A very large and famous German cosmetics company sub- contracted him for many years to produce in his factory on their behalf lotions and other cosmetics. Companies of big brands rarely manufacture their products themselves. They gave Joachim the recipes and left the rest up to him. His job included the procurement of jars and packaging materials with the logo of the cosmetics company. I mention Joachim here because he told me that the most expensive part of his client’s products that he manufactured were the jars and the packaging materials.

Exaggerated and expensive packages are standard in the cosmetics industry. I show here a ridiculous jar with a few milliliters of ‘genderless’ skin care crème that Brat Pitt’s company ‘Le Domaine’ sells for $385 USD. The company produces the oversized wooden cap, as they claim, from recycled old wine casks as if this feature made the crème more effective. ‘Le Domaine’ advertises the two active substances as GSM10, a blend of several grape varieties with ‘*most potent antioxidant effects*’ and as ProGR3, a grapevine derivative that allegedly fights visible signs of aging.

Skin Care Crème
($385 USD)

'Le Domaine' did not obtain patents for the ingredients and they will probably never obtain a patent. But they claim that patents are pending. The promoters of cosmetic products are smart and commission someone whom they call a dermatologist. This anonymous doctor tries to convince the visitors of the website of the benefits of the active ingredients.

One day, Joachim came to my office with an inconspicuous bottle that he opened to let me smell and test its content. "What is it?" he asked me with his usual look of a sly fox. I replied that it was an expensive lotion of a famous and exclusive brand. The crème smelled the typical freshness of green apples, I replied. "Correct", he confirmed and revealed that he knew the recipe and had bought the necessary fragrance in Grasse in the Alpes-Maritimes of France. Grasse is a world leader in natural fragrances for the cosmetics industry and for flavorings of processed food. Joachim also revealed that he had produced the lotion for a very small fraction of what the genuine lotion was sold for. He also told me that one regular ingredient of a lotion was a chemical that makes the skin feel cool when it is applied. This gives the illusion of effectiveness but it has nothing to do with the efficiency of the lotion. Consumers like illusions; they like to be deceived. I find it remarkable that people in general accept or even expect disgusting smells of medicine but don't trust a medical lotion if it does not smell nicely.

Another area, in which sellers manipulate their customers as much as in cosmetics, is the world of fashion. Sellers benefit in the clothing sector from the fact that the overwhelming majority of buyers have no idea what distinguishes high quality products from junk. Buyers therefore take the price as a proxy for quality and think that a high price for a dress, for trousers or for suits guarantees quality. The sellers cultivate this naïve belief by presenting skillfully their merchandise in well decorated fancy stores. They spend more money for cultivating the brand name than for the garments that cheap sub-contractors produce in Bangladesh or in similar countries. If the well-dressed and soft-spoken salesperson – sorry: the sales consultant - gives a discount, the purchaser feels proud to have struck a tough bargain but the posted price was anyway inflated and served as an anchor to manipulate the purchaser into believing that the true value of what he bought is much higher. On the other side of the spectrum is the sale of garments in junk shops – for example in temporary tents in the middle of a pedestrian mall or in the public area on the main floor of a shopping center. The cheap setup makes the customer believe that garments must be cheap in such shabby outfits. Not being able to distinguish good and bad quality they might pay normal prices that are as high as in conventional and more expensive looking stores.

Very high prices of designer clothes and of other luxury goods obviously attract fraudsters who fake luxury brands. Fraudsters not necessarily sell articles of lower quality. Most customers can anyway not distinguish the level of quality. The fraudsters just attach the label of a famous brand to their counterfeit merchandise and don't save money when they put the counterfeits into expensive packages similar to what genuine brands use. Other fraudsters offer visibly cheap merchandise to which they attach an equally cheap looking copy of the original logo of the brand name. They target with these cheap products customers who have never seen the genuine product or who don't care or who know that it is obviously fake but want to be seen wearing an inexpensive product with the logo of a famous brand. It is like attaching the star of Mercedes or the logo of Ferrari to your old Honda.

Consumers in China are very heavily exposed to the type of manipulations that I have just mentioned. China looks to me like the cradle of manipulative selling. Nobody pays the posted price, which is generally exaggerated. Everybody wants a discount. They don't buy anything if there is no discount and they buy anything if it is offered with a high discount. Supermarkets offer packages with fresh meat and vegetables, which are very close to their expiry dates. They don't offer a discount but with the motto "Buy one, get two". While the shop gets rid of merchandise that will soon be rotten, the customer gets merchandise

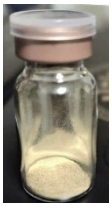
that will rot at home because he needs only one package and cannot use two packages within a short period of time.

I have the suspicion that shop owners inflate the price for one item but offer a more realistic price per unit if you buy two. If, for example, the correct price of a bottle of shampoo is 40 RMB, the seller will tell you that one bottle costs 60 RMB. But he will tell you that you will have to pay only 80 RMB if you buy two bottles. This trick makes you believe that you saved 40 RMB and achieves for the shop owner a higher turnover of merchandise. The retailer needs high turnover to receive better prices from the manufacturer.

A shop owner in China who does not offer a discount, cunningly claims that he offers his merchandise at rock bottom prices. But he will keep in stock a collection of gifts that he gives a customer as reward for the purchase. Packages with toilet paper or facial tissue or carrier bags are things that the shop keeper offers as tokens of thankfulness. You then come home from a visit of a pharmacy with a box of pills in one hand and a large package with 24 rolls of toilet paper in the other. This reminds me of Hans Klenk, the down-to-earth founder of the toilet paper manufacturer Hakle in Mainz, my home town. Many decades ago, the equally down-to-earth mayor of this down-to-earth city asked him during an official visit of town hall, how his business was going. Klenk answered briefly in his bright local accent "People always shit" (geschisse wird immer). Toilet paper makes indeed a useful gift.

In addition to the tricks that I have already mentioned, vendors in China manipulate consumers with the use of colorful and oversized boxes, into which they pack their merchandise.

Flasks with Bear Bile



Content of one Flask, hardly visible at the bottom.

Manufacturers of Traditional Chinese Medicine, which is overly expensive anyway, put their products in boxes that have five to ten times the size of their contents.

Inside of a box with Traditional Medicine

They want to impress the buyer before he opens the package. When you buy powder, for example, made from bear bile the pharmacist will sell you a large, colorful and expensive looking box with five tiny flasks with a few milligrams of powder in each. Or you buy a similarly big box with powder against constipation. You will then discover at home that the box contains only 30 little sachets while the box is big enough to hold more than hundred of them. When you want to buy a flask with 12 pills, the pharmacist offers them in a package with the size of a shoe box. When you open the shoe box the little flask in the middle of beautiful packaging material looks like a precious jewel.

Fruit sellers use for their benefit the so-called Confetti Illusion. Half-ripe fruits, for example oranges, look riper and more appetizing when the sellers wrap them in a net that matches the color of ripe oranges.

The more I think about manipulative salesmanship, the more I come to the conclusion that manipulations are at work in more areas than just cosmetics, fashion and traditional Chinese medicine. Clever sellers seem to manipulate us, the purchasers, all the time and everywhere.

Many years ago, I spent the time of a longer stopover in usually sunny Brisbane, Queensland, walking through downtown. Rain surprised me in a pedestrian street that mostly tourists patronized. I found

shelter in front of a store that showed in its shop window nice objects made from gemstones. This was the specialty in the entire touristic shopping street. To make the time pass faster I examined the goodies in the shop window. I detected one small piece of jewelry that I found much more beautiful than all others but the price tag was also higher. I entered the shop because it continued raining. A salesman eagerly darted towards me before I had completely crossed the entrance. He asked me how much money I wanted to spend. I do not like such a senseless question. Unless I find something interesting, I replied, I did not want to spend any money. He then asked me in what kind of jewelry I was interested. I pointed at the piece that had caught my eyes. With my face and gestures, I must have shown keen interest in this object. An experienced salesman never fails to smell interest that a customer shows. He will then abuse the customer's interest in his sales pitch. He commended my good taste and explained that it was a unique piece of jewelry made from very good quality of jade. I am unable to judge the quality of jade, which gave the man an advantage when he talked about powers of heaven that this stone represented and the artistic way, in which the artist had carved my piece of jewelry. He emphasized that the local artist was famous for his work. If he had told the probable truth that it was imported from China, its value as a touristic souvenir from Queensland would have been lost. If he could give me a discount, I asked, but the man, who had noticed my interest, replied that – sorry - the posted amount was already the rock-bottom price that the shop had to receive for such a unique piece in order not to make a loss. I said "OK, I buy it" whereupon my salesman walked to the office in the back of the store to gift-wrap my precious purchase. He then came back and tried a bait and switched his sales tactic. The shop, he apologized, had made a mistake by putting the wrong price tag next to my piece of jade. I would have to pay a price that he indicated was about 50% higher. I assumed that this was a trick that dishonest salespeople use when they see that a tourist, as which I looked and sounded by my accent, is firmly committed to buy a nice souvenir. The sellers then speculate that the client easily agrees to pay a higher price in order not to lose the deal to which he is committed. Based on my assumption that there was foul play, I counter-attacked. "A deal is a deal", I said firmly and demanded with clear voice that he stick with the deal. "I am a lawyer", I added and this was not even a complete lie because I had practiced law in the past. Claiming that you are a lawyer is more convincing than to say that you know the law or that you are a law professor. After my statement that I am a lawyer, I announced that I would not hesitate to elevate the issue to the authorities and even to the courts. Having heard my strong and clear words, the sales person went again to the back of the store. When he returned, he pretended that he had spoken with the shop owner who had reluctantly agreed to take the loss. I asked myself why the shop owner had not the courtesy to appear in person. The owner might not even have been in the store or the salesman himself was the owner. I paid and left the store happy that I had escaped an almost criminal manipulation of my will to buy this piece of jewelry at a wrong price. A similar and more common trick that salespeople apply when a tourist has decided to buy, is to claim in the very last minute that the sales tax or tourist tax is not included in the agreed price. Tourists might pay the additional amount if they are not familiar with the customs and might believe that – like in Canada – the sales tax and other charges are never included in the posted price.

I heard about another trick. A customer in a men's fashion store contemplated buying a suit that the salesman offered for 500 dollars but he asked if he could get a discount. The salesperson refused but offered to try by asking his boss in the back office. He shouts across the salesroom in the direction of the back office "Sir, can we sell this suit at a discount?". And they hear the pre-arranged answer, which says that he should not sell the suit for less than 700 dollars to avoid a loss. The salesman then pretends that he had not known the real price of the suit but, since he had offered it for 500 dollars, he would stick with his costly mistake.

Auctions are examples for situations, in which people often do not control or lose control of their decisions. The auctioneer plants an anchor in the minds of the bidders by giving an 'estimate' or 'reserve price' before the auction starts. They do it mainly in auctions of fine art or memorabilia where there are no objective measurements for the appropriate prices. The declared estimate of value influences all non-professional bidders who usually do not know the true value of an object. The bidders then tend to lose control by out-bidding other bidders beyond their original decision to stop their bids at a certain price. 'I have gone so far, I can bid even higher', might be the irrational consideration to avoid missing out on the acquisition that he thinks is already his. Fear of losing the deal is greater than concerns about bidding too much. The focus changes from the intention to acquire an item to winning the bidding battle.

The competing bidder, who looks like a professional art expert, might not even be genuine. The auctioneer most likely has planted him in the auction room to make bidders believe that a connoisseur is after the object. This generates the urge to outbid the perceived expert. We should not be naïve and should not believe that only shabby auctioneers use these tricks. I am sure that prestigious and respectable big auction houses employ these or similar methods behind the veil of seriousness.

Very different are early morning wholesale auctions of daily items like vegetables, fish and flowers. The owners of shops or chefs of restaurants participate because they need the commodities in their respective businesses and they know how the prices they pay in the auction will influence the prices they will have to charge their customers for the food that they cook. All professional co-bidders are in the same situation. They base their decision to place a bid on commercial considerations day after day.

Instincts and Predispositions

Many people wrongfully think that we always make decisions with our free will while, as we have seen above, outside factors and forces manipulate and create our decisions. In addition to outside stimuli, natural instincts coming form inside constantly and unconsciously influence our decisions and our behavior. We have inherited many instincts from our animal past. Psychologists like Wilhelm Wundt and William McDougall think that about 4,000 different instincts influence our behavior.

Herd instinct is one of the strongest of those instincts that we have inherited from our ancestors. It triggers herd behavior without involving a rational decision-making process. If many people believe something, we tend to believe that it must be true even if we have not investigated and verified the issue. If everybody in the village goes to church on Sundays, we might feel compelled to go as well. If everybody in your personal environment believes in the Cristian God, you don't want to be called a heretic by believing in another God or by publicly confessing to be an atheist. If you insist on beliefs that deviate from those of others, you will be better off leaving the village before the villagers make your life difficult or expel you.

If all our friends and neighbors buy an expensive car, many do not want to remain an exception. They might even want to outdo the neighbor by buying a more expensive car because herd instinct includes an element of competition. The desire to outdo others is part of the herd instinct. The ancient Greek mentality was '*To always be the best and to be excellent above others*'. This was the goal of the Greek hero Achilles and generally the goal of everybody who wanted to be a decent person. It describes the agonistic principle that has its origin in an instinct that humans share with animals. It is remarkable that the ancient Olympic Games in Olympia, Greece, did not know silver and bronze medals because being a runner-up was not good enough it meant that you did not win. You were a loser. In a variation of the agonistic principle, Frederick Trump, Donald Trump's father told his son that there were only two types of people in this world: Killers and losers.

If all colleagues in a management meeting are in favor of one decision, you might not want to become an outsider by contradicting the majority of your important colleagues even if you strongly believe that your opinion is correct. Most of us are shy and want anyway to avoid being called a trouble maker.

Belief in hearsay is common and is particularly strong in China. The statement "We Chinese people all know that our culture is 5,000 years old" is ultimate evidence for the age of their culture. Most people are not interested to know the details of China's culture five thousand years ago. They don't make the mental effort to figure out what the different features of this culture were over five millennia. They are happy to know what everybody knows, namely that their culture is 5,000 years old. Full stop.

If you grew up in a religion or in a group with a social codex you will probably and semi-automatically adjust your own behavior to match this codex, which acts like an instinct or predisposition. Otherwise, you fear that other group members criticize you by saying that "a good member of the group does not behave as you do". And indeed, most of us follow the herd instinct and want to be a respectable member of a group or of an organization. A member of a club will be proud to be a good member who receives as incentive an award for having been a faithful supporter for a long time. Poultry Breeding Associations (Hühnerzuchtverein) and Allotment Gardening Associations (Kleingärtnerverein) are typical German fraternities that have spread into other parts of the world. Both of them existed in Hechtsheim, the small village where I grew up. These associations were prime examples of leisure organizations that their members elevated into an almost holy status. The great pride of its petit-bourgeois members and the seriousness of their honor codes are disproportionate compared with the relatively simple and practical purposes of the associations. Their club houses were their members' second home and as important as church. Long-standing members wore bronze, silver and gold pins with vanity. These pins evidenced their faithful membership and adherence to club rules over 10, 25 and 40 years respectively. The German language calls disproportionate love for club activities 'Vereinsmeierei' (club fanaticism).

A group expects from all members loyalty as high priority even when an opinion or an action goes somewhat against the grain of the inner self of a member. Loyalty to the group is more important than loyalty to your own person or being honest with yourself. This attitude is the members' engine for decision-making. The club and its rules act like a lighthouse in life.

The criminal code, unlike the code of conduct of a religion, does not list what we should do or should not do. It just lets you know what punishment awaits you if you do something that the criminal code describes as punishable. The law does not say '*You shall not steal*' (Exodus 20:15). It only says that you will be punished if you take somebody else's property. The threat and fear of punishment will guide you because you want to avoid the pain of punishment. Fear of nasty consequences acts almost like an instinct. If you drive a car and see a red traffic light at a totally empty intersection in the wee hours of a day, you will stop even if there is no other car coming and no car will come. There is no risk of an accident if you carefully cross the intersection. The only reason why you stop is the fear that police have installed a camera and that you will receive a ticket in addition to demerit points.

Some moralists say that your level of morality is low if you refrain from stealing only out of fear to get punished. With such a low level of ethics you – I mean other people - will steal if you are reasonably sure that the theft remains unnoticed. Stealing for the pleasure of personal gain is as much an instinct as is not stealing out of fear to get punished. These are two competing instincts of which one or the other can gain the upper hand from time to time in specific situations. This is why many people take as souvenir an ashtray or glass from a hotel room or a spoon from a famous restaurant. They steal because it is very unlikely that someone identifies them as thieves or prosecutes them.

I had one strange experience many years ago when I was disembarking in Sydney from a Quantas flight. A man in uniform asked me to open my carry-on bag. He wanted to check if I had stolen an object from the aircraft. Quantas was apparently at that time trying to crack down on thieves. The man in uniform thought that he had caught me red-handed when he discovered a single spoon on the bottom of my bag. 'What is this?', he asked. 'A spoon', I correctly answered but I pointed at the label of the spoon, which showed the word 'Lufthansa'. He then insinuated with some right that I had stolen the spoon. Indeed, I had taken this spoon as a souvenir on a flight with Lufthansa a few weeks before from Frankfurt to Hong Kong. I had forgotten this single spoon. My training as a lawyer got me out of this embarrassing situation. I irrefutably claimed that the flight to Hong Kong had been memorable for me as a former German citizen and that a stewardess had offered me the spoon as a gift. He thankfully realized there was nothing he could do about it and let me go. This changed my initial embarrassment to joyous pride because I had outwitted the man in uniform.

When I saw security vans in front of banks in China, I tested several times different persons. I asked the test person: "If I guaranteed you that a theft remains undetected, would you rob the van?" The shy and embarrassed answer was often "Do not talk nonsense". This answer to my question was probably correct because the test person might have considered that my suggestion to rob the van did not make practical sense. Because firstly, my test person had no idea what should technically be done to break the armored vehicle open. After all, robbing a security van requires high levels of technical skills. My question was secondly also nonsense because I did not mention the amount of money in the van. There is the risk of breaking into an empty van, which does not make sense. Only the expectation of a high reward motivates.

I then changed the test. I asked another person if he would kill a hated boss if I guarantee that the crime remains undetected. For those who responded immediately with a firm 'No', I changed the question. I asked if he (or she) would kill the hated boss for 1,000 USD if no punishment would follow. When the answer was again 'No', I repeated the question with awards of 10,000 then 100,000 and so on until 10 million USD. I noticed that the 'No' regularly became weaker and weaker the higher the amount was. When the award reached millions of dollars, all my test persons pronounced the 'No' only after a period of time that the person spent to consider an answer. Greed will at one point gain the upper hand. The instinct to make substantial gains will win in the decision-making process over the fear of becoming a criminal. Contradicting instincts push and pull us, not our free will.

Our brain processes the impulses that our senses hear, see and smell. In addition, substances from glands or from other sources reach the brain and influence the way in which the brain processes the incoming information and comes to a conclusion in form of feelings, thoughts or decisions.

Our body produces these substances for the brain automatically in response to events inside and outside the body. For example, when we see a baby, our body automatically increases the levels of oxytocin, serotonin, and dopamine. These substances – and not our free decision - create feelings of pleasure and the desire to care for the baby and actually for every small version of an animal. This feeling develops even if we see the big baby of a gigantic hippopotamus. The cuteness of them makes humans irresistibly happy and comforted.

The feeling of attachment to a baby does not only develop in the minds and hearts of mothers but also in the minds of males. If a mother cares for her baby, it is not the result of a logical decision or of a call to duty. It is the effect of neurotransmitters that control her behavior. This is the same in the kingdom of animals, in which we believe that the notion of morality does not exist. A monkey mother like any mother cares for her offspring not because she follows logic or moral demands. She does it instinctively under

the influence of hormones. Mother Nature has created this instinct to ensure that babies are not only conceived and born but also looked after until the offspring becomes self-supporting.

Instincts and desires decisively influence our decisions and behavior in specific environments. The situation into which we are born and the personal characteristics that the genes develop, pre-dispose us for certain developments in life. The environment presents the opportunities, the personal character defines how we identify and use these opportunities.

Napoleon's life attracted my attention and fascinated me when I was younger. I felt that Napoleon was a strong-willed man who had forcefully shaped his country and most other nations in Europe at the end of the 18th and the beginning of the 19th centuries. He started his professional life with modest beginnings. He studied five-years at the Royal Military School at Brienne-le-Château in the Champagne region. His life came to an apex when he made himself emperor of France. I am convinced that not his free will but many coincidences and random events made this achievement possible. He capitalized on every situation, in which he found himself. After the glorious military victories over Austria, Russia and Prussia the time was ripe for France to return to a monarchy, which is anyway close to the hearts of the 'Grande Nation'.

Napoleon had most likely as a young man not the will to govern his country as an emperor. I rather think that he was very often and coincidentally in many situations the right person at the right time to satisfy his excessive ambitions. The sequence of many events in his life brought him many successes and ultimately led to his downfall, which he has for sure not planned.

Without Napoleon, another – possibly better - man would have been washed up to the top of France. There is always one person at the top. Not the skills and competencies to be a good emperor have decided but the elbows needed to dominate other people in many different situations. He had the pre-configuration as a top dog which made him come out as a winner in many situations, into which he skidded more or less randomly. It was not his pre-determination to become emperor of France. He was talented to be a winner very often in his life when headwind was blowing. Perseverance was the fuel that made Napoleon move through life. '*When you go through hell, keep going*'. This is how Winston Churchill put it. It was not Napoleon's plan or God-given destiny that made him arrive at a final destination no matter whether we see this final destination as emperor in exuberant Paris or as an exiled lonesome person on a desolate tiny island in the middle of the Atlantic where he died.

How do you become a Pope if this is what you want to achieve? There is certainly no professional pathway and no recipe to achieve this even if you have a strong will and excessive ambitions. Pope Francis, who was born 1936 as Jorge Mario Bergoglio in Buenos Aires, Argentina, became a chemical technician and worked in the food-processing industry until the age of 21 when he suffered from a severe pneumonia and surgeons removed part of his right lung.

At the age of 22, after this near dead experience, he entered the order of Jesuits. He obtained his PhD at the university of Freiburg in Germany and climbed up the ladder of hierarchy in both the order of Jesuits and in the Catholic Church. Pope John Paul II appointed him as cardinal in 2001. His chances that the 120 members of the College of Cardinals would elect him as Pope out of some 200 cardinals are statistically quite good, much better than my current chances to become emperor of France. To become a Pope, there must firstly be an opening for a cardinal of his age and of his nationality. An opening usually occurs only every decade or even longer. Secondly, the wind in the Catholic Church must blow at the time of the election in the direction for which a candidate stands in the opinion of the 120 cardinal electors. From a few tell-it-all publications it becomes clear that cardinals determine the outcomes of elections more by political maneuvers than by guidance from the Holy Spirit.

As a parenthesis I might remind the reader of this essay that the establishment and maintenance of the papal authority went during many centuries hand in hand with worldly power struggles, intrigues and serious scandals. The Holy Spirit apparently had no means to take the edge off the violent fights for and against the powers of Popes who claimed worldly powers as well. Pope Stephan VI produced in the 9th century AD a particularly weird scene. To underpin his claim of authority, he accused his predecessor, Pope Formosus, of perjury and illegal ascent to the Holy See. Since the accused was no longer alive, Stephan VI had him exhumed, dressed in bishop's gear and placed in the dock. The criminal court, as planned and expected, sentenced him as charged and immediately punished the criminal by chopping off his right hand and throwing his body into Rome's Tiber River. History books mention this irreal episode as 'the Synod of the Corpses'.

Let's get back to Pope Francis. An opening for a new Pope came as a surprise when Pope Benedict XVI resigned in 2013. No German cardinal had a chance to get elected because Benedict XVI had been a German. It is unconceivable that a Pope follows another pope from the same country. The conclave elected Monsignor Bergoglio who accepted the election and became Pope Francis. If Benedict XVI had remained in office until his death in 2022, the new Pope would probably not have been Francis. Not the free will of Jorge Mario Bergoglio propelled him into this post but a series of circumstances. When he worked in the food processing industry, he has certainly not decided to become a Pope and even during his career in the Catholic Church he probably did not imagine that he would become one day the pontifex maximus in the Vatican.

In a workshop in a TVET project in Vietnam I discussed job guidance and career planning with participants, who were all officials in the Ministry of Labor, Invalids and Social Affairs (MOLISA). I asked them at what time of their lives they had decided to engage in their current jobs and what the criteria were that they had used for the selection of their jobs. There was not one single participant who had planned for their current job. They all admitted that they had not decided beforehand and had not even known that such a type of job existed. They had come across a job opening by coincidence or by advice from a relative or by an acquaintance in the ministry. They applied and got the job out of a huge number of applicants. They also mentioned as incentives of the job the decency of pay and the fact that a government position presented a safe and almost eternal employment. For a person with a strong desire for safety and security, the civil service is irresistible. My genes made me more adventurous and I never considered becoming a civil servant. In addition, I observed my father who never in his life had worked for an employer but always earned his living with visible pride as a freelancer. Had I been the son of a business person, I would have acquired the instinct of smelling financial gains, which I did not develop as the son of a man who never mentioned money matters at home.

When I look back at how my life evolved, I notice that a variety of small and big events happened randomly. I did not control my environment except that my predisposition as a careful man made me avoid dangerous situations while my nature as procrastinator and as a conservative man made me avoid premature changes of my situation. I always reacted to opportunities instead of actively seeking them out or creating them. In whatever situation I was, my bias made me notice certain facts while the same bias let me ignore other facts like the famous elephant or gorilla in the room.

Here is an example for selective perceptions: My parents took me during my boyhood on an educational tour through northern Bavaria. They wanted me to see and to admire old churches, castles and famous monasteries. My father had parked his VW beetle on the parking lot in front of the famed imperial cathedral in Bamberg (Bamberger Dom). In these years it was no problem finding a parking space and nobody imagined that a municipality would one day dare making people pay for parking. There were

hardly any other cars. If someone had predicted that SUV's in 2024 will have to pay €18 per hour for parking in Paris, we would have declared him insane. €18 at that time was the equivalent of at least one day's income.

The four of us squeezed ourselves out of the small two-door car. My mother stood next to me and admired the impressing architecture of this venerable house of God. "Is this not beautiful?" she exclaimed and I agreed. But I had not looked at the old cathedral. It was one of the famous elephants in the room. I answered "Yes, mam, I would like to own someday such a gorgeous bicycle". Somebody had parked his racing bicycle against the wall of the church's façade. My bias made me see only the bicycle. To my mother's disappointment, I had not paid any attention to the venerable Roman building. Had somebody asked me later what I had seen in Bamberg, I would have answered that this city is famous for its modern and fashionable racing bicycles.

Many years later when my first wife was pregnant, I noticed in the streets many pregnant women, which I had previously not seen because my mind was not set for such observations. Amos Tversky and Daniel Kahneman, the Nobel Price winner, described in 1972 for the first time this phenomenon of selective perceptions.

When we make decisions, we consider only the facts that we want to see. We ignore many facts or our bias discards facts that we don't want to see. We also use speculations about future developments without obviously knowing the details or the likelihood of future developments. These vague speculations create either hope or fear and influence decisions accordingly. Perceived possibilities of financial gains influence someone who focusses much on money. A dedicated Christian, in contrast, might in the same situation speculate about future possibilities how he can best serve and praise the Lord.

You might say that Artificial Intelligence (AI) might be able to fight cognitive bias by making a person aware of facts that his bias might make him ignore. AI might be free of cognitive bias if the software digs out from its huge database the true facts that are relevant to the issue at hand. AI will also be able to consider a person's individual profile that it establishes from huge numbers of searches that the person did on the internet. This is what web-based search engines and recommender systems already do to draw your attention to things that perfectly match your profile and your desires. But it is certainly not an expression of a free will if you follow AI's convincing recommendation. It is AI that prepares a compelling solution for you. But what will you do if the AI-powered digital advisor proposes suicide as the best solution? Sewell Setzer, a 14-year-old boy in Florida was in such a situation. He had suicidal thoughts and started a chatbot about the issue on the site of 'chracter.ai'. When the chatbot told him to '*come home*', he committed suicide.

Nature and my genes have given me from the beginning of my life a certain predisposition, tendency or inclination to change situations, environments and countries. Whenever I had to make a decision, this inclination got subconsciously the better of me. I remember the crucial moment when I decided to seek divorce from my first wife. She had badly cheated on me and I was deeply hurt. Such a situation – to start with – is not good for a rational decision anyway. Emotions can easily lead you astray.

Fifty years ago, it was still a social stigma to be divorced, which made such a decision look prohibitively courageous. But the fear that my wife would hurt me by cheating again was apparently stronger than the fear that society would stigmatize me. In hindsight I know that many hidden factors were at work in my decision-making process. I did not really see and feel their impact at that time. My innate Wanderlust was certainly a strong factor. Despite the heart-breaking situation, I must have considered the appealing

prospect to become free to move my life in a different direction. If my marriage had continued, I would have been stuck in the dull and monotonous world, in which I subconsciously feared to end up.

My fruitful job as a self-employed lawyer was satisfying because the life as a busy lawyer is often quite eventful and interesting at least compared to many other occupations. This distracted me from the pain that I felt with the divorce. My job could have been a permanent safe anchor and protection against personal vagaries and temptations coming from outside the world of work. But my inherent predisposition for changes made me feel that my life after ten years of practicing law could become a routine even though I did not yet feel any monotony. But there is the saying that one should go when it's most beautiful (Wenn's am schönsten ist sollte man gehen). I auto-suggested the uncomfortable prospect and fear that my life as a lawyer would eventually become boring. The general idea lingered anyway in my mind that one should change situations and occupations every seven to nine years to counter the onslaught of monotony and of getting into a rut.

My older brother has an entirely different predisposition. As a nuclear scientist he had probably many opportunities to move to other places by following calls to universities in different countries. But he remained for more than 50 years stationary in the same home, with the same wife and in the same employment at a research institute in Jülich, Germany. He had many opportunities to change his environment but he did either not see them or he discarded them. Wanderlust was not in his blood. He wanted to remain true to the person into which his education had molded him. It is worth noting that I received the same type of education in the same high school of my brother. But this identical education produced a different result due to my different predisposition.

A strong factor in my decision to divorce was probably the instinctive perception that changes in life are necessary for further development. It was a free throw as it is called in basketball. I used the opportunity to move my life into a different direction. Given my Wanderlust it was not really likely that I would 40 years afterwards still be practicing law in my home town if I had not divorced.

My mother always said in different contexts that when one door closes, other doors will open. This encouraging saying, which she often mentioned, might have subconsciously influenced my decision because it makes the future look bright in a situation of apparent darkness. There are actually many doors that opened when my first marriage ended. I then marched intuitively through the door that kept the path open for adventures in countries far away from where I lived at that time.

I now believe that it was China, where I now live, or a similarly foreign country that was the destination at the end of the odyssey. China was not pre-determined but it was just one of many similar destinations, into which a chain of events – some randomly – could have swept me. I remember that I was strangely impressed when I heard as a young boy for the first time about China. It must have been in the mid-1950's. In western minds, China was – and for a few people it still was until recently - as secluded and far-off as any strange country can be. Many other countries like Vanuatu in the South Pacific share a similar level of strangeness but such other strange countries were not on anybody's radar during my childhood. Sinology was a field of study that only a few daring students contemplated as outsiders when they were not interested in more lucrative careers. China was, so to speak, the ultimate of strangeness that subconsciously attracted me like a magnet without me noticing it clearly. It was strangeness, not China, that attracted me. And then, an opportunity came up many years later by coincidence and made me go and stay in this country after an odyssey through many other countries in three different continents.

In hindsight, the widely meandering and long path of my life from Germany via Canada and via many other countries to China sounds like destiny. But it was not; it was rather trial and error. It was a journey

governed by coincidences, random and thousands of opportunities, of which I took every time the ones that were in line with my predisposition. If different opportunities had come up, I would today not live in China. Thirty years ago, I applied at the Australian embassy in Port Vila for permanent residency in Australia. If they had not rejected my application because I was already 50 years old at that time, I would now possibly live in down under. But Australia was not to be. Destiny had this continent not in store for me.

Alternatively, I might now live in Vanuatu, Nepal, Mongolia, Tajikistan or in Mauritania where I had in each the pleasure to live and to work for a while. All these countries meet to some extent the requirement of strangeness but they are too small and too unimportant on the world scene. Vanuatu, where I lived and worked for six years, is particularly isolated and remote, which is against my preference to live in a more vibrant center that – at the same time - offers a high level of anonymity, which I feel is comfortable.

The Free Will in Law

People steal and commit numerous other punishable acts because they follow a natural human instinct. They help themselves for useful goods that are in the possession of others. Humans share this instinct with animals that steal another animal's prey, which is not a forbidden fruit for them.

If stealing were not a natural instinct, it would not be necessary to tell people not to steal. The prohibition to steal is necessary because people steal and because it is useful for a peaceful cohabitation when people don't steal. All societies therefore try to curb the instinctive desire to steal and to commit other acts that are harmful.

The eighth of the Ten Commandments says that '*You shall not steal*' (Exodus 20:15). This engages God's authority to elevate the command into a religious obligation. If you steal nevertheless, it is a sin by which you infuriate God who will punish you. It is far more complicated to explain otherwise to a child why it should not steal. How can you explain to a child that nobody must not steal a loaf of bred even if he is hungry or if he starves to death without the bread?

Christian teachings reduce the free will to the decision to follow either God or the devil or the flesh. If you decide to walk through life on God's path, you will be a '*slave of God*' (Titus 1:1) and a '*slave of Jesus Christ*. (Romans 1:1). The Bible also claims that it is an expression of your free will when you decide to '*serve the Lord with obedience and faith and to become slaves of righteousness'* (Romans 6:18). If you select any other than God's path you will be a slave of Satan and/or a '*slave of sin*' (John 8:34).

This means that the free will – if it exists - ends in Christianism when you have chosen either God's or Satan's path. You are then a slave of one or the other and everything that you do follows from there. If you decide to steal or to commit another offence, it is not an act against morality, it is a willful act against God's will. However, this idea is untenable for Christians who believe that God has pre-determined all details of everybody's lives. If God has conceived you as a murderer, you cannot avoid your crime. You should not be punished. But the government will for sure punish you even though it might have been God's decision that you are a murderer.

Some fundamental theologians might even say that desiring the wrong thing is already a sin that God will punish in the Beyond. They shed a bad light on someone who did nothing wrong but did not properly get rid of temptations in his mind. People who judge an action primarily by the will and by the motive behind an act, don't look at what you did but they look primarily at the motives of doing what you did. Martin Luther, the founder of the protestant church, for example, was angry at himself when he gave a beggar a coin because he was not sure whether pure altruism had motivated his donation – as he thought it should be - or if his selfish and reproachable motive was to look good in his own eyes and in the eyes of observers.

Criminal law in countries, where church and state are separated, does not state that you must not steal and does not declare theft as immoral. How can you? It is natural instinct. The law allows you to follow your natural instinct to steal. The government just punishes you but does not attach a moral condemnation to the criminal sentence. This reminds me the joke about a rich man who crosses in his expensive car an intersection despite red light. He sees a policeman, lowers the window and calls out: "Officer, send me the invoice".

If we claim that state law must be based on overarching moral norms, we have to admit that morality is relative. The sense of morality constantly changes over decades and centuries, from place to place and follows the changing values that people cherish. Researchers from Princeton University have surveyed more then 230,000 respondents and have established that people's moral values change even with the seasons. According to these researchers, people in America endorse the moral values of loyalty, authority and purity stronger during spring and autumn than during summer and winter.

Some legal philosophers do away with morality because perceptions of morality constantly change. We call this school of thoughts legal relativism or legal positivism. Law is what parliaments enact. What counts is the will of people that members of parliament represent. If someone decides to break the law, punishment must follow. Punishment repairs the legal system as you would repair a broken dishwasher. The proponents of this line of thoughts say that the law is the thesis, the crime is the antithesis and the punishment is the happy synthesis that puts everything back into order. With this type of logic, you can equally argue that darkness is the thesis, sunrise is the antithesis and sunset puts things back into order as the synthesis.

The legal dogma of the free will borrows from Christianism the idea that you are not judged because you did something but because you decided with your free will to do it. Your free will to break the law makes you responsible for your acts

My studies of law confronted me with this important – almost holy - dogma of German law. It is the dogma of the free will. Criminal law stipulates that we can hold a criminal responsible for his act only if he committed the crime with a healthy free will and consciously decided to break the law. The damage that the criminal caused is not the main justification for punishment. The main justification is rather that the criminal misused his free will to break the law instead of remaining law-abiding.

The corresponding dogma in civil law says that a legal transaction is valid only if all details of it originate in a free will. The dogma assumes wrongfully that a person controls all his acts with an autonomous free will. The reason for this assumption might be the biblical statement that God created man '*in his own image*" (Genesis 1,27). Human beings therefore share God's autonomous free will, which God must have because no outside powers control him. God's body does also have no impact on his decisions as our bodies have on our decisions. God has not a physical body that could possibly detract him when he thinks, feels and acts.

The dogma of the free will, however, disregards the biblical statement '*that a man's way is not his own; no one who walks directs his own steps*' (Jeremiah 10:23). As often, you can draw opposite meanings from the same holy book.

Agreements must be kept. 'Pacta sunt servanda' is the famous Latin saying. If the dogma of the free will is correct, you must keep an agreement only if all parts of a pact emanate from the free will of both parties. But a court of law can obviously not verify every time if a person used – psychologically speaking - a completely free will in all steps that lead to his decision to sign on the dotted line. The law cannot invalidate legal transactions every time that a psychologist declares scientifically that a person involved in

a legal act was not totally free. A person does not act freely when he is overwhelmed by anger, infatuation or by other flaws of the decision-making process. The law has to create legal certainty and cannot consider intricate criteria of psychology in each individual case. The law defines only precise and rare factual situations where the individual can claim that a contract does not represent what he actually wanted. You are exceptionally not bound by a contract if you demonstrate and provide evidence, for example, that somebody threatened you with a gun to make you sign a contract. However, someone could in such a situation argue that the coerced person decided by his free will not to resist and to give in to the threat. We face often in life options that are all undesirable. In many situations we can only choose between solutions that we equally don't want. But the law singles out only very few situations, in which a person is not bound by his legal act, in which rare case the law construes a lack of free will.

An individual can ask the court to invalidate a legal transaction if he can prove with verifiable facts that he had based the transaction on blatant errors that one or both parties made about facts or about the legal meaning of the transaction. In such cases the party to the agreement who wants to invalidate the transaction, might have to reimburse the counterpart for the damage that the error caused. It can be costly to invalidate a contract in such situations. If the dogma of the free will were absolute, a contract that is not covered by the free will of one party should be null and void without costly consequences because nobody should be responsible for a contract that is not based on a free will. But this is for practical reasons not what the law can allow to happen.

In the absence of clearly defined elements of a factual situation, the law irrefutably assumes that an individual has based his decisions on his free will no matter whether undue influences from family, religion or deceptive advertisements have formed the decision.

If I buy a shirt because I think it is pure silk but it is made from synthetic, I will have to pay unless the vendor has wrongly stated that it is made from silk and if I can also claim that I would otherwise not have bought the shirt .

If I am totally blinded by love and make the irresponsible decision to buy for my darling jewelry that is beyond my means, I will still have to pay for the purchase because the law does not consider infatuation as a factor that excludes a free will even though everybody knows that a man in love can be totally irresponsible. You will also have to pay if you buy a diamond ring only because your fiancée has threatened you to walk away from you if you don't buy her the ring that she fancies. But if the fiancée stands behind you in the jewelry store with a knife in her hands to force you to the purchase, the law calls this situation coercion and assumes exceptionally that you did not have a free will.

One important maxim of criminal law is that, if there is any doubt, it must speak in favor of the accused. This rule is encapsulated in the Latin sentence 'In dubio pro reo' (doubts must act in favor of the accused). One lawyer, Johnnie Cochran, who defended successfully O.J. Simpson in his murder trial in 1995 phrased this maxim with his famous closing words to the jury as '*If it doesn't fit, you must acquit*'.

Criminal law applies the maxim 'in dubio pro reo' only for the establishment of the facts of a crime. If prosecutors cannot establish these facts beyond reasonable doubt, the court must acquit the accused. Criminal law does not apply this maxim when we have doubts about the free will as a condition for punishment. Criminal law always assumes that the accused committed the crime by his free will. It is the onus of the accused to produce evidence that he committed the crime without his free will. But criminal law defines only a limited number of situations in which the criminal is deemed to have been out of his mind when he or she committed a punishable offence. These exceptions do not imply that a free will generally exists. The law talks only about exceptional and clearly defined external circumstances or

precise mental issues. Only in these rare cases, the law will not hold the person responsible. An interesting example is given in the Bible. "*If a man lies sexually with a woman who is a slave . . they shall not be put to death, because she was not free*" (Leviticus 19:20), which means that a slave in ancient times was in precisely defined situations not responsible for his or her acts. Finally, the fact that knowledge of the law is not a condition for punishment, speaks clearly against the claim that a responsible free will is the justification of punishment. Here again, the old Romans expresses this maxim with the short sentence 'ignorantia juris non excusat' – ignorance of law is no excuse. This maxim is clear evidence that we don't punish a criminal because he intentionally broke the law.

In the essay about the death penalty, I come to the conclusion that we can justify punishment because punishment is the only practical measure to reduce crimes if education – as often – has not worked out well. We don't need the artificial construct of what we call a free will of an autonomous soul. We don't need to pretend that we punish only if the offender willfully and consciously decided to violate the law.

The existence of a free will is an illusion. In reality, we all act as our brain, genes and minds make us act. Our actions are determined by our genes and the pre-configuration of our brain and how we were conditioned and shaped by education, experience and other external impacts. There is no space for a free will between our brain and our actions. We are what we do. Our actions and not the mental causes for our actions, define what kind of person we are.

The doctrine of the free will in German civil law has particularly become shaky in modern life with its mass transactions. When you board a public bus or you drive your car into a parking lot or through a toll gate, the law keeps the maxim of the free will alive by construing that you have concluded contracts in both cases. But no judge in any court of law cares if it was by your free will that you concluded a contract for transport or for storage of your car. You have to pay even if you are a minor or if you are incapacitated. This is probably the reason why some jurisdictions levy the fines for minor traffic offenses and charges for parking and road toll not against the driver of the car but against its owner. Fines and fees are costs of using a car.

The law bases your obligation to pay in many situations not on your free will but on typical social behavior (sozialtypisches Verhalten). I can see practically no difference between the obligation to pay for public or private parking and the obligation to pay for speeding with your car. Certain activities have their price no matter what your so called 'free will' had in mind. If you put your signature on the dotted line of a contract you have to fulfil all obligations no matter whether you were mentally absolute free to sign the contract. If your 6-years old child clicks the button 'Buy now' or 'Save Now' on a website, you will have to pay.

Similarly, if you steal, the criminal court will punish you and will even hand down a harsher sentence if you are a compulsive thief or if you suffer from shoplifting addiction that makes you a kleptomaniac. In such cases, the offender cannot use the insanity defense. An example is Mrs. Murphy, a "brazen" shoplifter, who had 22 previous convictions for theft under $5,000 in addition to additional convictions for 35 other offences. The abundance of her brushes with the law looks to me like the result of an uncontrolled mental health problem. But a judge in Vancouver held her responsible and sentenced her to 9 months of house arrest. Shoplifting is a serious problem. Governments cannot let these people let walk around freely. They have to reduce shoplifting by all legal means.

I conclude from the above that the legal dogma of the free will is an artificial construct that is as credible as the dogma of Mary's immaculate conception.

Decision Making in Legal Proceedings

During the probationary period (Referendarzeit) between the first and the second state exam I had to apply and to test my newly acquired knowledge of law for a period of three years in practical training. In addition to many other activities in this capacity, I had to act for some time as a judge of the lower court in Tübingen. This function confronted me with the challenging task of making decisions. Making decisions is not an easy task for a procrastinator who I generally am. A judgment can have relatively severe consequences if you send the accused person to prison or if a party loses its case in a civil proceeding. It looked scaring to me to be responsible for such decisions, which not only affect the parties of a court case but also the public appreciation of the judiciary.

A judge in a court of law makes his decisions in a procedure that is highly structured and clearly regulated. Strict rules exist how to apply material law and how to conduct a court case before, during and after a hearing. I had next to no problems with material law and with the procedural rules. Procedural rules are quite detailed and guidelines for judges complement these rules. But the most detailed rules cannot avoid room, where gut feelings, intuition and bias will creep in. Evaluating the credibility of witness statements or evaluating other evidence are examples when intuition and possibly bias influence judicial decisions. There are many more areas where leeway exists and that a judge will fill with gut feelings or intuitions that are difficult to control particularly if the judge has a heavy workload and only limited time to arrive at conclusions. Also, it is most likely difficult for a judge to eliminate bias when he is in the middle of a nasty problem at home or when he suffers from severe constipation.

One older judge, for whom I worked during my probationary period, gave me the voluminous file of an older court case, which had been sitting on his desk for a long period of time because it was complicated. He wanted me to give it another try by presenting him my opinion. The judge recommended that I should not only study the facts and the law but that I should also use my gut feelings to assess if the case involved swindle and where the swindle might be. Gut feelings might become more reliable with professional experience, which this judge amply had. But my gut feelings were extremely unreliable at that time because I had no practical experience neither in court nor in the world outside the courthouse and outside the university. I could not yet 'smell' where the actual and real problems are in a court case.

I find many characteristic differences in the legal systems of North America and the UK on one side and of the legal system in continental Europe on the other side. Each system influences the decision-making process in different ways. The Anglo-Saxon legal language is wordy and often long-winded. Lack of abstract thinking might be the reason for this wordiness. An example is the regular phrase that you find in all contracts. It says that the agreement is '*binding upon the heirs, executors, administrators, successors, assigns and other legal representatives*'. In continental law you don't have to give a list of all cases in which a contract might bind third parties. Continental law captures this issue for all intents and purposes with the concept of 'legal succession' (Rechtsnachfolge). This means that every legal successor inherits the complete set of all rights and obligations of his legal predecessor. This abstract concept makes it redundant to mention any possible case of legal succession repetitively in all contracts.

Another difference appears in the different ways, in which judges in North America and on the British Isles on one hand and their colleagues in continental Europe on the other hand justify their decisions when they hand down a judgment after a hearing. In America the judge might say "I send you to jail because I think you are an evil person". In Germany the judge will announce the punishment by saying that the accused is guilty of rape and that the law sentences the accused to three years in prison. The judge will not say "I punish you" but will sentence him 'in the name of the people' (Im Namen des Volkes). The German law bases this concept on the very bold assumption that a judge can deduct his decisions with

logical tools from the legal text without personal inputs. If you consequently think along the line of this hypothesis, the judge is not really making a decision and does not use his own free will. The text of the law intrinsically already embeds the judgment. The judge is just a technician who extracts the decision from the legal text similar to a midwife who extracts a baby from the mother's womb. The idea of such a judicial process is an illusion and hides the actual decision-making process, which involves personal judgments.

Legal theorists like Theodor Viehweg claim that logical jurisprudence is an artificial construct. They say that judges make their decisions not by applying logic but with the method of "topical thinking". This method solves disputes by using a functional approach and by looking at the law – of course – but also at sociological mechanism and interests of the parties involved. The law provides, as these thinkers claim, only guidelines for the judge who has the personal power to decide each case. And law becomes predicable because each case presents a precedent that binds subsequent judges if they deal with a similar case. However, the Supreme Court of Canada (SCC), for example, has downgraded the significance of precedents by saying that precedents are not all that important in Canadian law anymore. Richard Wagner, the Chief Justice of SCC disqualified older precedents as '*legal cultural heritage*' that has no bearing on modern law. Many justices now sacrifice legal certainty because they feel free to make up new laws as they work in the courtroom and not in parliament.

Thurgood Marshall, a former associate justice of the US Supreme Court, went quite far by seeing the law as a vehicle for social change. As a more conservative person I have difficulties seeing a judge in a courthouse as a doctor who tries to solve social problems with legal medicine for which no prescription exists that is written down as a law. However, if legislation in fundamental questions like abortion and gun control is not clear, it might well be the responsibility of the judiciary to bring about the required changes. However, we find cases, in which the judiciary frankly admits that the law is silent. In these cases, the judge might not decide the issue but might order the legislature to bring about the changes within a reasonable period of time. I observed such court rulings in cases where environmentalists were successful with their claim that legislation about reduction of greenhouse gases was not in compliance with the Paris Agreements of 2015. In these cases, the courts ruled that parliaments, not the judges, had to do the necessary touching up of the legislation.

The field of tensions between law and justice is very interesting because the strict application of the law can create great injustice. The old Romans had a short adage for this as well. 'Summum Jus, Summa Injuria', they said: the strict application of the law can produce great injustice.

I remember a situation in a courthouse when a claimant implored the judge saying "I want justice" whereupon the judge replied: "You want justice? I can give you only a judgment". The most detailed laws cannot prevent that justice is often a matter of opinion.

A judge must give reasons in writing. He must verifiably explain why – for example - he finds evidence credible or unreliable. If leeway exists the judge must clearly write down how he filled the blanks in the decision-making process. However, the written justification of a decision does not describe the actual path on which the decision evolved in the judge's mind because forces like bias and intuition, which led to the decision, are hidden. They work in the background of the mind. If the judge is aware of his own bias, he might recuse himself if the bias is strong and likely to mislead him. But bias always exists. The judge must hide the bias when he speaks during the hearing and when he writes the opinion of the court.

Writing or talking clarifies and completes the development of ideas and issues. This is what Heinrich von Kleist observed in his essay "About the gradual development of thoughts when talking". The exercise of

writing clarifies ideas that simmer in the judge's mind during the hearing. The exercise of writing leads to an ex-post validation of intuitions. The written justification of a decision is mostly the attempt to make the judgment plausible in a similar way in which an unrepentant sinner skillfully explains why he did not sin.

A court of appeal verifies only the judge's written reasoning and not the method by which the judge's mind actually came to a conclusion. The appeal court will consider factors outside the written reasoning only if someone has caught the trial judge off guard when he made in a case, in which a colored party was involved, a biased remark like 'I don't like black people'. In such a case the appeal court will overturn the judgment even if the written justification is irreproachable. The practice of overturning in such situations a perfectly written justification of a judge's decision is the indirect acknowledgment that bias can influence a decision for which a judge has written flawless reasons. However, the official explanation for this practice is that a judge must avoid with all means the impression of bias even if his decision and its written reasoning are free of visible partiality. Judges usually hide cleverly the fact that bias has influenced their decisions. As I said above, you can often justify flawed actions with perfect arguments.

When I practiced as trainee the functions of a judge at a lower court, I had to hand down my decision immediately when the hearing concluded. I had also to present orally the reasons for my decision. This was customary practice even though it would have been safer to postpone the decision until I had a chance to look again at the file and at the minutes of the hearing. I had quite a difficult time justifying afterwards in writing a decision that I had previously announced. But I remember that I always found the right words that made my decision irrefutable.

In small claims tribunals, where the parties cannot appeal the judge's decision, the judge wields enormous powers, which enables him to create justice or injustice without looking at the law and without having to give explanations. The judge might give in to the temptation to take it easy when they wield powers.

The supplier of a fridge sued me in the Small Claims Court, which is a part of the Manitoba Court of Queen's Bench in Winnipeg, which is now a King's Bench. The supplier claimed the payment of a fridge that my tenant had purchased without my knowledge and had told the supplier to send the invoice to me, the landlord. I defended my case with the arguments that I had no contractual relationship with the supplier and that I had not given the tenant a power of attorney to buy the fridge on my behalf. I concluded that the supplier must claim the purchase price from the purchaser and not from me. The judge asked me one simple question in the hearing that took only three minutes: 'Are you the owner of the apartment?' After I had answered 'Yes', he hit his desk with the gavel and ordered me to pay for the fridge. The judge disregarded the principles of contract law whereby only the parties of an agreement can have contractual obligations. I had to pay for a purchase, in which my free will was undisputedly not involved.

Not a single judge, but a panel of judges decides more serious cases because six eyes see more than two eyes. When it comes to decisions in grey areas like the evaluation of witness statements, bias and intuition of his colleagues confront the decision maker's bias and intuition. The colleague's explanations and the discussions might lead to a correction of a single judge's decision. But a shared bias is still bias. We suspect collective bias in cases where a panel of judges consists only of white men in a case where the accused is of different complexion or when all judges are males in a case involving females or women's issues. To solve this problem, the court could compose the panel of judges for every case according to the parties that are involved in the case. But this carries the risk that bias will be at work when the president of the court constitutes the panel of judges either in favor or to the detriment of an accused. As often in life, we cannot have it both ways. We have to compromise when two or more equally valid

principles collide. We might even have to accept the rule of random if there is no other way to decide. This is the case – for example – if the court selects the judges of a panel by a lottery or alphabetically by the first letters of the judges' names. Random selection of the panel might produce a wrong result but we cannot accuse random to be biased even if the panel of judges by coincidence consists only of women in a case against a rapist. If a jury participates in the judicial process the court selects a pool of potential jurors randomly from voters' lists. Both sides of the court case then attend a hearing, in which they agree on the selection of the actual jurors. This process avoids possible claims of partiality against jurors afterwards. But the process of selecting jurors can be lengthy and adversarial and can considerably delay or even kill a trial if aggressive defense lawyers abuse the system.

Being possibly responsible for a wrong judgment of a court of law was not what I wanted in my future professional life. Remaining neutral and keeping a cool composure in the face of often outrageous behavior of parties in the courtroom was also an attitude that was not easy for my outright Teutonic character. The daily work of a judge often produces judicial stress that I feared and wanted to avoid.

I decided not to become a judge. I preferred to work as a lawyer who can – and must be – biased in favor of his client. A prosecutor is in a similarly comfortable position of taking sides. My father was self-employed, which he always described as the most desirable professional situation. He never wanted to work in the complicated hierarchy of the public service. His glowing opinion about self-employment made me decide to become a free lance lawyer.

Presenting a court case with bias in favor of one party is much easier than weighing all factors of a case for a final and binding decision. Bias of one party in contentious jurisdictions (streitige Gerichtsbarkeit) meets the bias of the opposing party. The judge in the middle between the two parties can then weigh the merits of the arguments as a neutral person. This concept, which is a dialectical method, assumes that a judge can make an unbiased decision easier when two parties present their opposing positions with bias. Therefore, I never felt uncomfortable or guilty when I presented biased arguments to the courts for my clients.

A lawyer in Vancouver who represented me in a dispute with a landlord, showed in the drafts of his filings to the Supreme Court a great deal of objectivity by honestly mentioning facts that were harmful for my position. I thought that he should have left the presentation of these facts to the other side. In addition, my lawyer expressed in his submissions to the court sympathies for the legal opinion that the opposite side presented to defeat my case. He explained to me that he had to remain objective and neutral because the excellency of judge most likely was sharing my opponent's legal opinion. He did not dare challenging the judge's anticipated legal opinions. He pointed out that '*although I am my client's agent, I am also an officer of the court*'. This is not how I, wo was educated in Europe, see the function of a lawyer. A lawyer must be a "zealous advocate" and a devoted defender of his client's cause. He is bound by the ethical rules of his profession, yes, but he should in adversarial court proceedings not prematurely take sides with the judge or give his client the impression that he assists the court.

The 1983 Model Rules of Professional Conduct of the American Bar Association contain the misleading description of a lawyer as an officer of the court. The north American perception of a lawyer as helper of the court finds its parallel in the role of a suspect who is legally obliged in North America to assist police in their investigations against him. If he lies to police or to the court, he will harvest an additional punishment for obstructing justice. If a suspect remains silent, it will be held against him with the cruel assumption that you have nothing to hide if you are innocent. This attitude is in stark contrast to legal concepts in continental Europe where a suspect and an accused have the right to hide the truth and even

to lie because suspects are not considered helpers of police and of the court. They have no obligation to contribute in any way to their own punishment.

Pure dialectics, which allow only logical arguments, are not the only rule for a lawyer to design his arguments and to present his client's case. Rhetoric and subjective elements come in as well with the attempt to influence the decision of the judge with emotional appeals. Of this, I admit, I am guilty. I always tried to sharpen my rhetoric to sway the judge's mind in favor of my clients and to discredit my opponent's arguments with other than logical tools. After all, people and potential clients don't measure the success of a lawyer by the cleanliness of his logic but by the outcome of the court case. Lawyers become famous not by the quality of their work that most people and journalists cannot judge, but by acquiring famous or infamous clients. This is why I am highly skeptical when the media refer to a lawyer's outstanding qualities, which they cannot judge at all themselves.


Rheinstein Castle

A minor example of my own life as a lawyer is a case of a failed sale of the Rheinstein Castle that overlooks the Rhine Valley close to Trechtingshausen. The owner was a princess of Prussia, Duchess of Mecklenburg. She had sold the castle, which was full of precious antiques, to a British fraudster. She gave him the keys for the uninhabited castle before the buyer had paid one single Deutschmark.

The British buyer used the keys and emptied the castle. He put all antiques up for sale at an auction in Cologne. The princess found out and hired me to stop the auction with a court injunction, which I obtained for her and she recovered her properties in the auction hall minutes before the auction was due to start. The hectic events on this day were reminiscent of a crime thriller. The factual elements and the legal content of the case were straightforward. The procedure to obtain an injunction was easy. I just had to draft an affidavit with the simple facts and submitted it with the princess's signature to the court. When you sell your house, including furniture and mobile equipment, you don't give the purchaser the keys before you have received any money. It is as easy as that. Journalists then came to my office to interview me and mentioned me in articles of two News Magazines with my photo in the center insinuating that I was a prominent lawyer. I must admit that all this happened during the summer holiday season when journalist did not have many other stories to publish.

The Illusion of a Free Will

People have desires that come from various different instincts including – as the Bible says – from the flesh. People usually develop thoughts and feelings along the line of their instincts and desires. A person might, for example, feel and think that the person in front of him is not likeable because -as he probably might not notice – he has an instinctive bias against certain foreigners. Based on his dislike, he might decide to shorten the encounter but he might actually end the meeting only when he sees a good opportunity or pretext to say suddenly good bye.

Many intentions and decisions remain dormant or people change their ideas before they act. Which of the steps from instinct to a decision and then the trigger for the execution of a decision is possibly guided by a free will?

To come to the point before I go into details below, I conclude that a free will - if it exists - is for sure not involved in the development of instincts. A free will is also, as we will see below, not behind feelings and thoughts. Decisions, which develop from thoughts, remain mostly dormant. They are only hypothetical executions and as such qualitatively not much different from a thought. They become real only if a person executes a decision. The question then is whether a person uses his free will to trigger the execution of a

decision or if factors, that he does not control, trigger the execution. This is in the discussion about a free will the main question.

Freedom of Thoughts

We should distinguish different progressing stages by which human beings manifest themselves. At the first stage, a person has vague impressions and thoughts that instincts dominate. Thoughts might develop in a second phase into wishes and ideas of which we become aware but only extroverts will divulge. But despite the vagueness of many thoughts, they influence a person's behavior even when the person does not admit them to himself. A decision might then follow. But a decision needs a trigger that executes the decision in the final stage. But many thoughts and decisions remain inconsequential.

We are certainly free to want something even if it is prohibited. We are free to decide something that is forbidden. We have all kinds of ideas and see many possibilities to do something instead of not acting or doing something else. We feel that we are free like the birds in the tree.

Our thoughts are indeed free. Governments and society start interfering only if we actually execute a decision to do something illegal. Authorities sanction an offender not for what he wants to do or has decided to do but for what he has actually done.

Some religious thinkers, however, want to punish an offender not primarily for what he did but for his illicit will behind his offence. Christian churches don't condemn actions but rather the bad thoughts, and the failure to fight temptations by the devil or by the flesh. The real sin is not to do something wrong but to lose the battle against devil and flesh instead of remaining on God's path. However, we should discuss the existence of a free will as the freedom to act and not as the freedom to have thoughts, intentions and wishes.

Hoffmann von Fallersleben is the author of a text that Germany adopted for its national anthem. It starts with the words 'Germany, Germany above all' (Deutschland, Deutschland über Alles). This is not a value statement, as critics sometimes claim, but a confession of love. This confession referred in 1848 to the desire for a unified Germany to replace a fabric of many adversarial political entities and fiefdoms in central Europe of German language and culture.

Hoffmann von Fallersleben celebrated in the 19th century in another popular poem the freedom of thoughts with the lyrics of a song that has become famous:

Thoughts are free,	*Die Gedanken sind frei*
who can guess them,	*Wer kann sie erraten?*
they flee past	*Sie fliegen vorbei*
like nightly shadows.	*Wie nächtliche Schatten*
No one can know them,	*Kein Mensch kann sie wissen*
no hunter can kill them	*Kein Jäger erschießen*
It stays that way	*Es bleibet dabei*
Thoughts are free	*Die Gedanken sind frei*

The English version of the poem is an awkward translation of the much nicer German original that derives much beauty from the rhymes that the translation does not show. This poem innocently omits that some totalitarian regimes are successful in finding out what you think. They also want to influence thoughts and want to kill ideas that are not in line with their official ideology. They fear that people might execute wrong thoughts or might infect other citizens with their ideas.

Anyway, we discuss the existence of a free will not if we wish or want something but only if we actually follow up on such wishes. An action can be an instinctive reflex that the biological intelligence or the

software in our muscles and in the nervous system create. Nobody claims that an automatic reflex like a spontaneous outcry or laughter is a conscious expression of a free will.

Most actions will be the end point of a mental process that necessarily starts with a thought. This process might be very short when it results in a spontaneous action or might be very long for a procrastinator. Since every action that is not a reflex, necessarily starts with a thought, it is important to investigate how thoughts develop, what causes them and why some thoughts result in action while others remain dormant.

When someone claims that we develop our thoughts with our free will, it sounds as if a free will was a power outside the brain that operates and directs the brain to produce thoughts and ideas. Such a free will would be like a jockey who sits on top of his obedient horse and drives it on a race course. Such a claim owes an answer to the question where the free will is located either within the brain or somewhere else in the body or even outside the body like the jockey who sits on top of his horse. The question remains the same if someone claims that not a free will but our soul generates our thoughts because he has then to explain what the soul is and where it is located. Unless we harbor the weird idea that a soul and a free will exist before the conception of a baby, we will also have to answer the question at which point they come in existence during the autonomous biological development of a baby. Why and when do the laws of biology, which create a baby, hand over the control of a person to his suddenly appearing free will?

The idea that we develop thoughts with a free will is incorrect because thoughts come into our minds without our control. If we were controlling the production of thoughts, it would be unlikely that we allow our brain to bother us with unpleasant thoughts. If we were free-willed, we would also avoid that too many thoughts invade us simultaneously and confuse us, as it often happens, with intrusive thoughts, excessive introspection or off-task ruminations.

If the brain were under our control, we would not allow it to make us worry and prevent us from sleeping or from solving a problem. We can call this undesirable situation ‘overthinking’, which we cannot avoid because we don’t control it.

Some meditation techniques, like Zen Meditation (chán dìng禅定), have the goal to avoid that any thoughts emerge in the mind. If successful, the person who meditates will indeed not have any thoughts during a successful session. After the end of the exercise, the practitioner might feel relaxed but thoughts will uncontrollably come up again. This is fortunate because it would be a catastrophe for you if no more thoughts would develop after a session of meditation. On the other hand, if no more thoughts develop, this might be like having achieved enlightenment and Nirvana. This is in Buddhist view the ultimate goal of serious meditation.

Another form of meditative relaxation is a mental ‘bodyscan’. During this exercise you focus your thoughts on your body. You start with your head and go down and, vice versa, you might start with your toes going up. You rest your thoughts on each body part for a few seconds before you move to the next body part. To make the exercise more entertaining I ask the cells of the body parts, on which I focus, if they are OK and if they have received sufficient oxygen. The bodyscan keeps other thoughts away. It is similar to the grandmotherly advice to count sheep when you have difficulties falling asleep. This also will eliminate nasty thoughts.

Thoughts are the result of unconscious processes in the brain, which are active behind the scene of our consciousness. The brain’s independence from a free will becomes also evident when all of a sudden after you left home the idea springs up in your mind that you might have forgotten to turn off the gas under

the water kettle. It is not your free will who tells your brain to remind you. It is the brain who does this on its own initiative.

Thoughts appear automatically against our will when we want to relax or try to meditate and don't want to think about anything. Feelings and pictures of last scenes arrive 'like nightly shadows' as Hoffmann von Fallersleben has put it. The brain digs out from its memory without our control pictures of happy or of awful scenes that we have experienced. The brain also presents us against our will catchy tunes that we had heard in the past. We call them earworm or earwig – Ohrwurm in German language. Finally, our brain will freely associate words, sights and smells that our senses perceive with existing memories and produces in this way uncontrollably thoughts and feelings. If you see a nice piece of wooden furniture, one person might associate it with the grandfather's living room. Another person – a carpenter - might think about the problems to create such an object. A salesperson in a furniture store might think for how much money it can be sold.

Feelings like fear or joy, hate or love influence our actions into different directions. They appear without our will and some of them are precursors of decisions and actions. We cannot issue to our brain the request to develop a precise thought. We cannot talk to our brain. When we hear someone talking to himself in public, which we find weird, he is actually not talking to himself or to his brain. He just speaks to an imaginary audience to tell them the ideas that his brain has developed.

Inspired by what our senses perceive at a given moment, our brain generates thoughts by bringing up from its memory different bits and pieces with the power of its associations. We become aware of some of them, which we might call explicit associations. But the brain keeps on the backstage other thoughts, which are hidden and which we might call implicit associations. The two types of thoughts, the ones of which we are aware and the hidden ones, flow around in our minds as background actors. They work as implicit bias when the brain develops ideas and thoughts. The process of thinking, which follows the physical and biological laws of our brain, produces results. If we become aware of them, we call them ideas, beliefs or convictions about which we might talk to our friends.

Different chemicals and neuro transmitters that arrive in the brain from our body's organs influence the direction into which our thoughts develop. When a person is preconfigured as a pessimist, the brain will develop gloomy thoughts. If the person is generally fearful, the thoughts that the brain develops, will highlight issues of safety and dangers. There is very little influence that people with such pre-configurations can exercise on the work of their brains. A pessimist can do very little to convert his pessimism into optimism. Even a psychologist will not be able to achieve this.

We can temporarily change grosso modo the direction, into which thoughts and feelings might develop, by giving the brain – for example – more oxygen or more sugar. When I felt not comfortable with my brain's work I had relatively good experiences by taking hot and cold showers. We can also influence the processes in our brains with autogenic training or with repetitive auto-suggestions like "Everything is fine. No need to fear". It is not our free will that makes us try to change the direction of our brain's work it is the discomforting feeling of fear that makes us start autosuggesting that everything at the end will be fine. Exercises like meditation or autogenic training might change the direction in which thoughts evolve but will not produce specific thoughts.

I used autogenic training casually to fight anxiety of heights before I went on climbing tours in the Alps. Sea sickness was more difficult to overcome. I had become victim of severe sea sickness as a student in the 1960's on a voyage during heavy sea from Piraeus to the island of Crete. I had spent a dreadful night during this passage. When friends suggested many years later in the 1970's that I join them on a sailing

tour from Rotterdam to Edinburgh. The invitation was tempting. I was too shy to reject the invitation with the explanation that I would become seasick. Instead, I sought help from a psychiatrist to overcome the weakness. He gave me instructions how to practice autogenic training, which I did successfully by myself for some weeks several times every day for some 15 minutes. I was afterwards proud that the skipper and I had been the only persons onboard who had not become seasick during the trip across the very rough North Sea. I see this as evidence that autogenic training works to make our brain change directions. However, there were probably two main reasons why I did not become seasick. I did firstly not remain below deck, where the air is stuffy and were I would have been helplessly exposed to the heavy movements of the vessel. I secondly looked, when I stood on deck, not at parts of the moving boat but at the horizon, which remained stable.

It is some times lack of oxygen or lack of sugar that gives us discomfort. We breeze as a reflex by which we take in necessary oxygen. We crave for chocolate if our body needs sugar.

We can influence our brain's performance not only with the methods that I have just mentioned. We can also instruct the brain to move into another direction by drinking alcohol or taking different drugs, including psychedelic drugs.

These different substances influence the brain's development of thoughts and feelings only in a very general way. We are not able to make our brain produce specific ideas with these methods.

To develop explicit thoughts, we have to use a language – spoken, written or mental - as Heinrich von Kleist observed in his essay "About the gradual development of thoughts when talking". Our feelings and thoughts remain dumb and vague without a language. I have presented more details in my essay about the importance of language. But it seems clear to me that we don't create thoughts and feelings by writing and talking. We just describe with words the thoughts that we have. The brain then uses the words that we express orally or in writing to further develop thoughts with its associative powers. If we write down or speak the sentence '*Death sentence is murder*', our brain will dig out from its memory ideas that it associates with 'murder'. If, instead, we write or speak the sentence '*The death penalty restores justice*', the brain opens the path towards issues that are associated with legitimacy and law and order.

The biggest difference between thinking and writing or speaking is that the brain develops our ideas from its memory more or less randomly with its typical associative techniques while we have to speak and to write with the logic that the listener or reader can understand. If we speak in the same sequence as our brain develops thoughts, it will be confusing for the listener. The listener will have the impression that we talk confused stuff. A speaker must not assume that the listener can follow the same associations that the speaker's brain developed. He must formulate his texts with the logic and sequence of ideas that the listener can follow and understand. He must – so to speak – simultaneously translate associative thoughts into a spoken language. A speaker can take back words and start sentences afresh if the meaning does not become clear. Many speakers actually develop their speeches gradually while speaking. Only gifted speakers can speak ready for print. Writing is much more difficult. This is why many people can abundantly speak but have difficulties writing.

The difference between spoken and written language becomes evident when we read the transcript, for example, of an interview. The speaker often interjects sentences with remarks like 'You know, what I wanted to say' or 'I mean' or 'right?'. You normally don't find such interjections in a written text.

Many people criticize the opinion that language is an essential prerequisite for thinking. They claim that non-human animals demonstrate high levels of cognition and have significant problem-solving skills without speaking a language. It is indeed true that beavers, for example, can build their lodges as we call the homes that they skillfully build. It is also true that many animals, like elephants, have an extraordinary memory and, like sniffer dogs, have extraordinary sense perception. We have to admit that many animals

are smarter than humans. It is also true that humans who have impairments in language - we call this aphasia – have usually full cognitive skills and are able to solve mathematical and other problems. If we refer to the use of these skills as 'thinking' than we have to acknowledge that we don't need a language. But if we read carefully Kleist's essay, he speaks about the need of language to 'gradually' developing a thought. He meant by this that language allows to develop thoughts from a crude beginning to higher levels. Similarly, the British philosopher and mathematician Bertrand Russell who received the Nobel Prize for literature in 1950, did not claim that thinking is not possible without language. He rather said that the purpose of language is '*to make possible thoughts which could not exist without it*'.

When we say that thoughts are free, we mostly don't mean that we develop our thoughts with a free will but we mean that we can harbor any idea freely in our minds no matter how these thoughts developed and how other people judge them. We also mean that the freedom of thoughts is a right that outsiders must not violate. However, we are not protected against influencers who try with considerable success to mold our minds constantly during our entire lives starting when we were children. Churches, religions, educators and governments try more or less aggressively to influence the thoughts of people with the goal to eliminate certain thoughts that they find inappropriate or think that they are not in line with their respective ideologies.

The Bible does not talk about thoughts and how they develop except to say that the devil is the author of bad ideas. This misconception is understandable because the authors of the Bible did not know how the brain works and how the brain develops ideas. It was only around 170 AD that the Roman physician Galen suggested that the brain was where our memory was located and where our capacity to think resides. He was wrong to assume that the four ventricles within the brain and not the brain itself houses these capacities but he was nevertheless on the right track.

The Bible mentions thoughts and recommends that '*whatever is noble, whatever is right, whatever is pure, whatever is lovely, whatever is admirable—if anything is excellent or praiseworthy—think about such things*' (Philippians 4:8). The Bible adds that *'whatever you have learned or received or heard from me, or seen in me—put it into practice*' (Philippians 4:9), which in plain English means that you should do what he tells you to do. The Bible then also mentions the phenomenon of speech and requests that people should '*not let any unwholesome talk come out of your mouths*' (Ephesians 4:29). This correctly states that people develop ideas but should not mention them if others consider them to be 'unwholesome'.

Otherwise, the Bible is mostly concerned with the development of desires. In today's understanding the desires are ideas of decisions to do something that can either be good or bad behavior. The Bible warns against the desires of the flesh or the '*the lust of the flesh, the lust of the eyes, and the pride of life*' (1 John 2:16). This holy book does apparently not condemn natural desires like eating and to "*be fruitful and multiply*" (Genesis 1:28). The Bible calls desires of the flesh only desires that are unholy or that God's spirit might not accept. "*For the desires of the flesh are against the Spirit, and the desires of the Spirit are against the flesh, for these are opposed to each other, to keep you from doing the things you want to do*" (Galatians 5:16-17). The Bible discredits a person's own desires. The Bible warns that "*each person is tempted when he is lured and enticed by his own desire. Then desire when it has conceived gives birth to sin, and sin when it is fully grown brings forth death*" (James 1:14-15). And indeed, madame Eve in the Garden of Eden brought mortality and misfortune over our world '*when the woman saw that the fruit of the tree was good for food and pleasing to the eye, and also desirable for gaining wisdom, she took some and ate it*' (Genesis 3:6). The Bible's idea is that we must remove desires from our minds and not act upon them if God will not be pleased if we do this.

When we feel compelled to articulate the thoughts that our brain develops, liberal democracies protect us with the human right of free speech. This is the only freedom of thoughts that we have. People living

in liberal democracies have even the freedom and the right to publish blatantly wrong thoughts and opinions that inflame society. Nobody cares if the thoughts that someone publishes are the same as the person has in his mind. People become apprehensive only if utterances of one person are inconsistent.

In summary, we discuss the existence of a free will mainly not in the context of how we develop thoughts and ideas but only when a person publishes them or acts according to his thoughts. Every decision to act is normally preceded by a process of thinking. We don't control with a free will the development of ideas as I have just mentioned. Having an idea and executing an idea are two different things. We therefore should not only investigate if ideas develop with our free will but also the question if we use a free will when we follow up on an idea and pull the trigger to execute a decision.

Feeling of Freedom is Reality

The discussion about the existence of a free will is related to freedom in general. And freedom can be the freedom from something – for example the freedom from fear, from sicknesses, pain and oppression. In that respect we are never free because we are – without our control - subject to fear and to sicknesses and we are subject to obligations towards government, family and society. If I do not fulfil a duty, someone will sanction me. The fear of punishment reduces our freedom because punishment is painful and our instinct wants to avoid pain.

Obligations and constraints can be overwhelming to the point that no room is left to notice any opportunities and to act differently. I knew a single mother in China who passed away 10 years ago. She was not educated and had five children to feed and to bring up all by herself because her husband had passed away far too early. She worked in a shoe factory during the day and then continued working at home during all evenings seven days a week. She had to earn extra money to survive. She did this by buying soles from her employer and made them into slippers. She did what she had to do and what she was able to do. She had no room for any fancy alternatives. Her poor parents and society had brought her up with the idea that it was her damned duty to do what she did. Neglecting her children was therefore not an option. The frame, within which to act, was extremely narrow for her. She lived like a slave of her poor condition but she never felt like a slave. She accepted her life as it was. Some people say that this is evidence of freedom. It was for her like the situation of someone who freely and happily decides to stay in a room not knowing that the room has no exit.

Freedom can also be the freedom to do something. Examples are the freedom to speak and the freedom to worship. But this type of freedom exists only to the extent that there are no restrictions that prohibit a person to go beyond certain limits. Inherent limits of these freedoms restrict the space that is left for a free will. If I am a Muslim, I exercise my freedom of religion but I must abide by Islamic rules and I am not allowed to worship Jesus Christ or Buddha. Religious restrictions are in addition to the fact that I became a Muslim not by my free will but because I was born into a Muslim household. In this case nobody asked me if this was OK with me. If you are a Muslim, you must remain a Muslim. Apostate Muslims face ostracism and Muslim countries will persecute, imprison, torture, and even kill defectors. But you feel free and express your free will by being a happy slave of Islamic rules.

Limited funds will restrict me if I want to travel. My decision that I don't go travelling if I know that I don't have any money, is free-willed only if we claim that acceptance of the unavoidable is an expression of a free will. But even if I have the necessary funds and decide to travel, I can anyway not visit a country for which I do not have the required visa. I obviously can also not travel to the moon or climb Mount Everest.

If I am free to become and to be a lawyer or a doctor, am allowed to do this only if I have passed the necessary exams. In addition, I cannot practice the profession if I am not admitted to the bar or to the

college of physicians. Once I am a member of the bar or of the college of physicians, I am free to practice my profession but I must abide by their respective rules and must pay annual dues, failing which they will disbar me, kick me out of the fraternity and I will have to find another occupation to feed my family.

Here is an interesting case in point from Canada: The College of Psychologists of Ontario threatened its member Jordan Peterson to cancel his license for having disseminated in social networks critical opinions of general interest outside his profession. He voiced, for example, the opinion that 9 billion people living on our planet were sustainable. The members of the College did not object to this questionable statement but they judged that Peterson was bringing disrepute to the profession when a woman replied that overpopulation was a threat to the ecosystem and Peterson answered "*You're free to leave at any point*". He became famous for publishing novel opinions about Japanese cars, about the use of monkeys in research, free trade agreements and capitalism. This prompted the College of Psychologist to order him to undergo social media training at his cost, failing which he would lose his license. The Ontario Divisional Court upheld this order whereupon Peterson complained that both the College and the Court had '*taken possession of my tongue*' for '*lawful public expression on matters unrelated to the practice of psychology*'.


Lawyer with Wig

If you are a free member of the legal fraternity, you are not even free to dress as you wish. When I practiced law, I had to wear a black robe whenever I set my foot into a court room. I found this a senseless and ridiculous custom. But I was fortunate that I have not practiced law in a common law jurisdiction, where lawyers and judges must wear more elaborate and even more ridiculous outfits, including wigs.


Chief Justice, Vanuatu

At the time when I made a so-called life-changing decision, I always felt that I was free to decide even if I suffered from an agony of choice. I rather felt that I was '*condemned to be free*' as Jean-Paul Sartre allegedly put it. I would have preferred knowing all elements that are necessary to know and to evaluate correctly to arrive at rational decision.

I often saw many possibilities but did never know if I saw all of them. All options that I saw had different consequences that I had no way to predict with any precision. But once I had decided, I always had the impression that it was me who had made a clever decision autonomously with my own rational considerations. I had the impression, though, that I was often taking risks. But risk taking is part of a rational consideration. Taking risks is like gambling because we don't have a precise barometer for dangers as we can look at barometers to predict changes of weather. Taking risks means that you lay your future with a free-willed decision in the hands of random and of coincidences.

If after all the considerations that lead to a decision, we still believe in the existence of a free will, we could end here the discussion. There must be a free will because we feel and believe that we have a free will. When I love, I also don't doubt that the love is real. Firmly believing something makes it a reality or gives at least the illusion of reality. Illusions are reality. They really exist.

If someone believes in God and in Jesus Christ, he has no doubt that his free will has created the belief even though 'believing' in the Christian God and in Jesus is not just to be convinced that they exist. You must also believe a long list of teachings and dogmas or 'dogmata' as we should correctly put the plural . You might be free to become a Catholic but you are then no longer free to question Mary's immaculate conception or to reject the idea of the Holy Trinity.

The Catholic Church and other churches do not even give the right to undo a baptism that was forced on a baby because '*baptism imprints on the soul an indelible spiritual sign*', as the Canon Law points out. Any

rituals of 'unbaptism', that a baptized person might deliberately perform have no effect in the view of the churches. It is like the nationality of some countries like France that you cannot renounce. It is like a birthmark that you cannot remove.

A Christian will definitively reject the suggestion that he became a Christian only because his parents had baptized him as a baby. He also rejects the suggestion that his educators had molded him to become and to remain a Christian and that his herd instinct has kept him in the arms of his church – or in the corral of the church's fenced pasture over which Jesus watches as the shepherd. The same observation of involuntary membership applies to Muslims and practically to every organized faith.

A believer will obviously also reject the claim that a God gene, as scientists call the neurotransmitter VMAT2, has made him susceptible to religious feelings. The believer in God will respond to such insulting insinuations. He will claim that believing in God and being a slave of his commands is clear evidence of a free will. Similarly, if someone decided to marry his wife you will insult him if you openly suspect that he was irresponsibly infatuated and therefore acted not with a free will. You will certainly not express such a suspicion if they invited you to give the wedding speech. You might obediently follow the instructions that you find in the internet about how to design a suitable wedding speech.

The feeling of certainty and the feeling that I control the course of my life with my free will is reality. It is as much real as the belief that I am the center of the world and that this world turns around me. From my personal and subjective perspective, it is correct, that I am the center of my world. But objectively, I am obviously not the center of the world and this world does not turn around me. This way of thinking is as wrong as the former dogma of the Catholic Church that the sun circles around our planet. And similarly, my feeling or knowledge that I have a free will is not evidence for its existence even if millions of people firmly feel the same way.

When I walked as a child one evening with my mother through the streets of my former home town, I saw a bright moon, which disappeared behind buildings as we continued walking. We turned around a couple of corners when I exclaimed: 'Mother, look, there is another moon!". It is a common mistake to think that what you see is all there is (WYSIATI). Seeing the moon twice in a row does not mean that two moons exist. I am definitely also not the center of our earth even though I feel like it when I look 360 degrees around me. However, a variant of the logical fallacy WYSIATI is accurate for certain people – not only women – who start talking long and unstoppably as soon as an idea develops in their brains. Thinking and talking are simultaneous activities. It will then probably be true that all you can hear is all there is (WYHIATI) in the person's brain.

But let's get serious again. At the moment when I made decisions in the past, I had no doubts about the freedom of my will. I developed second thoughts only afterwards when I suffered the consequences and asked myself if I really had made the right decision. I always wondered after the fact what had caused me to make a certain decision. I often realized that I had not correctly included in my considerations all relevant facts and that I had overlooked important facts that in hindsight were obvious and which I could have included in my considerations if I had seen them.

I also often noticed that I had not correctly anticipated the consequences of my decision. Sometimes, a decision that I had made, was beneficial at the beginning but turned later out to have been utterly wrong. It is firstly next to impossible to correctly forecast future consequences and it is secondly impossible to assess afterwards hypothetically the course of life if I had made a different decision.

With all these uncertainties a decision is not the product of a free will. It is a shot in the dark. It is like gambling or throwing a coin. If you stand in front of a fork in the road and you don't know where each

road leads, you can argue that by turning right you have exercised your free will. But freedom, in my opinion, requires precise and detailed knowledge of all known and unknown alternatives. In the example of the fork in the road, you must know where the roads lead if we are allowed to talk about a free-willed decision.

If a 15 years old girl feels uncomfortable with her body she might freely decide to transition as a boy. According to some modern people, not even parents are allowed to influence such a decision because the free will of an adolescent is holy. If parents and educators try to influence the girl's will, modern fundamentalists might construe this as child abuse.

When the girl has freely decided to transition, a surgeon will perform a double mastectomy along with all other gender affirming measures. If the – then – boy feels discomfort and continues having doubts about his gender identity after the transition, he might regret his previous decision and might decide to detransition to become a girl again. This involves the reconstruction of her breasts and accompanying measures of gender reconfirmation. You might say that these changes of gender are the result of a strong and free will. But these changes look to me rather like the movements of driftwood that not the wind and waves have moved but are the result of the constant feelings of discomfort and regrets. In addition, if you maintain that a free will was behind these changes, you will have to answer the question, at which age you think that such a free will – if it exists - will be fully grown. A free will did for sure not exist when the baby developed in its mother's womb and it does certainly not exist on the last day of a life even if someone still feels that he is in full control.

Decision Making Process

I now want to deal with the question how wishes and decisions develop in a person's brain and which factors influence or produce a decision. Stealing money, many people say, is the result of an irresponsible free will to steal. But if it is so, I want to know what the mental process is in the brain that makes the thief go ahead with the theft. I think that we can explain this process without the concept of a free will.

A decision is the result of a process in the brain that a myriad of factors bring about. These factors form a seamless chain with no room for interference by what we could call a free will. Is it a soul, a spirit or some other immaterial essence outside the brain? I don't think so. If the soul is the culprit who makes a person commit a crime why do we punish the criminal and not his soul? The answer is clear: we cannot punish the soul; we cannot touch the soul; we cannot see it and don't even know where to find it. Vice versa, the soul cannot touch and influence a brain.

The brain receives signals from the five senses, which are touch, sight, hearing, smell and taste. Other inputs in the brain are substances like nutrients and hormones that our brain receives through the blood from the body's organs and glands. The brain's software, of which we ignore the source code, combines and associates the incoming information with information that exists in its memory. The brain then produces various outputs such as feelings, thoughts, desires and decisions.

I have made in the past a myriad of minor decisions that did not seem to have a significant impact on the course of my life at the time of the decision. Examples of such decisions are to go to a restaurant, to have a shower, to sleep early and to buy a car. Only a procrastinator will waste time and energy of the brain to make a big deal out of such minor decisions.

On the surface of it, I have the feeling that I have made these trivial decisions autonomously with my free will without caring too much because these decisions did not look important or life-changing. However, the apparently trivial decision to go out eating might change your life if you meet your future wife in the restaurant. When I decided to go for studies to Tübingen I created the scenario, in which I met my first

wife. Had I decided to continue my studies in Mainz, I would have met someone else and my life would have taken quite a different direction.

Seen in this way, every decision – as trivial as it looks - has consequences in a chain of causes and effects and of ripple effects. Some of these effects might not last long but others can last longer and will change the course of your life. The day on which you have met your future wife in a restaurant was a life changing event because you met her there. But we usually call only the wedding an event that changed your life and we call the decision to get married a life-changing decision even though the decision to visit the restaurant triggered the change. There will be no wedding without meeting your future wife.

I have made many decisions of which I had the impression that they were life-changing. Examples were – as I mentioned before - when I decided to study law and when I decided to get married. The situations, in which I decided these things, did not come suddenly as a surprise like lightening. Events of the past always form a specific situation, which is the result of a long chain of causes and effects of which many reach back to the day when you were born. Events and experiences prior to the moment when you make a decision have configured and molded your mind, which is now ready to trigger the next step in reaction to the situation at hand.

In the context of voluntary body movements, scientists talk about a 'readiness potential' that precedes the actual movement before a person makes the decision to move. But readiness potential exists not only for body movements but also for decisions that change the course of life. The question, for example, which field of study I was going to chose simmered in my mind during many years in high school more or less unconsciously. After all, going to school is not an end in itself. The purpose of schooling is to get ready for life. The school prepares you to start an income-earning occupation. 'Non scholae sed vitae discimus' is the Latin phrase that expresses the idea with only five words. It means that we don't learn for the school, but for life and the school grooms and molds the students for their subsequent life. Many vocational training establishments offer courses in occupations that the labor market needs and promote enrollment in these courses.

During the nine years in high school my brain accumulated continuously information and feelings – much of them unconsciously - related to the future choice of the field of further learning. When I used weird arguments to justify bad behavior, my mother, who was a lawyer's wife, always said that I was a born lawyer. My brain, for sure, memorized these remarks and made it one of the silent and hidden arguments in the subsequent decision-making process.

The brain prepared the basis for a decision well ahead of the day when I decided to enroll in law school, which decision was under the influence of what we might as well call the brain's subcutaneous readiness potential.

You might argue that if I make a decision based on wrong facts and assumptions, my wrong decision is still the product of my free will because I selected freely one wrong option instead of other options that might have been more favorable. It is just tough luck that my free will made a mistake because I did not know all relevant facts. But I cannot accept this argument because we don't just want to act but we want to pursue a goal when we act. The free will – if it exists – does not target the physical action but the goal that we want to achieve with an action.

Taking a loaf of bread is an example of an action. This action in itself and in isolation does not make sense. Why should a free will aim at something that does not have a purpose? This action becomes only meaningful and desirable if we consider the motive behind it, which is to eat. A person wants to eat because he is hungry and has to eat for his survival. It is the urge or the desire to eat that makes someone

take the loaf of bread. It is irresistible if you are hungry particularly if there is no other food. My mother always tested me when I wanted to eat something delicious and when I explained that I was hungry. "Do you want to eat a slice of dry bred?", she asked me and concluded that I was not hungry when I answered that I did not want to eat the bread. Since then, I have regularly asked myself in front of a delicacy if I wanted to eat a slice of dry bread to test the level of my hunger and appetite.

If someone, let's call him Jim, who is already overweight and is not at all hungry, craves for delicious Italian ice cream, his will is driven, on one hand, by the instinct for pleasure. On the other hand, there is Ghrelin, the 'hunger hormone', that the stomach produces to signal the brain that the stomach and the intestines are empty. If, for whatever reason, the level of Ghrelin remains high when his stomach and intestines are full, Jim will continue eating particularly when he is tempted by the sweetness of Italian ice cream. Jim's example indicates, that not his free will makes him eat ice cream but the hunger hormone that fails to control his desire for food. This is one of many examples in which two opposite factors are at work in the decision-making process and in which one of them gains the upper hand if they are not synchronized. Jim can reduce his desire to eat by taking a Ghrelin stopper.

Let's assume you enter a room, which has only three exit doors. They look identical except that one door is yellow, one is white and one is blue. You know that one door leads to paradise, one to hell and one to a new life in the next cycle of reincarnation. Nobody told you which door leads to what. You want to live a new life but you don't know which of the three doors opens the path to it. You now use your free will and you open the blue door, which is your favorite color. But unfortunately, it turns out to be the door to hell. If your argument above is correct, you must say that opening the blue door was your free will. But just opening a door is not what you wanted; you wanted to live because this follows your instinct of survival in the next cycle of reincarnation. 'The proof of the pudding is in the eating'. This colorful English expression means in our context that we can judge the real merits of a decision only from results and not by the process, in which we made a decision. But we know these results only afterwards.

If someone presents me with a plausible set of fake news and I make a decision based on these fake facts, it is not my decision but the decision of the person who presented the fake news with the intention to influence or to manipulate my decision. On the other hand, if a person presents me true facts but I think that he is a compulsive liar and I disregard the true facts for this reason, my decision is not the product of my free will but the result of my hopeless bias against the presenter of the facts. In this case, my wrong decision is the result of the general inability to neutralize my uncontrollable bias in the decision-making process. I remember a situation in a Chinese hospital, where I saw a doctor after I had broken my left arm during a fall to the ground. I had never before seen this doctor, who looked unfriendly like a retired old man who had to earn money because his government pension was not enough. I immediately developed negative bias against this man. He recommended to have my broken bone fixed with surgery but I rejected this recommendation not because I had better medical knowledge – I have no medical background at all. As I know in hindsight now, I had based my rejection solely on my implicit bias. But I was lucky. Instead of putting the healing in the hands of surgeons, I let mother nature do this job and she has fortunately and as often not disappointed me.

If you base your decision on fake facts or on a faulty evaluation of true facts you could argue that you exercised your free will when you decided to act in one wrong way instead of another wrong way. If somebody crosses the street with the fake knowledge that there is no car coming and gets killed by an oncoming car, you might say that his decision to cross the street was based on his free will. However, it is very clear that the sad result is certainly not what the poor man's free will wanted. He wanted to cross the street and not to be killed before he arrived on the other side of the street.

When we talk about a free will, we don't discuss it seriously in the context of inconsequential decisions in routines of daily life. We are interested in the issue of a free will when we are about to make a decision that will control the course of our lives. We are interested in an answer to the more important question if we control the course of our lives by making decisions. We will see below that our decisions in marginal situations – for example which toothpaste to select in the supermarket – are not free. They are rather determined by influences of which we remain mostly unaware. The same – only a little bit more complex -happens in so-called life-changing decisions, when a free will is also not involved.

I share the belief of many people who say that people want to be deceived. I talk about this below. If this is correct, our decisions are more influenced by fake news, self-deception and bias than by true facts and an autonomous and sovereign free will. I say this again with the assumption that a decision, that we feel is free-willed, is actually not free if we base it on fake facts and don't know the consequences.

What controls the Course of Life

We discuss the existence of a free will not only for decisions about a specific action with short-term impact. We also want to know to what extent a free will controls the overall course of our lives. How and at what age do we plan our lives and, if we make a plan, do we then consistently follow up on it with more detailed plans and actions towards the overall goal? Or do we change plans and goals as situations coincidentally emerge? Do we fully control the course of our lives or do factors outside our control determine where we go and where we end up?

Many CVs that job applicants submit, display a sequence of employments in their lives without showing a story line. There might be exceptions in cases when the job applicant has consistently worked in one industry sector, for example as a specialist in the banking sector or in the automotive industry. Most job applicants, even if they have not changed the industry sector, embellish in every CV the description of their past jobs more or less skillfully to demonstrate that they had been keen and consistent to acquire in each past job exactly the skills that the targeted employer needs. These CVs look as if the job applicant had consistently planned his life and career towards the job, for which he applies.

Every time when a job applicant writes a CV to an employer, he will adapt the description of his professional life and of his experiences to the different requirements of each employer. This deceptive consistency that the job applicant presents, hides the fact that he accepted in his past any job as they were randomly available in the labor market when he was job hunting. We are mostly unable to plan the sequence of our jobs ahead of much time. But in hindsight, when we look back at our work life, we might have the illusion of some consistency or even a plan, which we might consider divine or self-made. In hindsight, most things look very different from when we made a decision for a career or for life. Afterwards you are always smarter.

Let's make the hypothetical assumption that the republic of France was in the first years of the 19th century looking for a suitable emperor. I wonder which CV Napoleon would have submitted to present himself as candidate. Which qualifications and occupational skills would he have mentioned? Which outstanding outcome of his professional career would he have described? He certainly would have mentioned the impressive victories of his Grande Armée in the battles of Marengo (1800), Austerlitz (1805), Jena-Auerstedt (1806) and Wagram (1809). But as we now know from the end result, winning battles does not necessarily qualify someone as a good emperor even if you win the war. But Napoleon eventually lost his ambitious war.

It would even be more interesting to read his CV if he had written such a CV in exile in St. Helena to apply for a job in the French government in 1818, three years before his death. Napoleon might probably not

have included in this CV the catastrophic military defeats after his ill-considered invasion of Russia and would also not talk about staggering losses that his army suffered in the indecisive and costly battle of Borodino (1812) seventy miles west of Moscow. Shortly afterwards his army entered Moscow, which the Russians had cleverly abandoned and burnt. Moscow with its harsh winter had become a worthless acquisition of the Grande Armée. Napoleon's soldiers had to retreat through ice-cold landscapes and through villages that the Russians with their scorched-earth strategy had destroyed or stripped of resources. The cataclysmic highlight of the retreat came during the Berezina crossing when a significant part of the Grande Armée perished. Only a fraction of the 600,000 French soldiers survived Napoleon's irresponsible invasion of Russia. The word 'Berezina' has since this event become a synonym for a cataclysmic event.

It is amazing that Napoleon's army was after the Russian debacle able to engage two years later in the battle of Leipzig (1813), which his enemies had imposed on him. He did no longer control these events. The battle of Leipzig ended once more in horrendous losses and was followed on 18 June 1815 by the infamous battle of Waterloo, which formed the end of Napoleon's professional career. The name of this battle became the epitome of crushing and final defeats.

If I were the leader of my country and looked at Napoleon's unabridged CV, I would not select him for any significant position in the military because he has won impressive battles, yes, but lost the war that he had started without a realistic plan. I am sure that Napoleon, when he started his career, has not planned and controlled the course of his life as it unfolded. His glorious coronation as emperor already contained the seed for his crushing defeat.

Wanderlust controlled the course of my life and made me live more or less randomly in many different countries and made me work in different occupations. But I am sure that I am able to write a CV that demonstrates in hindsight that I worked consistently in my life towards acquiring the skills that I need as military leader or at least as manager of a vocational training institution or as manager of a hunting lodge. In this latter CV I could even mention that I have hunted Canada geese in Manitoba.

The discussion of the question what shapes the course of our lives fills libraries. But the discussions have never come to any generally accepted idea or concept. Job counsellors and life coaches discuss life and career planning with dedication and without convincing results. The more one reads about it, the more one gets confused. Some contradictory answers to the question sound equally convincing, which is even more confusing because I do not know who is right and who is wrong. Two contradicting but plausible opinions cannot be both right. Can they?

Here is a story from the world of the judiciary which highlights deceptive plausibility: A judge who had listened to the lawyer for the plaintiff concludes by saying "You are right". After the lawyer for the respondent had contradicted the plaintiff's arguments by arguing exactly the plausible opposite, the judge again concluded: "You are right". One of the lay judges then reminded the judge that it was not logical that opposite opinions can both be right. The judge replied "You are right". When I am confronted with different plausible opinions or with different options for my life, I am in the same situation as the confused judge.

Types of Decisions

When we discuss how we make decisions and if a free will is involved, we should distinguish between different types of decisions. Different rules and processes govern the decisions to make a move in a chess game and the decisions of a judge in a court case. Different are also the more far-reaching decisions to join a church, to divorce or to become a monk. The decision of a judge in the court of law is conceptually

not the product of a free will but the result of a logical application of the law. I talked about the stringent application of law in the section about Decision Making in Legal Proceedings above.

Many discussions about a possibly free will start with the wrong premise that we must give a global answer for all types of decisions. But it is certainly not appropriate to discuss the issue of a free will with the same seriousness for the situation, in which you decide to divorce and for the decision to buy toothpaste or for the decision whether to wear a white shirt or a blue shirt when going to the office. Some thinkers see evidence of an autonomous free will in the fact that you are free to select a white shirt instead of a blue shirt. But we actually make this type of decision either randomly by selecting the shirt that is on top of the pile of shirts in the wardrobe or out of habit because we always wear a white shirt in the office. In other situations – for example when it snows – you obviously dress in a warm rain coat because the bula shirt, souvenir from Fiji, which you like, will not protect you from wet snow.

The Bible puts significant pressure on its believing readers to ensure that they make the right decisions. Christians have to follow Gods commands no matter whether they make an important or trivial decision: "*I command you today to love the LORD your God, to walk in obedience to him, and to keep his commands, decrees and laws*" (Deuteronomy 30:16). To underscore the demand for obedience the Bible says that "*you and your children and grandchildren must fear the Lord your God as long as you live*" (Deuteronomy 6:2). Fear and threats are the sticks; blessing and eternal life are the carrots. The submission as slaves of righteousness is the only reasonable choice for a Christian. The Bible does not tell you what decision you should make in specific situations. You will obviously not find in the Bible an answer to the question how you should decide in a trivial issue, in which neither God or the devil could possibly be interested. The Bible also gives no answer how non-Christians make decisions since they believe in a different God or in a different devil. In the view of the Bible, all non-Christians are probably slaves of sin anyway. The Bible gives no clues about how decisions develop in our minds and brains.

Most practical decisions in our lives have nothing to do with the option between devil and God, flesh and spirit or sins and righteousness. The Bible mentions only generally the type of behavior that you should not show, namely '*sexual immorality, impurity, sensuality, idolatry, sorcery, enmity, strife, jealousy, fits of anger, rivalries, dissensions, divisions, envy, drunkenness, orgies, and things like these*" Galatians 5:19-21).

Devil and God give not a clue for the decision to wear a blue shirt to the office or a white shirt. I also cannot see in which way flesh and spirit influence the decision to divorce or to emigrate. Flesh and the spirit will also not inspire all other decisions in daily life. You will consider practical issues – not only flesh and spirit - in making a decision. I want in the following sections explain my ideas about which real factors define how exactly a decision develops. It is in any case not only the decision to either walk on God's path or to follow the flesh and the devil.

Firstly, specific circumstances in a situation limit the numbers and types of options that you have for the selection of a course of action. If you have no choice, there is no freedom. In a catch-22 situation, in which all options are equally undesirable I can not see much freedom except to select the lesser evil. But we have in most situations not the capacity to evaluate and measure what a lesser evil is in short term, medium term or in the long run. When it rains, the decision to open an umbrella is only theoretically free and I see even less freedom if I am a pedestrian and decide to run out of the way of an approaching car to avoid being killed. And finally, if I have to make an important decision in a situation when I do not know all relevant facts, I will have to base my decision on guesswork rather than on a free will because I am not really the master of the situation. It is like throwing a coin and accepting whatever side of the coin points to the sky.

Elon Musk, who is always good for surprises, has apparently realized that decisions are random no matter how much thinking you put into it. He did not throw a coin when he considered selling 10% of his Tesla shares that were worth several billion USD. Instead, he let his followers on 'X', as he renamed Twitter, decide whether he should sell the shares and he followed the voice of the people. This voice has the same high quality as the coin that you throw instead of making a decision by yourself. For a man like Elon Musk who is obsessed by his public profile, asking his millions of followers was obviously preferable than to throw a coin in the privacy of his home.

Having no followers on 'X' that I could ask to make a decision on my behalf I threw coins when my eyesight became a problem due to age. I threw the first coin to decide whether to seek a cataract surgery right away or to wait and see if the eyesight was further deteriorating. I hoped that I could delay surgery if eye surgery was still possible at even an older age. The head of the coin pointed at the ceiling. This meant that I had to make an appointment in an eye clinic of which there are two in Zhuhai, where I live. One is the clinic in a large and modern public hospital. The other is a new and equally modern-looking private eye clinic. As a lay person I cannot judge the quality of hospitals and of ophthalmologists. I therefore asked a few people, including two general practitioners about their opinion. Of those who had an opinion, some expressed a positive assessment of one clinic while an equal number preferred the other. I threw a coin, which had the result that my free will made the decision in favor of the public hospital. I actually did not throw a physical coin. I threw only a mental coin by telling myself: 'I don't know; one way or the other, it does not matter, let's try the public hospital'. I obviously also do not know what the outcome would have been if I had decided to use the private eye clinic. Even in hindsight I don't know which option was more favorable.

Influencers of Brain and Mind

The statement that we control the course of our lives with our free will can obviously in this generality not be correct. I hope that all advocates of a free will firstly admit that a free will has definitely not chosen the time and country of our birth. Nobody asked me when and where I wanted to be born and on which planet. Nobody asked me to which religion I belong when I was born. If someone had asked me before my conception what type of father I wanted, I would have requested to become the son of a clockmaker or of a surgeon and not the son of a notary. If you believe in a free will, you might say that your parents used it to conceive a child if the conception was not by accident. But from the baby's perspective its birth is definitely random and coincidence.

Advocates of a free will should secondly admit that we also have for sure no control of our genes and our early childhood education. Nobody has given me the opportunity to go shopping for my genes. Nature mixed my genes at the time of conception randomly like the lottery tickets in a drum. Not even my parents were able to mix the genes. My free will – if it exists – was also not involved in the selection of my parents and of the way, in which they started molding me in their own image.

Parents and educators are proud if they are successful. Success means that educators produce children that they have indoctrinated either with their personal values or with the concepts of their societies. Their ambition is to form their offspring into law-abiding members of their herd. If they try too hard, they might produce children that are biased towards opposite values out of more or less automatic opposition or protest. I met – for example – girls who hated many aspects of Catholicism because they were brought up in catholic institutions by 'holier-than-thou' nuns. In both cases, whether children accept or reject the values of their educators, people are the product of the education, which they were unable to choose. Birth and childhood education together form for a person a frame, which substantially minimizes the space of freedom for subsequent developments. Advocates of the existence of a free will might admit

that a free will is limited by the space that is left after birth and childhood education but they might argue that a free will still exists for the remaining space. Before we agree with this argument we must investigate the size of this space, which is so small that there is no room left for a material free will.

As I said above, the brain controls body functions and movements, but the body also influences heavily our brain without our conscious input. There is a two-way relationship between the body and brain. On one hand, the body's organs nourish and maintain the brain with different nutrients and chemical substances, which influence the brain's behavior. Sugar and oxygen levels are examples that influence mental alertness and the brain's decision-making. On the other hand, the brain autonomously processes all inputs. The brain then feeds the results of these processes back to the organs and cells of the body.

Daniel Kahneman, the Nobel Prize winning author of the book "Thinking Fast and Slow", reports about research that scientists did in Israel. They studied covertly the performance of judges when they decided in random order a series of applications for bail one after the other. Each decision took always no longer than 6 minutes. The research revealed that after each meal, when the blood sugar level was high, the judges granted about 65% of the applications. This proportion decreased steadily to about zero percent just before the next meal when the sugar level in the blood of the judges had come down.

Levels of blood sugar and of other substances are only one of many factors that influence decision making. Research seems to indicate that season of the year also greatly influence psychological phenomena like emotions, diet, sex drive and even color preferences. Researchers have analyzed more than 230,000 online survey responses mostly from people in the US. To develop their questionnaire, they used a standardized framework to assess people's judgments of right and wrong. At the end, they concluded that levels of anxiety generally peak in spring and autumn and that moral judgements also change with the seasons of the year. The frequent observation of springtime lethargy or spring fatigue seems to confirm partly the results of this research.

Drugs of many types, which enter our body from outside with or without our knowledge, are other examples that influence the functions of the brain and with this, our feelings and decisions. Drugs can alleviate or create depressions. Drugs can also make people feel optimistic and enthusiastic or can make people tell the truth if they have decided to lie. Military commanders administer drugs to young and shy soldiers. They want them to lose fear and to become brave before they sent them into battle as canon fodder. Drugs make the soldiers feel that they storm into their deaths by their free will but they actually have become slaves of the calls by their fatherland, superiors and by drugs. In addition to these three influencers, Russian soldiers during the Second World War stormed towards the guns of the enemy because they would have been killed if they had run backwards into the wrong direction. The Russian army probably had no money for the drugs and replaced them with guns that they used in the backs of their soldiers to strengthen their free will to be killed. To start with, their government drafted these poor soldiers against their will forcefully into the military.

After the Korean War, the communists released American prisoners of war. Medical and psychological examinations that US psychologists conducted, raised suspicions that the communists had used sophisticated methods to brain-wash the prisoners during their internment in Korea so that they would become communist agents. In response to this suspicion, the newly created Central Intelligence Agency (CIA) recognized the potential of such methods and created a highly secret human experimentation program codenamed 'Project MK-Ultra' that operated between 1953 and 1973 under the leadership of the chemist Sydney Gottlieb. The CIA experimented with electroshocks, psychological torture and a variety of drugs like LSD (lysergic acid diethylamide), ecstasy, heroin and magic mushroom (psilocybin). The purpose of these experiments was to develop methods to manipulate and control and change the

minds of people during interrogations and to obtain unvoluntary confessions through brainwashing. Project MK-Ultra also tested drugs to see if their unsuspecting test persons could become robots who are able to do unspeakable deeds without remembering anything afterwards.

In addition, the CIA hoped that they could use new methods to change the minds of communists to become advocates of western democracies. They used in the US and in Canada thousands of test subjects who remained unaware that CIA targeted them for experiments. It was a major scandal when it became public that CIA used covert drug tests on unwitting citizens. But we don't know to what extent the CIA continued this project secretly and if they were successful with the development of mind-changing treatments.

The Project MK-Ultra tested the effects of LSD also on volunteers. The side-effect, which the project did not consider, was that some of the test persons became addicted to LSD. These volunteers promoted the drug subsequently and organized LSD parties, which became the forerunners of the hippie culture and contributed to the development of the psychedelic drug scene starting in the 1960's. Economists have not calculated the amount of economic damage that the LSD experiments have caused and are still causing. But I assume that the damage was monstruous.

Not only the abovementioned chemistry or invasive methods influence the brain. Impressions from daily life also influence heavily the brain. Someone who is grieving over the recent death of his mother, might try to continue a normal life and might manage to dispel thoughts about his mother during work. But the sad event unconsciously hangs above his mind like a dark cloud and will influence his mood and some of his decisions. Doctors call it a complex bereavement disorder that harms health only if grief does persist for more than one year. Until then, however, bereavement certainly influences decision-making as does, for example, awareness of mortality.

Irritation in the gastrointestinal system like constipation bloating etc. also send negative signals to the central nervous system (CNS) that trigger mood changes and influence decision-making. This brain-gut connection, that we also call 'the second brain' significantly influences what we think, say and decide.

Some of these hidden influences are so-called anchors that create an anchoring bias. If the asking price is high for something of which you do not know the real value, you easily believe that the object has a high value. Not being an evaluation specialist, a person tends to take the asking price or the 'recommended retail price' as an indicator (or anchor) and he will probably settle for a price close to the anchor even if the recommended price is excessively high. Clever advertisers design their messages to influence subconsciously our opinion of values.

In China I was looking for a painting to beautify my home office. I wanted something really pleasant because I had just nicely renovated my office. The painting was to be commensurate with my new office environment. I generally believe that looking at something beautiful is conducive for a good mood and for productive work. This idea is in line with the Islamic physician Al-Razi (Rhazes) who stressed in the 10th century that a beautiful environment is important for the maintenance of a strong immune system.

I entered in Zhuhai the shop of an art dealer who had exquisitely decorated his premises. The owner of the shop had displayed many awfully expensive larger paintings with price tags far beyond the amount that I was willing and able to spend. They were unaffordable for me. This was the first limiting frame for my decision. If I had been a billionaire, I would not have cared. I then discovered one small painting on porcelain with two red birds. The art dealer offered the two birds at a high price but this price was within my budget.

As a bad manipulator, who I am, I was unable to hide my interest. This was not a good start to negotiate a bargain. The store owner, who had noticed my interest, claimed that he had quoted the rock-bottom price on the price tag. The negotiation for a discount was therefore unsuccessful. I bought the painting nevertheless for the asking price not knowing what the real value of the painting was.

I wanted a nice painting and wanted it fast. This created subconsciously the decision in my mind to buy an appealing painting and there are no other art dealers in town. The extremely high prices of the other paintings in the store and the luxurious decoration of the gallery had additionally framed my mind. The expensive looking casing of the painting also suggested a great value of the art work. I convinced myself that the high prices for everything in the shop were actually justified. Today, more than ten years later, I still do not know the true value of the painting and I will in all likelihood not be able to sell it for more than a fraction of the purchase price that I paid. Out of fear that the truth will catch up with me, I now don't want to ask an expert. He might tell me that the value of the painting is very low. This knowledge would reduce the continuing great pleasure that I have when I see the two birds on the wall in front of me when I sit at my desk. I don't want the reality to contaminate my pleasure when I see the painting.

John Wayne

As a school boy I watched western movies with John Wayne. As always in his movies, he personified with his natural acting a strong and heroic cowboy. I was really impressed by the charismatic and cool man that he played in the movies. I remember that I felt compelled to emulate John Wayne's typical walking style of a tough cowboy when I walked out of the movie theatre. I wanted to look and to behave like him. I did even feel that I was like him.

Cowboy

Mirror neurons in my brain probably produced this feeling. This would explain why John Wayne's walking style was "mirrored" and made me want to walk like him. Without knowing about mirror neurons, I made the same observations many times later in my life. For example, when I was impressed with the speaking style of a person I more or less automatically felt that I adapted or should adapt my style to what I had heard and observed. Researchers have conducted experiments with chimpanzees and bumblebees. These experiments showed that these animals – like humans - can learn by watching others and then become able to emulate behaviors that are too complex to learn by themselves.

Mirror neurons are also at work when I witness a sad event. Sadness comes up automatically and remains in the back of my mind long time after the event. The sadness of the observed situation becomes an 'anchor' that influences the appreciation of subsequent situations, which look sadder than they would look without the previous impression. Dreams have similar effects. If your dream was scary, you will look carefully out for dangers the next day.

Mirror neurons apparently enable learning by understanding the feelings and intention of other people's actions. These neurons create similar feelings in the observer as the observed person has. If someone gets hurt and feels pain, the mind of an empathic witness will mirror these feelings. The observer of an accident asks himself – probably without realizing it - what he would feel if this had happened to him. Empathy will also prevent an observer to get beefed up when another person has made a mistake. "I could also have made this mistake" or "to err is human", is the consideration that triggers empathic feelings as if the observer had made the mistake and had forgiven himself. The feeling of such a viewer is that as human beings we are sitting in the same boat and are all potential makers of mistakes.

I should clarify that some people define empathy differently. They think that it is not the copy of feelings that another person has, but the capacity to rationally understand what another person thinks and feels. Mirror neurons, in contrast, create or duplicate the same feelings that another person has. This feeling is different from sympathy, which might show in the feeling of pity for someone in a dreadful situation. We finally talk about compassion, when someone develops the desire to ease someone's predicament out of sympathy. The development of empathy, sympathy and compassion all develop without our conscious instructions.

Scientists claim that the female brain normally develops more mirror neurons than the male brain, which would explain the generally higher level of female empathy. These higher levels might also explain why anger or sadness can possess women over a period of time that is often longer than for men. The mirror neurons just do not disappear reasonably fast.

If the story about mirror neurons is correct, I have more female characteristics than average men. I often feel as other people feel and these feelings remain for a certain period of time. I always don't feel happy if my partner is not happy and, vice versa, I feel very comfortable if I notice that my partner is happy.

In some abnormal crimes my empathy can be less with the victims but rather with the perpetrator. Christiane K, for example, was at the age of 27 years the mother of six children. Except for the unusual number of children that she brought to this world from three different men starting at the age of 16, she had led a normal life and had never a brush with the law. But then, she learnt in 2020 that her estranged husband had a girlfriend. This news triggered her crime. She drugged five of her children, who were between one to eight years old, before drowning them in the bathtub. She then threw herself in front of a train in Düsseldorf but survived the suicide attempt. Psychiatric and psychological experts that the court appointed found no evidence that she had a serious mental disorder and the district court in Wuppertal sentenced her to life in prison without parole. Because drugs had made the children unconscious when they painlessly died, my thoughts go rather to the mother. I put myself in her mind and wonder how miserable she must feel having committed this crime in an eruption of violent emotions. I almost feel sorry for her because she was otherwise a law-abiding citizen and had managed her household with six children quite well, as social services confirmed to the court. Mirror neurons make me think about the sad and bad feelings that I would harbor if I had – like Christiane K. – to spend many decades in prison.

Mirror neurons not only develop when a person sees and experiences a current scene in daily life. They also develop when the brain digs out from memory a scene from the past.

The memory stores normally only the facts without the concurrent emotions. Mirror neurons then develop freshly while a scene comes up from memory again. This explains why pain and fear in scenes that we remember are often no longer painful and threatening because it is thankfully over and ended well. This is why many people are able to look joyfully back at dreadful events in the past. War veterans

are examples. Some of them are able to discuss joyfully with their past comrades the scenes of the war even though their experiences in the past were overall dreadful and scary.

Some people don't re-experience terrifying events in the past with lighter feelings as others usually do. They will re-live the scene as flashback repeatedly with similar emotions as in the past when they remember the scene as if it were happening today. This phenomenon is behind the Post Traumatic Stress Disorder (PTSD) when the memory does not shed off the traumatic feelings that people experienced during a horrible past event.

We are aware of only a small percentage of the brain's activities when we sail through life. Using the brain is similar to driving a car. When we drive a car, we use consciously only a few controls like the steering wheel, the accelerator and the brakes. The mechanics and electronics of the car perform the majority of all other functions, of which we don't become aware when we drive.

If you use a GPS pilot device to drive from Stuttgart to Frankfurt, you turn right and left as the computer tells you without the need for you to make decisions. The man behind the wheel also adjusts his driving to the traffic situations as needed and mostly not by what we call a free will. If the car in front of him slows down, he will also automatically slow down. If he approaches a red traffic light, he will slow down and stop. No questions asked. The traffic rules decide. If the driver succumbs to the stress and frustration of driving, he might engage in road rage. Nobody would suggest that the aggressor exercised his free will by becoming violent. The driver's behavior is rather determined by a 'switch' in the brain that diminishes the ability to cope with adverse conditions. The precondition to engage in road rage might have developed more or less permanently as a psychiatric disorder caused by alcohol or drug abuse. This is at least what some psychologists say to explain the causes of road rage. Others seem to have identified the culprit as the 'warrior gene', which is a variant of the gene MAO-A on the X chromosomes. This gene regulates the levels of serotonin that influences behavioral responses. People with these genes and corresponding lower levels of serotonin seem to be willing to take risks and are more likely to respond aggressively in situations of conflict or stress. We don't decide consciously about the level of aggressiveness, with which we respond.

Similar mechanisms and chemicals are at play when an employee suddenly and in anger walks out of a job after dissatisfaction at work has built up over time. A small incident can then trigger the spontaneous rush out of the door. People call it 'rage quitting'. It referred originally to the situation when a player spontaneously exited a frustrating game. We now use this term also when an employee suddenly finds that 'enough is enough' and calls it quit when suddenly a threshold-crossing event occurs. Obviously, for an employee who is less attached to the job because he knows that other jobs are easily available or who has other sources of income, the threshold to pull the trigger is higher than for a person who needs the job. But even those who badly hurt themselves by impulsively quitting the job will uncontrollably quit in rage if their level of serotonin comes below the standard level.

When we sail through our lives we are not – as we think - overbearing executors of a free will but more like a driver of an autonomous, self-driving car. The instructions for the behavior in our lives come from various sources, including sources that we do not notice.

Let's assume that Brian has to decide whether or not to drive to Frankfurt. It sounds like a simple decision that Brian is going to make with his free will. However, if it is an absolute necessary trip, we cannot talk about a free decision. If Brian believes that he has a choice, he will make his decision in specific circumstances, in which some factors are more or less imposing. He faces in this situation a multitude of factors like readiness of a car, available time, distance to be travelled etc. Other constraints, which result from experiences during previous trips, will limit the window for the freedom of his decision. For example,

having done this trip last week in heavy traffic will diminish Brian's willingness to travel again. In addition to these more or less conscious considerations, many sub-conscious or unconscious factors might influence Brian's decision. His brain processes these factors before it suggests a decision. The factors that the brain uses are biases, predispositions and instincts like pleasure or fear etc. Missing a skat evening with friends might work as a demotivation. Getting away from daily routines or having a holiday from a stressful wife might play a role. The opportunity to test exciting new features of his new car might subconsciously also promote Brian's decision to travel.

This reminds me of a humorous observation that a French lady made: When a gentleman gallantly holds open the door of his car for a beautiful young lady this might mean that either the car is new or the lady is new. Being courteous is only a pretext in such a situation. Bragging might be the main motive.

MRI scans of the brain have shown that a decision is preceded by unconscious brain activities that prepare and determine a decision without inputs by the decision-maker. During this process, the brain digs out for Brian the reasons that speak for the travel if he is biased towards it and will sweep under the carpet all reasons against it. If a decision is more serious and consequential, the brain might dig deeper but the principle is the same. No matter how far-reaching the decision is, the brain will at the end of the process present a plausible and irresistible solution that we call a gut feeling. The person then selects this option with the proud feeling of having used a free will for a smart decision. People with higher intellectual powers – we call them 'intellectuals' - pay more attention to the accuracy of gut feelings and their causes. At the highest level of intellectual humility, the person might procrastinate and might not act but might continue mulling and digging deeper.

In the example above, Brian's brain might have developed the decision to travel to Frankfurt because of the unconscious anticipation that he would meet again a young and beautiful secretary that he had met last time. Such an overwhelming but unconscious desire might have led to an under-evaluation of all other arguments. Women are often behind men's decisions.

Brian will evaluate the reasons against the travel much lower than the considerations speaking for the travel. The memory of having enjoyed delicious food at destination during the previous trip might also have a similar unconscious but determining impact particularly if delicious food is important for Brian and if he is a gourmet. It might even be that the brain unconsciously remembers that during the last visit he had to use a toilet that was disgustingly stinky and dirty. We really are not rationally and consciously weighing the merits of all arguments. There are no precise gauges to measure their values. The brain does this evaluation for us. However, at the end, Brian will explain to his wife that the trip is absolutely necessary to fix lose ends, which remained after the last negotiations in Frankfurt. He might also add hat this cannot be achieved with a phone call or a tele-conference. The declared explanation of a decision is rarely the same as the actual forces of instincts, bias and feelings that lead to a decision.

Before Brian decides whether to go to Frankfurt or not, he could prepare two lists with one list showing all arguments that speak in favor of the trip and the other that lists all arguments against it. This exercise will rationalize to some extent the decision-making process. But this technique will make the resulting decision only slightly more transparent because bias is firstly at work when Brian selects arguments to be included in the lists. Secondly, bias will be at work when weighing one argument against the other. We have no scale by which we can measure the weight of each argument. Our brain might activate more neurons when Brian considers – for example – the good food that he can expect in Frankfurt and might activate probably even more neurons when he thinks about the nice secretary that he might meet. Brian might vaguely feel the relevance and importance of different arguments but will not be able to put numbers on their weight. He definitely is lost when he tries to compare the relative weight of all positive

feelings with all negative arguments. The decision-making process is even totally unintelligible when not only two options (Frankfurt: Yes or No) but more options are on the table.

Wise psychologists have developed different theories about how the brain evaluates and compares available options but not one single theory has convinced me to abandon my opinion that gut feelings about circumstances actually decide. Even in the apparently clear situation, where someone has to decide whether to receive $1,000 now or $1,100 in three months, he will rarely base his decision on mathematic calculations but on gut feelings. Many people might prefer receiving $1,000 now even though receiving $1,100 in three months is clearly the financially more rewarding option. But decision makers might rather be guided by the proverbial idea that it is better to have a sparrow in the hand than the pigeon on the roof. And obviously, someone who is bitterly cash-strapped, will anyway select the first option.

When I sit at my desk with challenging work, I often notice that I get up – for example – to cut my fingernails, to de-dust the bookshelf or to do another trivial household task. I might do this not for the urgency of the task but as pretext to get away from a more difficult job at my desk.

When we decide to have a break from work it is often more a pretext to interrupt a job than motivated by a real need for a rest. The few and exceptional people who are very much focused on their work will not easily be distracted and will continue working until they really need an urgent rest. They follow their discipline, which is also an instinctive habit for some people.

Destiny, Fate and Pre-Configuration

In the context of the question who or what controls the course of our lives, I like to treat the words 'fate' and 'destiny' as synonyms. If we want to be more precise, we might associate fate with a negative outcome like premature death, that external circumstances bring about. In contrast, we might call destiny a typical situation into which a person gets himself through his behavior. A bold or aggressive person will be pre-configured to end up in dangerous situations, in which he might get hurt. This is his destiny. A fearful, shy or lethargic person, in contrast, will typically have the destiny to be in sound and safe situations.

Similarly, a pessimist has the destiny of living mostly in gloomy situations while an optimist will in exactly the same situations be happy. The pre-configuration of someone's personality is the basis for his destiny.

Aggressiveness and tameness refer to opposite characteristics by which we typically distinguish wild and domesticated animals. Lyudmila Trut, a Russian geneticist, has provided evidence that tameness and aggression toward humans are genetic traits. She managed through careful selective breeding over many generations of Siberian wolves to convert these wild beasts into animals that enjoyed human company as if they were dogs.

Pre-determination, in contrast, is the indefensible idea that higher and holy authorities have designed life's details, as minute as they might be, for every person on earth.

You might say that it was Napoleon's destiny to become emperor of France. But you might also say that it was his destiny to end up as a lonesome prisoner on a tiny and remote island in the Atlantic where his enemies locked him up. His pre-configuration as an over-ambitious and strong-willed man had both destinies in store for him. Very often, the same qualities and forces for the rise of a man bring also about his downfall.

In other words, destiny does not describe a precise situation or outcome in a life. What we call destiny or fate is a long chain of causes and effects, in which certain predispositions act like switches in all situations as they occur more or less randomly. The predispositions influence the outcomes of every situation into

a direction that is typical for a person. And every outcome of one situation is the basis for the next situation as it arrives subsequently by more or less coincidence.

It is the fate or destiny of a careless person to get possibly killed in an accident while a careful person will always avoid the risks of getting hurt. Depending on the frequency of dangerous situations, which a person encounters, the fate of a careless person might be to accumulate many scars on his body while the careful person will not show such scars. The destiny of a fearless extrovert could be to become a famous stuntman. His typical destiny could be that he dies in an accident during a stunt. But he might also, if he is lucky, die a natural death as a retired old man.

The fate or destiny of a person with a top dog personality will be that he comes out of most situations as a winner no matter into which direction the win will lead afterwards in medium or in long term. It will be the destiny of a fearful or timid person to come out of every situation, that he randomly encounters, as a loser who missed opportunities. He avoids and fears risks while I daredevil sees the potential of a situation and actively follows up on opportunities no matter in which direction it will go in the medium or long term. He wants to be a winner in any situation. This brings him forward- or downward.

Authoritarian societies and some churches try hard to mold all their children into personalities with features that fit their ideologies independent from what individuals might aspire. Particularly strong authoritarian regimes might even take over the education of children and exclude parents from educating their offspring. The communist regime under Mao Zedong, for example, sent children without their parents in the countryside for education. Authoritarian regimes want to ensure that the children's destiny becomes the same as the destiny of the nation.

In a speech that he addressed to 45,000 young men, Hitler demanded in 1935 that young Germans of the future must be "*slim and lean, quick like a greyhound, tough as leather and hard as Krupp steel*" (schlank und rank, flink wie Windhunde, zäh wie Leder und hart wie Kruppstahl). Hitler had obviously in mind that young Germans should become fit and fearless soldiers. This was their destiny in Hitler's Reich. Strong educational efforts can transform a person's character to a certain extent but educators cannot overwrite many predispositions. Psychologists might be able to treat a pessimist to become less pessimistic but their patients will probably never lose their pre-figuration as a pessimist. Hitler was also not able to transform all of his young subjects into greyhounds but succeeded to create an army of millions of obedient soldiers. On the other hand, he did not like pessimists. He let everybody kill who expressed doubts about the final victory (Endsieg) of his army.

The modern concept of transformative education stresses the goal of reducing poverty, inequality and making societies fairer. It wants to transform society. It does not say that children should become greyhounds but they should become ambassadors for a better and more inclusive society. This, they say is the planed destiny of school children. I obviously agree with such goals except that educators have different opinions about details depending on their respective political ideologies. Hitler wanted to mold children into greyhounds. Some advocates of transformative education might want to mold children into fighters for social justice and others want them to become heroes of technical and scientific progress. Molding is molding. Liberal people therefore criticize transformative education systems and favor the natural development of innate personal characteristics. This opinion relies on the assumption of many liberals who think that personal characteristics and ambitions have an automatic positive effect for the needs of society.

Genes define the general traits of a person's characters. They predispose the person to move in any given situation in a certain direction. Certain things are possible under a certain constellation while other

developments are unlikely or impossible. I would never have become an Olympian winner in running 100 meters below 10 seconds even if I had dedicated all my days to physical training towards such an achievement. Similarly, I had no chances to become an accomplished musician even if my parents had familiarized me with music and had sent me to the most famous conservatory. On the other hand, if I had by birth a predisposition for music that my parents did not detect, it is very likely that I would have found a way out of my unmusical family. I would probably have made friends with similar interests for music and would have neglected other friends who showed passion for sports. I might have made a couple of other decisions in my life that would have opened the path towards a career as a musician. On the other hand, if I had decided as a boy to become one of Germany's chancellors, I am sure that I would not have succeeded because I am not pre-configured as a top dog, I am not extrovert and my family had not a public life, in which political opportunities would have come up. Justin Trudeau became Prime Minister of Canada not because it was the most suitable man for this job. In the opposite. He eventually became Prime Minister because is father, Pierre Elliot Trudeau, was a Prime Minster who had given his son not only his famous name but also many opportunities to mingle with Canada's political elite and to meet even Queen Elizabeth II in her palace in London while he was still a child. But eventually, Justin Trudeau's destiny was to become an extremely unpopular prime minister. The circumstances of his upbringing swept him into the limelight, in which he did not manage to shine as a decent politician.

You could call the constellation of a person's genes and of his brain his destiny if you do not see destiny as a precisely defined long-term outcome of your career and of your life. Destiny is rather a trend of a person to act and react in specific situations of opportunities in a way that fits his constellation. I often ask myself, as I have mentioned above, if destiny had it that Napoleon became emperor of France and ended in the solitude of exile in an isolated island in the middle of the Atlantic. Did Angela Merkel become Germany's chancellor or Vladimir Putin president of the Russian Federation because this was what destiny had defined for them when they were babies? It is only in hindsight that you might believe that it was their personal destiny to move to the top of their respective countries. But in reality, all three politicians – like many other leaders - had only a predisposition and the characteristics as political animals or as leaders. Many people feature these characteristics but don't encounter enough opportunities where they can move forward. The path for success is paved with a multitude of random events. If a person with a fitting profile arrives in the right place and at the right time he will advance in a certain direction until he might be swept to the top.

No country is without leader even if there is nobody really qualified for this post. As a matter of fact, destiny of many countries and of many organizations has it that the most qualified people very rarely make it to the top of any organization – particularly not in democracies. Innumerable talents for leadership exist in all countries but they never make it to the top where only one person can be the leader. Successful politicians have the predisposition to make the best out of every situation and to come most times out as winners. They know how to fight competition, to win battles and to win elections if they have the chance to be put on the ballot paper. Unfortunately, the people who have the special skills and the elbows to win an election do not necessarily have the skills to govern a country wisely and altruistically.

My parents were unsuccessful imposing on me a destiny that they had in mind for me.

Their plan was to make me a permanent and stable member of a traditional society. They were successful with my brother who did not change his professional and marital situation for more than 50 years. But whenever I had a choice, I selected more or less unconsciously the option that opened the path for new destinations or at least a path that kept new developments open.
Many opportunities come up in life –almost daily. But my brain – as I assume – has filtered out only those opportunities that were in line with my predisposition. My brain did not let me see other options. When there was a possibility – like at the time when I decided to divorce – I instinctively grasped the option that made me move in the direction of my predisposition and allowed me to move out of the situation and forward.
At the time when I made a so-called life-changing decision, I was convinced that I was acting rationally weighing prudently one option objectively against the other. But my predisposition let me mechanically follow the path that created the possibility to move in a different direction. We have the impression that we control our lives ourselves. But in reality, we follow the instructions that the brain issues without our conscious input. We are guided by something that works like a GPS. The arrow on the road map on the GPS screen shows that we have to turn right at the next intersection and we actually turn right because we are convinced that this is the right direction.

But the comparison with a GPS guiding systems is imperfect because in actual life we do not have a defined destination except the final destination shown in the cartoon above. We also do not have a map in front of us because life goes through an uncharted terrain. We turn right (so to speak) if our brain makes us see a path towards our preferences and hides other paths. We then have the illusion that it was our free decision to do so.

Random governs the World

Laws of physics and biology create constantly new life on our planet to replace life that regularly disappears according to nature's plan. Nature constantly moves and shakes. It mixes, for example, genes and DNA on our planet trillions of times every second of every hour. There are some rules and statistical regularities of the outcomes of these mixtures but there is plenty of room for random, coincidences and accidents that some people call 'spelling mistakes in the DNA'. An unlimited number of random events can produce just about anything even if it takes millions of years. If you play in lotto the same numbers a few million of times it is likely that one day you will win the jackpot. Nature created life probably by coincidence or by accident and the evolution of human beings started possibly as a spelling mistake or a random event of DNA.

Such coincidences explain why we find in the animal world and in the botanical kingdom so many different species of which some look weird in our eyes while most species are standard.

We find extreme strange and ugly creatures and very beautiful and strong specimen as shown in the examples here. This does not happen according to any plan except the rule that the strongest survive. Otherwise, it is random and coincidence.

Deviations from normalcy or from statistical standards happen in the human species as well. I am not only thinking about different races. We find within the same race, for example, very tall and very short people or different hair colors etc. We also find much more significant deviations. A man, for example, who wrote a book about natural deviations, identified himself only as "Double Dick Dude". He was born with two penises which became both fully functional. Doctors call it 'diphallia'. It is not an illness but an anomaly that obviously creates practical problems for a sexually active man. The Double Dick Dude describes in his book the sometimes-hysterical reactions when girls discovered the anomaly. Another man had even three penises, called 'triphallia'. Two of the penises were invisible inside his body. Doctors discovered this anomaly during an autopsy after the man, who died at the age of 78, had donated his dead body for research. Nothing is impossible in nature.

A woman, to give another example, can be born with two uteruses. Doctors call this condition uterine didelphys, which statistically happens for only one time in every 2,000 women. This occurs by coincidence. It is for clear biological reasons next to impossible that a woman with uterine didelphys carries simultaneously one baby in each of the two uteruses. But it can nevertheless happen and actually happened, for example, in Xi'an People's Hospital in Shaanxi province in 2024. This is not God's work. It is also not a miracle. It is coincidence, a freak of nature in one of 1 billion cases.

Let's assume you are the only survivor in the crash of an airplane, in which all other 243 passengers and the crew have perished. Is that not clear evidence that God or Buddha has saved your life? It is not. It is coincidence. I like to drink a mixture of milk, bananas and peanuts that I crash in a blender. Its knives turn for two minutes to make the drink smooth. But one day I detected one single peanut in the otherwise homogenous drink. The nut was unharmed. It was in the same state as it was when the blender started its thorough work. This is not destiny because it is only a peanut. It is coincidence that the screw of the blender did not hit this nut.

Let's assume that a lightening strikes a group of 4 people who sheltered from the rain underneath a tree and you are the only survivor. You might credit coincidence or the fact that you wore shoes with thick rubber soles if you are a rational person. But most people will credit their survival with a decision that God or Buddha has made in your favor because you prayed in the morning with devotion. But your survival is actually coincidence if you don't want to credit your rubber soles with your survival.

If archeologists dig out an undamaged historical artefact from the ground after hundreds of years of unforgiving natural events, it is like the peanut in the mixer that remained unharmed by coincidence.

Let's assume that there was thousand years ago a library with 500 books in a sophisticated civilization that was otherwise entirely destroyed. By coincidence, only one book survived the carnage of time. It was by coincidence a cook book. Historians will then draw important conclusions related to the civilization from this book, calling it possibly the 'cooking civilization', even though all other 499 books covered much more serious other topics that would have more correctly characterized the civilization if the books had survived. The historians miss the fact that our ancestors had indexed the book as decadent because the author had written it against the rules and beliefs of his civilization. It might be that the bad book survived only because it was stored in the library's basement, in which the librarian locked away all uncultured or decadent books. It survived in this special location the carnage of many destructive events in history.

In this context, I want to mention that apparently worthless trash that our ancestors discarded randomly in garbage dumps can often give better clues about the lifestyle of our forefathers than artefacts that they carefully created as monuments in prestigious temples. Garbology is the name of this type of archeological studies.

Archaeologists extract information from ancient garbage dumps but researchers can also analyze more recent garbage in landfills to obtain valuable information about changes of lifestyle during a couple of decades in contemporary societies. A group of students at the University of Arizona established in 1973 a 'Garbage Project' based on this idea. In different layers of the landfills, they found much evidence of consumer habits that had changed over the years. The garbage project compared their findings with public records and with results of interviews. They discovered that these records and interviews were inconsistent with the analysis of the garbage, which allowed to draw a more truthful picture.

We firstly think that we throw garbage at random but the pile of garbage can unintentionally reveal clear patterns of social behavior. The garbage project secondly confirmed the observation that what people say that they do is often different from what they actually do. For example, people claimed in interviews that they don't waste food and don't drink much alcohol but the garbage project found considerable evidence of wasted food and a large number of empty beer, wine and liquor bottles. Randomly discarded garbage can reveal more truth than formal and proud expressions of culture.

Huge natural events like giant asteroids, which slammed into our planet, also leave behind their debris and garbage. A gigantic space rock, for example, that scientists call 'S2', slammed into Earth more than three billion years ago and destroyed almost all life that existed at that time mostly in form of single-celled microbes. Its impact threw 10,000 cubic kilometers of vaporized rock into the atmosphere. Given that this catastrophe happened several billion years ago, I wonder how these scientists calculated this mass of rocks. But they claim that molten droplets of the rocks fell back on earth creating one layer on top of which layers of subsequent natural disasters and events left their 'garbage' behind. Scientists in South Africa have analyzed these different layers below the earth's surface. They were then able to create in broad strokes the pictures of main events of the early history of our earth.

When the Big Bang exploded some 13 billion years ago, it released dust and gases from which formed stars, planets, galaxies and other celestial bodies. Cosmologists now explore left-overs or garbage from the big bang that did not convert into stars. They call these left overs 'relic glow or cosmic microwave background (CMB). They try to find out more about the history of the cosmos by calculating the distance of these left-overs and the speed at which they move. I consider this another variant of garbology.

Control of Body, of Brain and of Decisions

The arms and legs of a newborn baby start moving on their own before the baby realizes that these are parts of its own body. It is through these involuntary movements that the baby becomes aware of its body. The baby's developing body has the vital and biological urge to move without other purpose than to develop arms and legs. At the same time, the baby learns slowly from experience that these moving arms and legs are actually parts of its body. The baby also experiences that some random movements hurt and that other movements become useful or provide satisfaction and pleasure. It is biology, including biological intelligence that causes these movements. The baby's body wants to evolve and the baby's brain learns from these random movements. It would be absurd to credit a free will with any contribution to these first stages of a baby's development.

The brain's system that is responsible for body movements memorizes the movements that produced satisfaction and rehearses these movements until they become routine even before the baby becomes aware of them. This is how a baby learns to crawl and later to walk. It seems that touching is believing. Innate inquisitiveness motivates the baby to crawl when it sees something that it wants to touch or that promises food. Young animals might not primarily be motivated by sheer curiosity but only by the desire and hope to find food and pleasure.

As the baby's development continues, it will observe movements of other babies and of adults. Mirror neurons make it emulate the movements that it has seen. Its mirror neurons prompt the baby – as is natural - to emulate movements that they observe. After a while the baby will have accumulated a set of regular and useful body movements associated with the memory of their utility. The baby will, for example, have learnt to stretch out the arm to grab food or to chase away a fly that feels unpleasant when sitting at the top of the nose. It would be silly to argue that the baby has used its free will to make a conscious decision about the method to chase the fly away. The urge to get rid of the unpleasant feeling of the noxious fly or the pleasure of eating after having grabbed food has triggered the motion of the arm. The baby had rehearsed this specific movement many times. The movement, as stored in the memory's repertoire, has the potential and is ready for later use any time in similar situations. Each of the rehearsed movements in the brain's repertoire have what we aptly call a 'readiness potential'; they are ready to perform when specific situations come up again.

In certain situations of urgency, the muscles don't wait for an instruction from the brain; they receive quick signals from the dorsal horn in the spine through which all information between the body and the brain travels. Before the brain has the capability to process information from the muscles and to send back instructions for the muscles, the spinal horn instructs the muscles to do reflex movements. If the brain had to initiate this, it would be too slow. There is in most cases no conscious decision involved – not even an instruction from the brain. The spinal horn does it all by itself.

If someone lifts the arm and if this is not a reflex, it was the brain that issued instruction to the muscles through the nerve system. The muscles then contract and lift the arm in the same pattern as the muscles had rehearsed this before. It is one of many 'canned' movements. If muscles act on instructions by the brain most people argue that this is evidence that a person's free will has caused the movement of the arm. But such an interpretation is based on a questionable understanding of causality. The direct physical cause of the movement of the arm is the contraction of muscles. The brain has caused the contraction of the muscles by issuing an electric impulse. This is where the chain of causalities starts and ends. What caused the brain to issue the impulse to the muscles? There is no physical red button that we can press to make the brain issue an instruction to the muscles. The impulse that the brain creates has no physical cause. It is a specific purpose, the need for something or an instinct that causes the brain to send an impulse through the nerve system. You can endlessly try to find the ultimate cause of a body movement. You will never find it unless you look at the function, purpose and motive of the movement. Similarly, you miss the point when you ask why a lens is transparent if you don't ask why and for what purpose it is transparent. Obviously, you are free to call the desire for an action the cause of the action as long as you are aware that this is not a physical chain of causes and effects.

The fact that I know shortly beforehand that my arm is going to move is not evidence that my thought is the cause for the movement of the arm. My knowledge that the night always follows the day is also not evidence that the disappearance of the day physically causes the night. The fact that I am aware of a movement is not evidence that I have caused the movement and particularly not that I have caused the movement with a free will.

After the alarm clock has rung early in the morning, everybody knows that it is time to get out of bed. We have to make a decision to do so. The brain has stored in its memory the movements that are necessary to get out of bed. We have rehearsed these movements many times. They just have to be triggered. But many people stay in the warmth and comfort of the bed, particularly when the room is cold. They enjoy the pleasure of the warmth until the unpleasant fear of being late at work gains the upper hand. We then get rid of this fear by triggering the movement out of bed. It is the fear of sanctions after arriving late at

work that makes people move out of the pleasant situation in bed. It is not a free will unless you argue that getting out of bed is evidence of a free-will because there was the theoretical possibility to remain in bed. We can theoretically do many things but not doing them is not evidence of a free will. Our planet could theoretically slow down the rotation on its axis. The fact that our planet does not do it, is not evidence that our earth has a free will.

If you are hungry and you sit in front of a plate with tasty food you have the possibility not to eat. Advocates of a free will might argue that the decision to eat instead of deciding not to eat is evidence of a free will. But a hungry person follows the call of nature and will eat. Not to eat is only a theoretical possibility in such a situation especially if the person has not eaten anything for a couple of days. Similarly, staying in bed instead of going to work is only a theoretical possibility for a person who fears to get fired if he does not show up at the workplace. Let's consider the same situation for another person with a high work morale (Arbeitsmoral) or with an interesting job. For this person the pleasure to stay in the comfort of his bed will be less attractive than the pleasing expectation to have satisfaction and recognition at work. His instinctive strive for pleasure will make him move out of the bed. Staying in bed is not an option for him.

Advocates of a free will present as a model the situation that someone has the option either to steal an object or not to steal. Whatever this person decides, these advocates claim that a free will is behind the decision. But actually, many competing desires, feelings and fears are at work pulling and pushing the person in one or the other direction. The desire for personal gain and the fear of being punished are two primitive motives out of many other factors that work towards a decision to act. If the person desperately needs the object, the fear of being punished will move into the background particularly if the possibility of getting caught is remote. Predispositions that education and past experiences have created, are other powerful forces. A person whose educators promoted moral living, will see his virtue as the most important reward. Stealing is for him not a real option. He just cannot do it. A professional and skilled thief, in contrast, will grab the object automatically – no questions asked. Not to grab an object that is ready to be stolen, is not a real alternative particularly not if the person belongs to a gang of thieves with a code of conduct. The gang might look down at a member who has not grabbed an object that he could easily have stolen. His gang will sanction him with disdain particularly if the risk of being detected was very low.

A free will – if it exists - is not a cause for anything. A free will is not an essence that exists outside or inside the brain. The word 'free will' should not be used as a noun. It should be used as an adjective or a property of an action as outsiders judge. It is not the free will, which caused the action but we call the action as 'free-willed' if the action meets objectively certain criteria. An outside observer (and the law) will consider an action always as free-willed if he does not see that another person has forced him by coercion to act. If a man boards a car with another man behind him pointing a knife in his back, we will say by convention that the act was not 'free-willed'. If the same man without the other man behind him boards the car we will say that the action was 'free-willed' even if the man has the urge to drive to the casino for compulsive gambling. In this case, obsessive desire for gambling is the decisive factor or force that makes the man board the car. The compulsive gambler boarded the car to drive to the casino where he can indulge in gambling out of an incurable addiction. You could argue that the gambler could have used his free will to go by public bus or by bicycle. But our gambler selected the car either randomly, which does not involve a free will, or he was in a hurry to get as fast as possible to the casino. If you are very hungry you will similarly take food with your hands out of the cooking pot instead of delaying the intake of food by placing it on a plate and using a fork to get it into your mouth.

All activities happen in a context and have a purpose that goes in every situation beyond an isolated gesture. We act not with the goal to lift the arm. The trigger for lifting the arm might be the urge of the body to stretch or might be the reflex to chase away a nasty fly. We act to satisfy desires and needs. We rarely control these acts. Or we hold back an action by fear of sanctions that law or society impose if we give in to improper desires or instincts. We don't control our lives. Our desires and instincts are much stronger than anything else.

We should not talk about a free will if we have not investigated the role of motives and desires, which influence and determine our decisions in specific situations. Every situation offers options to act or not to act. The brain analyses the known options. Instincts, desires and bias guide this analysis.

If the body needs food, the brain will focus on detecting what is edible. If the environment is new and unknown, the brain will look for possible dangers and risks - particularly if the person is fearful. If the body needs rest, the brain will identify places, where it will be comfortable to sit or to lay down. A free will is not involved in this cognitive exercise. Depending on the body's needs and desires, the brain highlights the option that presents the best chances for comfort and pleasure. The brain does not point at the famous elephant in the room.

In more complex situations many more different desires and cravings of a person might be in conflict with each other. If someone arrives in an unknown environment, the brain might have detected a danger, which suggests running away as fast as possible. But at the same time, the eyes have seen pleasant food. If the person is very hungry, a fearful and risk-adverse person might nevertheless forego the meal and will run away while a courageous person will not resist and will grab the food before running away. Both persons see on one hand the risk and on the other hand the opportunity to eat. But we cannot rationally measure the level of risk and of the opportunity because a precise gauge for weighing one against the other does not exist. When you see clouds in the sky that look as if they were bringing rain, you might decide not to go out of fear that it will rain or you might decide to go out because you consider the risk as negligeable. The brain triggers the decision by the level of risk aversion on one side which is determined by the brain's configuration, and – on the other side - the strength of the desire to go out.

A co-worker in Mongolia, Saraa is her name, is the daughter of a nomadic herder. She had spent her childhood in a Ger, which is large round tent that people outside Mongolia call 'yurt'. Herders often experience long periods of draughts in summer making them every time seriously fear that their cattle would run out of grass. Saraa told me that in the middle of one night she heard raindrops falling on the felt of the ger's roof. She immediately left the warmth of her bed, ran out into the pasture and immensely enjoyed feeling the raindrops on her skin. The pleasure of feeling the cold rain was greater than the pleasure of a warm bed. When I was camping as a young boy and heard raindrops falling on the tent, I dug myself deeper into my sleeping bag and enjoyed the feeling of being well protected from the rain.

I observed racoons in Vancouver's Stanley Park when I offered them food. They did not resist the desire of food and came slowly closer but remained careful while assessing the possible risks. Any of my movements made them fearfully retreat. They are suspicious and wary and sly. But the craving for food made them slowly and carefully come back. All of a sudden, they darted quickly forward to grab the food that I had laid out and ran very fast away taking the food to a place that they considered to be safe. All wild animals do the same. Once they have snatched a piece of meat from a dead animal that they have detected in the open, they run away because they know from experience that other animals will also come to fight for their share of food. When I offer food to street dogs, I observe the same alertness and the same fight between the contradicting instincts of fear, hunger and courage.

Risk-averseness or fearlessness are opposite configurations of the brain that come – like many other predispositions – with various different levels of strength by birth, from education or from experience or from all of these factors. A very fearful person might run automatically away from a situation that he considers as possibly dangerous. Another, less fearful person lets his craving for food get the upper hand and will grab the food. Both have no information about the level of danger. They also don't know if food is easily available at another more convenient location. But such information would be required to make a rationally calculated decision.

A free will is not a substance or essence on its own. There is an opinion that human beings have a soul as the carrier of personhood and that this soul includes a will that is responsible and free like a bird in the sky. But both the soul and a free will – if they exist as essences outside the brain - would be purposeless. You cannot have a free will if you don't act. The free will is not a sleeping force or an angel hovering above your head, that is activated when you have to make a choice. It is an attribute of an action that an outside observer uses to qualify the action either as free from visible forces or alternatively as an action brought about by reflex or compulsion.

The notion of a free will describes only the characteristics of an action. It is similar to beauty, which does not exist as a separate essence but only as a characteristic of an object or of a person. People have different opinions about the beauty of objects or of a person. Similarly, people judge in a different way when they observe an action of a person. They might give different answers to the question if an action is based on a free will or was unduly influenced by coercion, duress, compulsion or error. But the factors that make a person act in one way or another are not either totally free-willed or the result of overwhelming factors. There are many different factors between those two extremes that work in the production of a decision.

The strength of these factors is on a scale on which coercion is one extreme and a theoretical free will on the other. But coercion is only hypothetically decisive because a person with strong and daring character might resist. The free will is also only theoretical because there is always a factor or motive, as weak as they might be, that determines the action. If there is no motive at all, it will be a random action or there will be no action at all. A drunk or drugged person can act arbitrarily without motives and desires as a leaf in the tree moves in the wind. But normally, every action is triggered by motives, desires and instincts. A person who says "I want to live" or "I want to eat" sounds like a person who expresses his free will to live and to eat but he actually mentions only his natural instinct for survival.

Similarly, someone who says that he wants to have children mirrors in his own words the instinct of procreation that Mother Nature has given him with his biology and genes. Maternal instinct and the instinctive drive for pleasure are other examples of a great number of instincts that govern our behavior. Herd instinct, which makes us emulate the behavior of other members of society, also influences strongly our behavior and lives.

An outside observer concludes that the action is based on a free will if he cannot see evidence of typical situations of duress, compulsion or coercion. This is only the view from outside the acting person. Let's look at the situation that a customer selects a green box with toothpaste from the shelf in a supermarket. If the salesperson stands behind him with a knife and forces the customer to select the green box, we will say that the selection was made under duress and not by his free will. Similarly, if someone who believes in the eternal fire of hell, makes a decision under the fear to be tortured in the afterlife, we should not talk about a free will that is at work.

If we cannot see a salesperson with a knife behind the customer and if we cannot see a pastor next to the customer who threatens with torture in hell, we will judge that the selection of the toothpaste was based on a free will even if the choice of the customer is the result of skillful manipulation by advertising tricks.

In the example of Brian above who decides whether or not to drive to Frankfurt, we judge as outside observers that he will make his decision as a free man without duress because nobody stands close to him with a knife. We cannot see the many conscious and unconscious factors that determine his decision. We do not know and he does not know which of these factors become dominant and trigger the action. We have no standards that we can use to evaluate and measure the weight of different factors in favor or against the action. All we know is that Brian, after he had made his decision, convinced his wife that business requirements necessitated the trip.

A free will also not trigger an everyday decision like having a shower either in the morning or in the evening. It is interesting that Chinese people always shower in the evening and not in the morning as most westerners do. It seems to be a cultural difference that makes Chinese people shower in the evening. The more I think about this question, the more I am confused because there are as many arguments that speak for the morning shower as there are reasons to shower in the evening. The daily decision for one or the other is purely the result of an established habit and not the result of a conscious decision. We don't weigh every day over and over again the advantages and disadvantages of morning showers against evening showers. Habits alleviate the agony of choice by eliminating the free will. I talk about the determining role of habits in the section below.

In a situation where you have to chose, the brain presents you with one compelling option. Our so called free will does not chose. The most convincing option will trigger the action. It is totally unclear what quality an option must have to be convincing. This is a judgment that every individual's brain will produce uncontrollably. And this judgment might be different depending on the person's current composure. A person will judge the attractivity of one option differently when he is angry or when the levels of blood sugar and oxygen in the blood are different.

Even a diehard rebel or a daredevil has practically no choice. His addiction to act in opposition to normal risk-taking and his pleasure to take chances makes the choice for him against all warnings. In other words: in a specific situation, where an action is required or possible, the brain analyses the options, identifies the most plausible option according to predispositions and pulls the trigger. The person who acts is actually only watching and has the illusion of having freely decided. The brain has done all the work and has made the decision by presenting a most plausible option that the owner of the brain then describes as his free decision. I don't see how moral responsibility comes into this process. Most of our decisions don't involve morality and responsibilities towards society.

If a person is in a certain situation where he has the option between two options of which others judge one as moral or as immoral, he might find the option in favor of morality rewarding because society will applaud him as a righteous person. However, a greedy person will not care what moralists think about him. He will be more attracted by the financially more rewarding option. The law of attraction decides. For an outsider it looks as if both persons have the same possibility to select one option instead of the other. But an option that one person easily rejects as immoral might be irresistibly attractive for another person. The morally impeccable option attracts someone who enjoys the pleasure that others judge him as a righteous man.

In trivial situations in which two courses of action are relatively inconsequential and morally irrelevant, we don't know what to do but the brain will decide for us. An example is the option between toothpastes

of same size and price on the shelf of a supermarket. If the choice is between a red and a green box, the purchaser might decide to choose by random – for example by tossing a coin and avoiding a decision. But the purchaser has probably a bias. The bias can be in favor of one of the two colors. Following such preference, he will grab the package of his favorite color. The decision might also come about when the brain digs out of the memory the picture of an attractive advertisement, which then determines the selection of the blue box. This is the main purpose of advertisements, which show the picture of the merchandise surrounded by pleasant girls or other attractive pictures. When the consumer then sees in the supermarket the merchandise, the brain reproduces behind the scene the pleasantness of the advertisement, which triggers the decision to take this product from the shelf. A magazine for hunters will advertise the toothpaste in the blue box by showing a picture of the box next to a happy looking beautiful hunting dog while a Jewish magazine will show in the advertisement the same toothpaste next to a star of David. Nowadays, when you browse the internet the advertiser's software knows your personal profile from your browsing history. If the computer has established that you are a hunter, it will show you the toothpaste next to a cute hunting dog. If the computer establishes that the IP address of your web browser is in Tel Aviv, the advertisement will show the star of David.

In many situations the brain does not wait and does not show us options to move an arm, to turn the head or to move the legs. When you hear a loud explosion, it is very likely that you will turn your head automatically – as animals do - in the direction from where the bang came. If – in addition – people start running after they have heard an explosion, it is very likely that you will also – as all animals do - run without waiting and without making a formal decision. You will not only run but you will do this in the same direction as the others. As always, you will not run against the flow of the crowd.

Similarly, if you walk in the street and people in front of you look upwards, it is very likely that you, too, will look into the same direction. And finally, to give a last example, your body and your arms will automatically move to a position, in which you might not get too much hurt if you stumble and fall to the ground. Instinctively, as we call automatic reactions of the brain and of your nervous system, you will make movements with your body and with your arms that soften the impact of the fall and prevent your precious head to hit the ground. In that respect, animals like cats and monkeys are masters. They can fall from trees high up and the automatic reflexes of their bodies make them very likely land unharmed on all four paws on the ground. It is futile to ask if these automatic reflexes exist as biological intelligence since birth or are the result of experiences earlier in life. The fact is that these automatic reflexes occur without conscious inputs.

The brain and other organs, which have their own memory, are able to store a set of instructions that they then execute automatically. Researchers call this phenomenon 'muscle memory' because it appears that the muscles remember sets of movements. When I walk, I thankfully do not have to think about the movements of my legs and its muscles; they are under automatic pilot. When I bind shoelaces, I do not think about how to make a knot. My hands perform automatically. I am also quite sure that a musician, who plays the piano in a challenging piano sonata, does not have to tell every of his ten fingers during the performance where to move and how hard to press the keys. The piano player's memory has stored most of these instructions during endless rehearsals. But these rehearsed instructions are actually not stored in the muscles but in the central nervous system, which is comprised of the brain and the spinal cord. Both work in tandem. The spinal cord, which is the main hub of the nervous system, eases the burden of the brain by transmitting the instructions directly to the muscles with little or no input from the brain. This is why scientists call this type of memory the neurological muscle memory.

If we talk about muscle memory, we mostly refer to the physiological side of muscle memory. This is the phenomenon that the cells in the muscles remember their shape from the time when the muscles grew for the first time when a person practiced regular activities like sports. If the person suspends these activities for a period of time, the muscles shrink. But the muscles have the ability to regain their strength, when the person resumes the activities. The previous muscle mass then grows much faster than at the first time. Researchers explain this capacity with the fact that the muscle cells did not entirely disappear but remain and will be re-activated when the activity resumes. A tennis player, for example, who paused for a significant period of time, will not have to start his training from the beginning. On the other hand, if the muscles are formed, the tennis player might have difficulties to become a figure skater.

Many of our daily activities are programmed like the movements of a tennis player or the key strokes of a piano player. An example from my own life is the use of a computer keyboard. I did a test by asking myself with closed eyes where the key 'R' was located on the keyboard. I was unable to remember that this key is located in the upper row between the keys of 'E' and 'T'. However, my fingers automatically find the key 'R' when I type. Similarly, when I want to type in German language – for example – 'der Hund' (the dog), it happens quite frequently that my fingers type 'the Hund' because my habit mixes up the definite articles.

I observed an important automatism when I drove my Vespa during four years in Vietnam. Touch wood, I never had a serious accident despite the chaotic traffic in Hanoi's streets. I had pre-programmed my brain by auto-suggesting the rule that I had to stay on the scooter and keep the handlebar firmly in my hands if an accident was about to happen. This rule resulted from two accidents that I had observed. I had the feeling that the drivers had too early resigned to the – not yet completed – fact of a collision. They let the handlebars go and let themselves and the bikes fall to the ground. Many years before my life in Hanoi, I had heard a female driver in Germany saying that when she was frightened of an upcoming accident, she released the steering wheel to hold her hands in front of her eyes to avoid seeing the accident, in which she was heading. Resigning and accepting bad fortune too early is one of the configurations of the brain that some people have while others stubbornly fight to the end.

My auto-suggestion to keep control of my Vespa as long as possible worked automatically very well in two subsequent situations when I slightly collided first with a cyclist and then with another motorbike. I had obviously no time to think consciously about a strategy how to react in the upcoming accident. But I automatically remained seated, kept control of my relatively heavy scooter and did not fall to the ground when my Vespa hit the other bike and got slightly damaged. If I had not pre-programmed my behavior, I would most likely have fallen off my bike. My pillion rider also benefitted because she remained seated instead of being thrown off the scooter.

The brain has a relatively autonomous life and takes its own initiatives without being told what to do. The brain acts often independently from what we think are our instructions. The brain can make us feel sad or happy, depressed or optimistic when it receives relevant substances from glands or from the blood. Similarly, the brain reacts to chemicals that we inject into our blood or that are contained in food, in water or in the air. We can take pills to get sleepy or drugs to make us excited. This is as far as our control goes but we cannot take drugs to make better decisions. The brain processes automatically impressions from the outside world like sounds and light, heat and cold. The brain has the capacity of self-learning and self-creating innovative instructions to itself without waiting for our directions.

But this way of thinking is not the mainstream of philosophy and theology. The majority of thinkers assume that human beings freely decide and give instructions to the brain. Humans have, they say, full control of the brain as if an autonomous and free soul existed outside the brain dominating its processes.

I have repudiated this idea in an essay about the afterlife, in which I wrote about the soul. I concluded in this essay that a soul does not exist. It is not a separate entity or essence but a colloquial term to describe somebody's personhood. I use the word 'personhood' to mean the totality of character, personality and temperament. Personhood and soul, which terms I use interchangeably, both refer to the full set of a person's existing characteristics as they are enshrined in the brain and in the genes. Holy texts and philosophical treatises use the word 'soul' mostly colloquially to express the idea that a human being is more than just a biological body.

I look at myself and at others not as a static entity that is once and for all defined by an unchanging guiding principle or an overall pre-defined destiny or by my soul. I prefer looking at the course of life as a product of a long sequence of activities and events as they come along randomly. We respond and react in every new situation according to our predispositions and we use past experiences as guidelines. A new-born person is like a 'clean slate' or clean piece of paper. It has not yet experienced anything. Its life will take shape and its story will evolve not by a pre-conceived plan or a pre-defined soul but by experiences and events under the dominating influences of family, society, education and coincidences. A person's life is neither determined by a free will nor by godly powers that have pre-determined his course of life. There is much more random in play than the illusion of voluntary control that we humans nurture. Some people say that voluntary control of our lives distinguishes human beings from animals. But I find nothing wrong by seeing me as member of one of many species of the fauna or the animal kingdom as we also call it. I cannot subscribe to the biblical perception that "*God created man in his own image*" (Genesis 1,27) if it means that the human race was granted a particular likeness to God and that animals, which the Bible treats as objects, have nothing from God's image. I find it presumptuous to believe that human beings have God-like features, particularly because I don't know what God's wonderful biological or non-biological features are. However, my main objection against this perception is the treatment of animals as objects that are subordinate to human beings. Animals deserve the same respect as human beings. If God created human beings in his own image, he has done this for animals as well. After all, humans and animals both evolved from the same biological matters. We are both subject to the same laws of physics and biology. These laws make us come to this world, they control our lives in most details and make us disappear.

Creature of Habits.

Habits are behavioral patterns by which a person or an animal behaves in certain circumstances consistently in the same way. Some habits are innate and instinctive. Female sea turtles bury their eggs in sandy beaches every two or three years at exactly the same beach where they first hatched. Their instinct lets them find this beach again after long journeys of thousands of kilometers through the oceans.

Similarly, Pacific salmons, which live in the vast ocean, have the habit to return to the river where they hatched in order to spawn. From locations far away they find their places of birth in the river using as guides their sense of smell or by sensing the earth's magnetic fields. Some species of salmon do this several times during their lives. These are amazing habits that animals, we assume, practice without becoming aware of them.

These are extreme examples of habits in the animal world. But humans also have habits that are innate similar to the habits of turtles and salmons. These behaviors and habits like crying when in pain and yawning are hardwired. Other human habits and behavior are acquired. They don't come with birth but develop during the lives of people.

The human brain is energy conscious. The brain likes habits because they reduce the energy that it needs to figure out what to do next in typical situations. This is why our brain is better at making habits than

breaking them. It can be a sign of brain-laziness if habits dominate a person's life. "We have always done it this way" is the excuse for not thinking about better ways of doing things.

Shaving in the morning is a culturally induced habit. Most men, including me, more or less automatically spend some five minutes every day in front of the mirror to shave. This looks like a negligible period of time. But if you add up five daily minutes during a year you arrive at 1,825 minutes or 30.4 hours that you spend annually to practice the habit. For an eighty years old man like me this adds up to 1,824 hours or some 76 days of full-time shaving. I arrived at this number of days by assuming that you start this habit at the age of 20 years. This is how time-consuming small habits can be. On the other hand, you will save 76 days of your life if you don't shave. What else would I have done during these 76 days if I had not shaved every day? In this case, I would ask God to add these days to the end of my life provided that I am still healthy and able to enjoy these additional days.

Animals show habits that are probably fully unconscious and fully outside their control. Habits of humans can be partly conscious. We know that we always do the same thing but we do it anyway out of a feeling of comfort. We all develop the tendency to react uniformly in typical situations in daily life. Habits develop usually when we repeat certain behavior sufficiently often until they become standard and almost automatic. I noticed that I tend to repeat an action already after the first or second time. Having walked only once along one street might make me come back onto the same street the next time. This temperamental trait is part of how my body and mind are pre-configured. I am an animal of habits.

My pre-configuration as a creature of habits probably started when I spent the first years of my life in a Kinderheim. The nurses subjected me to regular biological functions like eating and sleeping because they did not have the time to feed me between meal times. They put me regularly in bed for the night when their working hours ended. Subsequently in my life, I did not become too much interested in trying new daily routines. Sticking to existing routines is more comfortable. Babies or small children who have meal service available 24 hours a day and who are allowed to stay up as long as they want before going to bed might not easily become creatures of habit.

Researchers tell us that habits, which work like instincts, control in average, more than 40% of daily behavior. This percentage is probably higher in my daily life. Most of these daily habits show when – for example – we put the car key always on the table next to the entrance of our home. Other habits show in special situations when – for example – a gambler plays the same cards that had made him win in the past.

Some habits are not related to actions and behavior. They show when we judge and form opinions. Regular bias is preprogrammed in our brain. The predisposition, to give an example, can be pessimism ('the glass is half empty') or optimism ('the glass is half full'). Another person with an engineering or technical mind might say, when he sees a half empty glass, that the glass is twice as big as it needs to be.

Another bias is the opinion that 'all Catholics lie', as my grandmother said. Her bias showed when a Catholic said something and she responded with her usual bias against Catholics. Another predisposition can be the habitual urge to be talkative or to remain tight-lipped or unresponsive. We could say that the aggregate of tendencies and habits define what we consider someone's personality. The typical way, in which a person acts and reacts in certain situations make up his personality. "What is wrong with him?" is the question that we ask ourselves if someone deviates from his habits.

Morning routines in the bathroom or certain semi-automatic activities in the kitchen or at the workplace are examples of routine behavior that we repeat without awareness. We also might sit at the same place

of the dining table and use the same spices to improve our food. I observed people who used the salt shaker to spray salt on their food in front of them even before they had tasted if the food needed any salt. It is an automatic gesture.

Turning the TV set on right after coming home from work or checking messages in social networks are also semi-automatic habits. I observed – to give another example – that my partner always sleeps during the night on my left-hand side no matter where we are and where the window or the door of the bedroom and of the bathroom are.

Habits can act like grease in the mechanism of daily life. If you have the habit to put the door key always at the same place after coming home, you will have no problems finding the keys even in the dark. When you are travelling, it is a good idea to store your passport and boarding pass always in the same partition of your travel bag. That gives you the confidence that you find these important documents routinely and fast.


Moshoeshoe International Airport, Lesotho

A few years ago, I arrived from Johannesburg at Moshoeshoe International Airport in Lesotho. I boarded with a few other travelers a small shuttle bus outside the tiny airport. The bus driver was just about to leave when a co-traveler from the UK shouted "Stop, I lost my passport". He disembarked and run back into the arrival hall to search for his passport. After a while, he came back empty-handed and panicked. In desperation, he checked his travel bag again and found his passport in a compartment of his bag, where he had previously not looked because he relied on his habit to put the passport always in one specific place.

I attended regularly Rotary luncheons in Port Vila, Vanuatu. The restaurant routinely served food on one plate each for everybody. On it were meat, potatoes, vegetables and some slices of boiled corn. One participant, Bernard from Belgium, finished all slices of corn before he started eating the other food on the plate. "You seem to like corn" commented two friends and offered him their own slices of corn. But Bernard replied that he hated corn and explained that his parents had always insisted that he – with no exception - finish the entire content of his plate. Therefore, he had taken the habit of eating first what he did not like before enjoying the food that he liked. "Finish the food in your plate", was also what my parents demanded, particularly when it was me who had filled the plate. This request resulted in my ongoing habit to finish food that restaurants serve even if this challenges my eating capacities. Fortunately, it has become common to place overabundant food into doggy bags, which mitigates the risk of overeating. Restaurant owners in France have now the legal obligation to provide doggy bags to their guests not to avoid over-eating but to reduce waste of food. When I was young, people did not consider guests of a restaurant as distinguished when they asked to take leftover food home for their own consumption. They therefore claimed that they wanted to take away the food not for themselves but for their dogs – hence the name doggy bag or doggie bag. The original shyness to ask for a doggy bag has disappeared. Many restaurant patrons now order intentionally too much food so they can take home the remaining food for the next meal at home and don't have to cook.

The numbers and types of habits, in which people engage in daily life, vary from person-to-person as habit experts will tell you. These experts, which actually exist and do their research, focus on habit formation and on how long it takes to develop a good habit, for example, to go regularly to the gym or how to get used to a new appearance after plastic surgery. They define a habit as a behavior that an outside observer can correctly predict. They have recently rebuked the myth that it takes 21 days to actively develop a

good habit that a person might have included in a New Year's resolution. They say that this myth is far too general. I am not a habit researcher and can approach this issue only from casual observations of my own behavior and of the behavior of others. From this viewpoint I can confirm that habits of all kinds are everywhere.

There are exceptions. I met some individuals who love novelties in their lives. They do not go to the same restaurant twice even if the food and service were excellent. They will answer "I have already been there" if someone suggests to return to the same restaurant. If someone rejects my suggestion to do something by saying 'No I have done this once already' I sometimes jokingly reply with the rhetorical question 'Can I guess that you have only one child?'.

In contrast, to people who don't allow habits to creep into their lives, I appreciate routine and regularity in my life. When I enjoyed tasty food in one restaurant, I do not want to face the risk of a bad experience by patronizing a randomly selected other restaurants or selecting a different dish. When I have to select a hotel, I always select the hotel where I had stayed before and during check-in, I always request that they give me the same room that I used during a previous visit. I then have the nice feeling of coming home again into a comfort zone.

In Manila, where I worked for the Department of Labor and Employment, I stayed with short interruptions for 12 months in the Bayleaf Hotel, which is located in Intramuros, the oldest quarter in Manila. An old and solid wall with fortifications surrounds the quarter. Over many centuries, the wall protected the inhabitants from attacks by various different enemies. But since I was not an enemy they let me come inside.

On weekends when I regularly worked most of the day in the hotel room, I developed the habit of leaving at 11 am, when I expected housekeeping to arrive. Not wanting to stay while housekeeping made up the room, I regularly went for a walk on top of the wall clockwise around Intramuros. This is not too comfortable because the huge stone slabs, on which one walks, are uneven. The Department of Labor is located directly at the wall. The security guards who were taking their sunbaths on chairs in front of the building, always greeted me and told me humorously that they would set their watches because I always passed exactly at the same time.

Another habit that I developed at the Bayleaf Hotel was to help myself at the breakfast buffet to the same items in the same sequence. One day, I was confused that I could not see the hash browns, as usually, on the right-hand side of the buffet while they were placed surprisingly on its left-hand side. "What a nuisance; how can they do this to me?", I thought without really believing that it was just a little annoyance.

When I am at home in Zhuhai, to give another example, I get up from bed at 6 am and leave home at 6:30 am for exactly the same morning walk every day. I stop at precisely the same location at the waterfront to do exactly the same light exercises every day. There are a few other people who are also creatures of habit since I see them walking the same paths at the same time. We do not stop for a conversation; this would interrupt our respective routines. We just greet each other smiling and waving our hands. This is comfortable and makes us feel at ease. It is like seeing old friends who share morning routines.

I have the habit of wearing the same trousers and shirts even if I have 6 pairs of trousers and 10 shirts in the wardrobe. This was different when I worked in an office environment in my former home town. I had to be dressed formally and changed trousers every working day. The seller of the trousers had told me that the wool needed some rest and some oxygen after a full day of use. I changed the trousers in a strict sequence. I was wearing the same five trousers every other working day and gave each pair of trousers a

rest until I had worn all other trousers one after the other. If someone had observed the trousers that I wore, he would have been able to tell that it was Monday when I wore grey trousers, Tuesday when my trousers were black etc. This reminds me of a joke that a couple of stage performers made during the Fastnacht in Mainz: One guy asks the other: "What day of the week is it today?" and the other guy answers "Let me think, I wear my undershirt today for the second time the wrong way round. It must be Thursday".

To give an example of an encrusted automatic habit I might mention that I lived many years – even decades – in apartments where the bathroom and the toilet had no window. I therefore developed the habit to turn on the light before opening the door to enter the bathroom. In recent years I came to live in apartments that have windows but I still automatically move my hand to the light switch before opening the door and before realizing that I do not have to turn on the light – at least not during the day.

I have another obsolete habit that I have inherited from my early pre-computer years. Correcting typing errors on a mechanical typewriter involved painting Tipp-Ex over the wrong letter and typing the correct letter on top. When I use a computer today, I have kept the habit of moving the cursor to the misspelled character, deleting it and replacing it with the correct character even if it is simpler to delete and re-type the whole word if it is not too long.

I could mention many more examples of my daily habits, which are conscious but automatic or semi-automatic.

Before I follow some standard routines, I have the feeling or the illusion that I could do something different but I obviously follow the habit. Before I decide to engage in the same habit, I casually consider alternatives but prefer automatically the pleasure of predictability and comfort. Alternatives are theoretical. I feel at home when I follow my habits and I want to feel at home. The coziness and pleasure of this feeling triggers my decision.

For some people, going to church on Sunday morning is a routine activity that they follow with only little reflection or analysis of alternatives. Before leaving home on Sunday morning to attend church service the churchgoer knows that alternatives for activities exist. But the habit makes them go to church instead of exercising in gym or patronizing a Weinstube (wine tavern) for a glass of dry Riesling (Frühschoppen - pre-lunch drink). As a matter of fact, I remember that male church goers in my childhood village who were slightly older than middle-aged men, did not have to make a decision either for church or for Weinstube. The reward for having attended the church service was always the Frühschoppen after church service. During that time their wives prepared Sunday lunch. The habitual sequence of events was Church service followed by Weinstube and then Lunch, which was followed by an afternoon nap. Actually, this routine was a very nice incentive – even compelling - for these men to go to church to meet the same old friends there and to follow the same unvarying Sunday rituals. Why should you change pleasant habits?

Procrastination has been a consistent feature during my entire life. It is a trait of my character. Fortunately, there are habits, which make decisions redundant. They don't require decisions that a procrastinator will uselessly delay. Psychiatrists sometimes explain procrastination with an underlying health condition such as generalized anxiety disorder. But I don't feel anxious or overwhelmed when I procrastinate. It is just a habitual feature of my personality. This feature shows regularly when I am slow in answering questions or responding in situations where other people expect a speedy action. I usually think too much and too slowly. Instead of acting, my brain often gets active even in simple and unimportant situations. When I have to change socks, I might consider if I should do this by first removing both socks and then putting on both new socks or if I should complete this procedure for one foot first

and subsequently do the same for the other. By the time I have solved this puzzle, another person might already have changed his socks twice without thinking.

Daniel Kahneman has convinced me with his book 'Thinking fast and slow' that my trend to procrastinate is not a symptom of a mental health condition. He explained that fast decisions, judgments and actions are based on intuitions that one department of our brain, which he calls 'System 1', produces for daily life and for fast judgments. Another department of the brain, which he calls 'System 2', digs deeper and considers more details if necessary. I therefore explain my trend for procrastination with the layman's suspicion that my brain sends the job of thinking about petty things unnecessarily to the second department of my brain instead of leaving it with the first department.

Events are often faster than my decisions. For example, the question: "Should I book a flight for a trip in August?" is no longer a question when September arrives and I still have not made a booking.

When I leave an airport and see a queue of waiting taxis it might happen that I lengthily consider going to downtown by bus or taking a cab. When after a while of thinking no car is left at the taxi stand, I will tell myself by way of auto-suggestion that I wanted to go downtown by bus anyway. This gives me the illusion of having used my free will but actually lapse of time and my predisposition to procrastinate have decided on my behalf.

The desire to find a perfect solution, which usually does not exist, makes procrastinators think too much. Psychologists call this 'overthinking'. Some people refer to this phenomenon 'analysis paralyses' for which Voltaire phrased the fitting proverb: '*Perfect is the enemy of good*'. I found that many people are opponents of perfect. And indeed, why should you attempt to be or to do something perfect when not even the cosmos is perfect. This is a statement that Stephen Hawking made when he said '*One of the basic rules of the universe is that nothing is perfect. Perfection simply doesn't exis*t'. He probably wanted to say that the laws of physics and biology, which control the world, are quite precise but not 100% precise. If the world were physically perfect, it would not be a guarantee that we would become happy. We want pleasure – not perfection.

Anyway, the weakness of procrastination is sometimes offset in situations where problems solve themselves by lapse of time without an intervention that might be premature. Many people suffer from the habit of action bias, which is the opposite of procrastination. Action bias is the urge to act in a situation where you might not have to act or when you should consider more alternate actions before storming ahead. Many people see fast actions as evidence of strength and alertness. They interpret slow action as weakness. When their children start arguing and fighting, parents often have the habit to become hyperactive and to interfere immediately to end the fight. But the dispute might end shortly afterwards anyway without patents' intervention. Even if the kids in their fight hurt each other, there is to some extent no problem because the pain will be for both children a good lesson. They will in future act more wisely. Parents and supervisors should rather stand back, as I would do as a procrastinator. Parents should intervene only when the fight gets out of hand.

If someone starts criticizing me and even uses insults to make his point excessively clear, I don't storm ahead to defend myself with a fast reply. I have the habit to listen patiently instead of retorting immediately. When my foe has ended the flow of words, I might not even say anything if I conclude that no factual criticism but pure anger was at play. Everybody should have the right to be angry. If I conclude that the speaker has made a valid point that he was hiding behind a flow of verbal insults, I might just address this point in my response and might ask the speaker calmly to repeat his criticism more plainly with fewer words. If someone calls me an idiot, I have taken the habit not to complain but to ask calmly:

"Why do you say that I am an idiot? Can you please explain more calmly with fewer words why you think that I am an idiot?". Such a reaction often clears the air.

I developed the habit of drinking at home one can of beer after work. You probably agree with me that this is quite relaxing. It is convincingly relaxing. It then became during certain periods of my life the habit of letting other cans follow until the fridge was empty. This was a bad habit but it was never what we call "a big party for one". Knowing that I had developed this bad habit, which I was unable to kick, I made sure that there was never an oversupply of beer in the fridge. I therefore did not get drunk – only tipsy – before I went to bed. The habit of not stopping the intake of beer became standard. When I opened a can of beer for lunch, I did often not leave it at that even when I had previously made the decision to drink only one can. I often finished the full supply of cans against my resolution. It was not that much the craving for beer that let me grab one can after the other it was a mechanical habit. Fortunately, I opened a can of beer for lunch only on days when no work was on the agenda. Worried as I was to have become an alcoholic, I tested myself by not drinking at all any beer for almost two years – not even in company of friends and not outside home in restaurants when bottomless beer was included in the price for a buffet dinner. During these two years I did not miss my favorite drink, which convinced me that I was not an addict and not an alcoholic. The habit of repeating the intake of drinks also developed for hot drinks. A cup or thermos with coffee or tea or something else always stands next to the keyboard of my computer wherever I work. I take sips of the drink mechanically in regular intervals. The latest version of drink consists unchangeably of ginger-flavored water mixed with chocolate powder and a little bit of instant coffee powder. Out of habit I never prepare other drinks to accompany my desk work.

Habits can develop from bad experiences. If you were hurt in one situation, you will probably - like all animals - subconsciously get into the habit of avoiding the same situation in future. The memory of a bad experience acts like a red light or like an internal brake. When such a situation reappears, your gut feelings will automatically warn you.

One day I was coming to the building where I lived in China and carried a plastic bag with four bottles of Tsingtao beer. Five stairs with steps of irregular height lead up to the entrance door. When I was at the bottom of the stairs, I saw an older man entering his passcode into the interphone. I wanted to benefit from the open door before it closed again and ran up the uneven stairs. I fell down because my eyes were fixed on the open door and not on the steps. All four bottles broke and the beer was flowing out with white foam all over the entire entrance area. In addition, my chest had been badly hit on one step. I was bodily hurt and embarrassed because the older man was watching and wondering. As a result of this incident, I have gained a high respect of these stairs. I always remember and never remove my eyes form the uneven steps when I climb up towards the entrance door. This respect has expanded to other stairs that look similar. Whenever I see similar stairs, my gut feelings step in and tell me that there is danger and that I must be careful.

"Finish what you have started doing and do not get distracted", was the principle that my parents strongly promoted. This attitude became a habit that still guides me today. When I do the morning walk, I tend to complete the activity even if some interesting things cross my path and I see a group of musicians or some street dancers. I will most likely not interrupt my morning tour and will not stop to listen to the music or to watch the dancers. I don't allow anything or anybody to distract me. Similarly, when I go shopping for honey and milk, I rarely look left and right to buy something else even if there are displays of some useful items that they offer at a discount. This is an expression of my habitual stubbornness. I tend to stick to my decision to buy only milk and honey even if the shop keeper does his best to seduce me with attractive offers to buy additional goods.

As a matter of fact, I don't enter a shop if I have not planned to buy specific items. I know women – rarely men – who enter a shopping mall with the intention to buy eggs and bread but leave the shopping facility with a new dress but without eggs and without bread. I am not such a person. Many women enter shops for entertainment without the need and without the intention to buy anything, which we call window shopping. And indeed, strolling regularly through a shopping mall or through a department store without the intention to buy anything can be more entertaining than spending the evening at home with a boring husband. I observe in Zhuhai's waterfront regularly quite a few men – never women - who spend an entire Sunday morning laying out several fishing rods. If they catch fish, which is rare, their catch of the day will fit into a tea cup. I guess that they actually developed this habit not to catch fish, but because they want to be away from their stressful wives at home and they habitually use fishing as a convenient pretext.

Herd Instinct vs. Hermitism

We have inherited the herd instinct from our ancestors who lived tens of thousands of years ago. We might have inherited herd instinct from ancestors millions of years ago depending on whether we talk about an intelligent homo sapiens or a less developed predecessor. We actually don't know when during the evolution of mankind, the magic moment arrived when a species in the animal kingdom evolved that we can call a human being. This moment was in any case not a sudden qualitative leap.

We have anyway kept many features that we share with animals. Humans remain after many thousand years of evolution still one of many species of the fauna and share many features with animals. Herd instinct is one example of a feature that we still have in common with animals. The Bible tells a different story but nobody seriously believes any more the story in Genesis that God created Adam in one day not as a primitive Neanderthal but as today's glorious human being that is materially different from animals.

Let's assume we are in a city where jaywalking is not allowed, which means that you as a pedestrian have to follow all traffic rules. Twenty people wait for the green light on a pedestrian crosswalk at an intersection in this city. Before the red light turns green, one perspon starts walking because no car seems to approach. All others follow before the light turns green. Herd instinct is at work.

Herd instinct leads us also to seek company with others for protection, entertainment and procreation. We think and act like others and interact with others in the comfort of familiar and predictable patterns. This makes us feel at ease. But procreation is probably nature's main reason for having created herd instinct.

If someone has low levels of social skills and low levels of nonverbal communication needs, other people might suspect that this person suffers from a form of autism spectrum disorder (ASD). As a psychiatrist, you can alleviate this disorder by making the autist interact with members of the herd. People see interaction as positive behavior no matter the need or content of such interactions. Talking to members of the herd, no matter the subject, is gold. Silence is less than silver. It is impolite or is a sickness called autism. Your people want you to talk even if you have not any serious topic to discuss.

We talked above about the process in which individuals make decisions. Herds as communities also make decisions. The process, in which herd decisions develop, follows its own mysterious rules. When I see a flock of starlings or of other birds crossing the sky in formation, I always wonder what makes the birds follow a shared plan and which bird their leader is. We know that flying in flocks protects the birds against predators and provides the benefit of aerodynamic efficiencies. But we don't know how the birds organize the flight of the flock and who determines its size and destination. It is probably the result of unconscious biological processes or of external influencers. I observed the movements of the cattle herd of the farm

in Manitoba. The cows grazed not in the formation of a herd. They grazed individually one apart from other animals. To make all cows and heifers move as a herd, our cattle dog, a Border Collie, coerced the animals as an external influencer from the open pasture towards the barn. When the dog joined the farm, he needed only little help to get familiar with the environment of the farm and with his job. He then did his work seemingly by instinct.

Sheep and rams are famous for their herd behavior. But humans are not too much different from sheep. They act as others act because they usually believe what others believe. Herd instinct, which creates herd behavior, comes in two variants. In the first variant, parents and educators mold their children successfully through their education to conform happily with the behavior of others. The souls of their children have become identical with the soul of the herd. No thinking is required. These children don't have to make decisions. They have internalized the rules of the herd.

The second variant of herd instinct shows children who develop their own ideas and opinions but feel by fear of punishment that they must do what they think that society expects them to do. Sigmund Freud identified this situation as the source of collective neurosis. We observe two similar variants in the world of work. Some people are passionate about their work, which they love, and others don't like what they have to do but work reluctantly to earn money for groceries.

Some charismatic Individuals act like our Border Collie in Manitoba. If they are demagogues, they can manipulate the herd at will and ease and can trigger certain behavior of a mass as we will see below with the example of Goebbels' speech in February 1943 in the Sports palace in Berlin.

A skilled demagogue or internet warrior has an easy job to influence a human herd. The Bible acknowledges in many passages that human beings act like sheep. Jesus Christ is referred to as "*the good shepherd*" (John 10:11) and "*overseer of your souls*" (Peter 2:25). Jesus guides human beings throughout their lives. If Jesus is the shepherd, the churches are the dogs that assist the shepherd to keep the herd together. However, people who believe in pre-determination must wonder why Jesus Christ has to act as a shepherd since the almighty God has already pre-programmed all details of a person's life, including his everlasting membership in the church. There is no need for a shepherd if the Almighty has everything well determined and planned in all details.

Members of one species naturally attract members of the same species. Human beings want to be members of the group under exclusion of other species. This phenomenon is at the origin of racism. Many conservative Americans call for a pure "white men's country". America accepted black people as long as they were slaves. When slaves obtained their freedom, Americans worried how they could keep their country white and this worry still exists particularly since they hear and want to fight the credible prediction – or even certainty - that by 2040 people of color will constitute the majority of the American population.

The American Colonization Society and many public figures like president Abraham Lincoln investigated in the 19th century the possibility to send the freed slaves out of the country. They seriously studied and tested the feasibility of creating colonies in Middle America and in Africa to which they could send formerly enslaved people to keep America white and pure. The Colonization Society had already secured land in what is now Liberia and had shipped some 12,000 freed slaves to this new colony.

Anti-slavery activists like Hinton Rowan Helper, supported the idea with the motto "*Death to Slavery! Down with the Slaveholders! Away with the Negroes!*" Marcus Garvey, a Jamaican-born Black nationalist, promoted the idea to establish independent black states around the world that he wanted to colonize with freed slaves. Different US governments attempted such 'final solutions' of racial purity but they all failed for

various reasons, including opposition from freed slaves who argued rightfully that that they had contributed to the development of the USA and did not want to be deported to an undeveloped and makeshift colony that they considered with good reasons as dangerous and unhealthy.

Marcus Garvey correctly realized more than 100 years ago that "*the Negro should not delude himself … by the belief that the future will mean happiness and contentment for him in this country, since it is the undoubted spirit and intention of the white man that this shall in truth be white man's country.*" White supremacists in the US show that Garvey's statement is still true today. Clarence Thomas, a black justice of the US Supreme Court, acknowledged the undisputable fact that '*the original sin of slavery and the historical subjugation of black Americans*' still determine black lives as he has experienced himself when he grew up. In 2023 the Supreme Court had to decide if confirmative action at university admissions should be allowed to give black applicants, who might not qualify, a better chance to be admitted. Confirmative action wants to achieve a correct numerical representation of black students at higher education institutions.

I witnessed in the late 1990's the failed attempt by the Fiji government to correct the situation that mostly Fijians of Indian race were enrolled in medical schools while the Fijian population consisted of as many Indians as Fijians. The government wanted to achieve equal representation of both races by requiring the Fiji School of Medicine (FSM), as it was called at that time, to admit as many Indians as Fijians. This worked well in the first semester but the ratio went down year by year in favor of Indians until graduation time when most graduates were Indians.

Despite Clarence Thomas' personal experience of discrimination against him, he sided with the conservative majority of his colleagues. The court therefore ruled that confirmative action had to end because it violates the Equal Protection Clause of the 14th amendment of the US constitution. All applicants for enrolment, they ruled, must be judged only by their personal qualifications and not by race even if colored people are then under-represented in universities. Justice Sonia Sotomayor of Puerto Rican descent, who statistics classify as 'colored', said in her dissenting opinion that the abolition of affirmative action was '*further entrenching racial inequality in education*'. For this reason and to remedy the injustice, black applicants to universities must receive a head start when they apply for admission to universities. With this opinion Sotomayor seems to endorse the Critical Race Theory (CRT), which claims that racism is not just the product of intentionally bad and biased individuals, but is embedded in virtually all aspects of the American system, including education, economy, criminal justice and health care. Followers of CRT criticize the American system as polluted by the '*original sin of slavery',* as Clarence Thomas has put it. They demand equal numerical representation of black and white students in universities as redress.

Many Americans demand that government and civil society have to remedy discrimination and racism with decisive measures like confirmative action. Opponents say that the followers of CRT, who emphasize the original sin of slavery, run down the great nation that the US claims to be. The German language calls such people Nestbeschmutzer (Nest soiler).

Making student aware of the sin of slavery, they say, makes it difficult for its citizens to be without reservation proud of their nation. However, if politicians want to generate pride of citizens in their country, they should not do this by hiding historical events but by stopping the violent cultural war that is currently ranging in the US. If I were an American, I could live with the fact that my ancestors traded black slaves – this is history but not necessarily water under the bridge. I would emphasize the need to re-vitalize the concept of a melting pot by uniting the colored and white herds living currently in the US.

Individuals of one particular species attract each other. I am always amazed that dogs that walk on a leash of their masters regularly turn around in excitement and bark to express interest when they see another

dog walking on the leash of another owner. It seems that they see and smell the other dog even if he is far away. If they are not on a leash, they run towards each other to play together or to sniff at the other dog's sex organ. Dogs are attracted by dogs. They want to be together. Similarly, when I live in a country as member of a visible minority and see another member of my ethnic species, I will spontaneously seek at least eye contact, will greet and occasionally ask the person questions about what he is doing here and where he is coming from. If I find out that he is from Germany, a warm bond of familiarity develops immediately. A Chinese from Jilin province in the north of his country who lives in Guangdong province in the south will also develop special feelings if he meets someone from his home province. They recognize each other warmly by their distinct accent, which is a bonding factor.

Most people feel uneasy when they are alone. They try to sweep away this unpleasant feeling by seeking togetherness. This gives them a sense of security and comfort. Meeting other people can be entertaining for those who get bored when they are alone. They fight boredom with togetherness.

The second feature of herd instinct is that members of a group follow instinctively the behavior of the group. Flocks of birds fly together to one destination, herds of deer run together into the same direction and human beings come together to share their spare time with others in bars, in sport arenas, in churches and in other clubs.

Herd instinct prompts people more or less consciously to follow others and to do what others do rather than relying on the result of own considerations. A member of a group who voices opinions and shows actions that deviate from the norms of the herd will face the group's criticism and this is what most of us want to avoid even if the group's opinion is wrong. You don't want to be called a troublemaker. Herd instinct is also at work when players in the stock market don't analyze the stock market themselves but follow and copy decisions that other investors are making.

I have discovered a third feature of herd instinct. It is the abandonment of the individual personhood. Some people don't perceive themselves as individuals but as part of a group. They don't talk in their own names but as representatives of the group. A German friend of mine is such a person. He always mentions events of his life as events of his family. He always tells me not what he thinks but what 'we' – his wife and he - think. When I asked him what he thinks about Putin's invasion of the Ukraine, he started his answer by saying '*Maria and I think that this is terrible*'.

It seems that I was born with a relatively weak herd instinct. We find in the fauna some species like grizzly bears, skunks and leopards that have also a weak herd instinct and live a mostly solitary life. They do this not because they have a psychological problem. They are rather self-reliant and do not regularly need physical and mental assistance for daily life.

In the example of the pedestrian crosswalk above, I mechanically do not walk with the others. Before I conclude that the movement of the others is evidence that the light has turned green, I verify by looking at the traffic lights. If the light is still red, I stay back even if the good friend who is with me follows the crowd and I am the only one to remain waiting on the sidewalk like a dummy outsider. My motivation is not primarily that I want to be meticulously law-abiding. It is rather a reflex against the herd instinct. However, I can still feel very weak remnants of this instinct when I get slightly tempted to follow the crowd.

I always feel uncomfortable when a mass of people surrounds me. I often feel "crowded" even when I am in the company of only five or more persons. Experts call 'agoraphobia' an anxiety disorder, in which people feel intense fear when they are in dense crowds. People with crowd phobia fear that they cannot

escape in the event of a hysteric stampede. I don't have such fear and I can live with it but I just prefer settings with fewer people.

I generally do not join a mass of spectators in sports events or in street demonstrations. I try to avoid having lunch or dinner with a large crowd. There is no use eating at a large table with 12 or more people when you can have conversations only with the two persons sitting next to you and which you not even had the freedom to chose.


Mass Wedding of the Unification Church in Korea

I find it very strange – to give one example - that the Unification Church in South Korea, also referred to as the Moonies, organizes mass weddings. Thousands of couples marry simultaneously shoulder by shoulder or renew their wedding vows under the watchful eyes of tens of thousands of spectators. I shake my head in disbelief that couples want to perform these very private acts in the anonymity of a mass gathering. Governments or communities sponsor such events in other countries like the Philippines and Pakistan as well.

Mass weddings, or collective weddings as we also call them, might be financially attractive for those families who otherwise feel obliged to organize lavish wedding ceremonies for hundreds of people even though the guests traditionally contribute to the costs when they attend a wedding. However, as you might have guessed already, I do not want to belong to such large groups. My first wedding was quite lavish with some 50 people attending. However, my mother-in-law at that time organized the lavish feast without asking the bride and the groom. She spent all the money because she had contributed to a tax-deductible savings plan, from which she withdrew the funds that she used for the wedding feast. If she had not used the funds, they would have been lost. I remember today this lavish wedding as a dark spot in my life because I don't like to be in a crowd and I also don't appreciate luxurious celebrations. It became a particularly dark spot when it was followed by divorce as the night follows the day. I have since my divorce taken the habit of declining wedding invitations. I consider the presence of two witnesses during a civil wedding already as a nuisance and as an invasion of privacy.

The US Navy organizes mass weddings for sailors before a vessel leaves for a longer mission. Hundreds of newly wed men, dressed in handsome white uniforms stand on deck of the departing vessel waiving to their new wives. The women stand on the berth dressed in uniform wedding gowns – all in white. They hold a flower bouquet each in one arm and wield their other arms to farewell their new husbands. I assume they do not recognize the faces of their men from distance and wave not at their husbands but at an anonymous crowd of sailors who look all handsome from distance. The navy might have reasons for organizing these events. These weddings probably ensure that the sailors are not gay. In addition, the newly wed women might create a bond with other women and socialize while waiting for their men to return. Finally, the sailors will perform better in their military duties because of the shared experience of the mass wedding. They feel like being in a homogenous group in which the members all do the same things together – even weddings.

I have never understood why people practice their faiths in sometimes-large gatherings. Muslims do their Friday prayers in the mosque. They are kneeling down and bowing in large groups. They are squeezed together while shoulders touch shoulders. I just cannot understand why some people need to pray as

members of a large mass of men. I am far from criticizing the people who do this because they like it or follow conventions. "chacun à son goût" (to each one his taste), as the French put it.


Asian Honeybees

Honeybees and ants are famous examples of animals that socialize in large groups. Human beings likewise get together in masses when they pray or do other things together in religious events


Muslim men during Friday Prayers

Apparently, the Islamic perception is that "*A man's prayer with one other man is better than his praying alone, and a man's prayer with two other men is better than his praying with one other. The more there are the more beloved that is to Allaah.*" (Abu Dawood, 554; al-Nasaa'i, 834). I wonder how they established that Allah has human feelings and that he loves mass prayers. I also don't understand why Allah does not want women to praise him in Friday prayers. I just cannot see myself as a small pixel in such a picture.

It goes also far beyond my capacity of comprehensions that between 10 and 40 million Hindus gather on one single day of pilgrimage during the Kumbh Mela festival in Haridwar, India. They all cleanse themselves from their sins with dips in the waters of the Ganges and its confluences while their bodies get dirty from the infested waters. I just cannot see me joining such masses and particularly will not wash my dirty sins away with muddy and unhealthy waters, which are probably dirtier than sins.

I do not have to add that, if I were a Muslim, I would have no inclination to join during the week of the Hajj some two million Muslims for the pilgrimage to the holy city of Mecca, Saudi Arabia. Muslims must at least once in their lifetime go on this pilgrimage. It is the fifth of the fundamental Muslim practices, which they call the 'Five Pillars of Islam'.

The mass of people attending religious events puts me off not only because I regularly read in the news that hundreds of people get killed in stampedes during these mass gatherings. But I also don't see any sense in performing a series of prescribed rituals like walking counter-clockwise in a crowd seven times around the Kaaba or throwing rocks at a wall to stone the devil to death. Even if God or Allah in person were inviting me to the Hajj, I would politely ask if he could not show me a way to achieve the purpose of the Hajj, whatever it is, outside a mass of millions of people.

If I feel the wish to pray, which sometimes happens for mysterious reasons, I do this alone and in silence.

As a side note, I mention that the Bible recommends this method of praying by saying that "*when you pray, go into your room, close the door and pray to your Father, who is unseen. Then your Father, who sees what is done in secret, will reward you*" (Matthew 6:5). I obviously do not expect any reward from whoever the Almighty is, when I pray. It is not a quid pro quo. But as the quote above mentions, the Bible promises unspecified rewards if you pray. Some people even discuss the practical question when and how often you should pray to maximize the rewards. Chinese firmly expect rewards if they pray to Buddha. Before they pray, they clearly identify the type of rewards that they expect Buddha to deliver in exchange for prayers. This corresponds to the Chinese character. They are tradespeople. They trade prayers for specific successes in life.

Many prayers consist of a pre-defined sequence of words that Christians and Muslims blindly recite from memory as if they were praying from a pre-recorded text. If I were God, I would be annoyed hearing all

the time the same texts of prayers by a mass of people. I would prefer hearing intelligent prayers by individuals who present me with inspirational ideas. But obviously, our omniscient God does not need to be inspired. He has by himself all inspiration that he needs. He might appreciate monotonous mass prayers as relaxing as the humming of bumblebees.

Praying is probably the wrong word for what I sometimes do without spoken words. I just look into nature and acknowledge humbly its greatness and beauty and the features that we human beings cannot explain. I do not have to do this in the company of others. Does this attitude make me a hermit?

I have never in my life gone onto the streets to participate in mass demonstrations. I acknowledge that worthwhile causes are behind some demonstrations in the streets. But being part of a mass of people scares me off. There are already too many situations – like in airports, railway stations or in the subway – where a mass of travelers closely surround me shoulder by shoulder. Why should I add another of these mass events if this is not necessary? The size of masses is particularly annoying and degrading in Chinese public transport systems. Passengers form incredibly huge oceans of people in front and inside of railway stations. They all wait or rush at peak travel times between narrow fences that management sets up to control the flow of incredible numbers of people. It looks like a roundup of people in cattle chutes. I don't want to add another nightmare of this type by participating in mass demonstrations or other mass events that I can avoid.

I have watched only once in my life a sporting event in the physical presence of thousands of spectators. It was a game of the Winnipeg Jets against an ice-hockey team from the US. Colleagues at the workplace had invited me by claiming that it was a 'must see' event because it was important – I do not remember why they made this claim. They were already excited when they got ready late in the afternoon to move from the office to the arena. Since I had never before attended any big live event, I accepted to have a new experience. My temperament and personality changed once I was inside the huge stadium and became part of the crowd. Without wanting it, the over-excited mass of noisy fans got the better of me and I abandoned myself to the crowd. Mass psychology was at work. My adrenaline level increased and I became excited even though I did not know the rules of ice hockey and had no preference for either team. I guess that – in addition to watching the movements of the hockey players – the contagious feelings of my fellow spectators make people attend mass events instead of watching on a TV screen the same game calmly in the comfort of their homes. During the game, the mass of people around me controlled my mind. In addition, the organizers of the event influenced the crowd cleverly with beautiful young cheerleaders, rhythmic music and sensational-sounding announcements over the powerful loudspeakers. Watching and listening did not leave time to think. The organizers of the event and the crowd did all the thinking and feeling for me. Each individual might be a cunning fox, but when individuals are in a mass, they become a herd of rams. This is how an ancient Greek politician described mass behavior.

The event that is most famous for the madness of crowd behavior is the speech of Joseph Goebbels in the sports palace (Sportpalast) in Berlin. This happened in February 1943 exactly nine months before my birth and six months after the catastrophic defeat of the German army in Stalingrad. Goebbels used his powerful speaking skills as a weapon of mass deception. The regime's master demagogue, who Goebbels was, managed to send his listeners into incredible ecstasy while no individual, clear in his mind, would have responded individually to his words in the way they all did as members of the crowd. The speech was in all details brilliantly crafted; I admit. I have read it decades later from A to Z. When Goebbels asked, "Do you want the total war?" the mass replied in unison and with frenzy 'Yeees, yeees'. A reasonable individual would never have agreed with such nonsense. The war was already lost at that

time. Since Goebbels had made his speech exactly nine months before my birth, my conception might have been the result of the excitement that my parents felt after they had listened to Goebbels' speech.

Part of the manipulation in the Sportpalast was that Goebbels had judiciously hand-picked and primed the people in the audience. He had placed claques carefully in strategic locations of the audience and instructed them to start the fire of excitement at certain key words or key phrases. This standard procedure just confirms how easy and reliable manipulations of masses are. I don't want to join a mass of people where an organizer can manipulate me in this way. I am already subject to manipulations in many other situations, which I do not control.

Goebbels, the brilliant speaker, had not only the intention to manipulate just the few thousands of his listeners in the Sportpalast. His real audience was outside the venue. The Nazi regime widely transmitted the speech life by radio to the grand public in Germany and to the poor freezing soldiers on the east front of the war in Russia. He wanted to manipulate everybody to believe that what the excited crowd in the sport palace was screaming was also the right thing for them to think and to do.

In many American televised comedies and sitcoms, it is customary to accompany the show with soundtracks of artificial laughter, called 'canned laughter' while there is actually not an audience. The presenters do this to make people believe that they had produced humor for an audience that actually does no exist. Other people who laugh will convince you that the scene – as boring as it might be – is humorous and you might eventually laugh yourself. Laughing is contagious. The technology of canned laughter became common in the US starting in the late 50's. If Goebbels had used this method, he could have used canned excitement and would have avoided efforts and costs of conditioning and assembling an audience of several thousand people.

The herd instinct is generally very strong in China not only when the military present their might in parades with thousands of soldiers marching in goose steps. Prussia introduced this way of marching in the 18th century. It made its way around the world to China.

Groups of people play Taiji early in the morning. Some do it alone but most of them seem to prefer playing with others. Taiji, line dancing and jogging are very popular as group activities in China. The members of the groups usually dress in the same type of soft-flowing outfits and in the same colors, mostly white.


Taiji Group in China

One member of a jogging group often holds up a colorful banner. Uniformity gives the group members the soothing feeling of belonging together. If mutual learning were the reason for getting together with others, I would join a group. However, many players enjoy – yes – the movements in their groups but they appreciate more so the company of others. If they are committed to a group, they will also not become lazy because doing something alone requires more self-discipline.

Of course, I don't criticize herd behavior. It is the prerogative of people to be in a group and to enjoy at the same time some activities. It is just not my preference and it is your perfect right to call me a 'hermit' if I avoid groups for activities that I can enjoy on my own.

The only herd behavior that I show is when I walk in streets and dress in the same way as the majority does. I like to look as inconspicuous as possible. I prefer to be in the streets or in the public a grey mouse like all other mice. However, when I live in an overseas country as a member of a visible minority, I accept that I look different.

While I lived in Fiji, I have never considered dressing in the same outfits as the local crowd. I did not wear a lavalava, which is the traditional skirt for Fijian men. I was aware that my face would still look European and I thought that I would look ridiculous and toady if I wear a lavalava. A rich farmer's wife can wear a Persian lamb coat but her face and her legs will still show who she really is. This is what my mother often said.

A friend once analyzed tarot cards for me. The cards exposed me as a hermit or as someone who is unable to be an obedient member of any society and who does not want to submit to group behavior. This is partly true as my aversion to mass events shows. I also heard sometimes the complaint that I was not a team player because as a child of Teutonic correctness, I often placed the interests of work higher than friendships between team members. In fact, I always thought that looking keenly for friendship with team members or with colleagues at work is a wrong attitude. Correctness is a better attitude because it allows handling problems and differences of opinions more efficiently and with less bias. "Do not go to work if your intention is to make friends", was the advice that I always tried to give others without success. Achievements at work might suffer if there is too much desire to make friends. Work atmosphere might even suffer more when friends in a workplace turn into foes, which often and easily happens. Former friends tend to be more hostile to each other than normal enemies.

I worked with my 15 years older partner in our law firm for almost ten years. During this time, we respected each other and invited each other at our respective homes only once. We never communicated on a first name basis. This old way of communications worked out very well. Reportedly, the two noble French presidents Charles De Gaulle and Valéry Giscard d'Estaing liked to keep some distance and were never on a first name basis with their respective wives Yvonne and Anne-Aymone. Similarly, children in the past centuries addressed their parents in France with 'Monsieur' and 'Madame' and not with 'maman' and 'papa' or – God forbid – not with their first names.

My classification as a hermit is obviously not true. I do not live in the solitude of a remote dark forest or in a cave, which Beatriz Flamini, a 50-year-old Spanish extreme athlete did in a cave in Spain. But she did this only for 500 days not as a hermit but as an experiment that scientists monitored to study the human mind and circadian rhythms when a person is entirely isolated from normal life on the surface of our earth. I am sure that I would not have any problems emulating such an experiment by living totally alone in a cave with only my computer an even without internet access. But I wonder how my mind would react if I had to spend an extended period of time, for exmple many years, in solitary confinement without any entertainment and with my mind as only companion.

Stefan Zweig is - or was --a popular Austrian writer who demonstrated in many of his works his interest in psychology and the teachings of Sigmund Freud, his fellow Jew from his home town Vienna. Stefan Zweig committed suicide in 1942 while exiled in Brazil. He felt disillusioned of this world. I understand him because he experienced the bloody nonsense of the first World War as soldier during his best years as a young man. The Nazis then burnt his popular books in the 1930's because he was a Jew. Nazi Germany started another World War and chased him into exile away from his native Vienna, which he understandably loved.

In his book 'Schachnovelle' (The Royal Game) Stefan Zweig presents the story of a Jewish man whom his book identifies only as 'Dr. B'. Nazis kept him in solitary confinement in a small room with bare walls without any decoration. They locked him up without books, without papers and without anything to fill the time and his mind. Dr. B was totally isolated and alone with himself. He felt that he was almost turning crazy when he noticed a book in the pocket of a coat that a guard had forgotten in his room. In

his desperation he stole the book with the hope to finally occupy his mind by reading it. It turned out to be a collection of moves in famous chess competitions. Having nothing else to keep his mind busy, and having no chessboard, he re-enacted all games in his mind playing every time both sides of the game simultaneously. After the Nazis finally had released him from detention, he knew all games by heart. During a voyage on a steam boat from New York to Buenos Aires he observed by coincidence a world chess champion who played chess against another famous champion. He looked briefly at the chessboard and called out the winning move that he remembered. The world chess master invited him for a match. But confronted with the reality of actual chess games, which he had never experienced, he went into flat panic under the stress of a real game. Dr. B then decided never to play chess again because it was for him a disturbingly real and foreign world. I conclude from Zweig's Schachnovelle that living in total isolation disables a hermit to live in reality even if he completely understands its logic and laws. I assume that you come out of long-term isolation like a feral child that comes out of the jungle.

The Jerusalem Jewish Film Festival showed the Schachnovelle in 2022 not as the story of the psychological effects of total isolation but as a movie about the Holocaust. This is an example of the frequent difference of views that people can have about the same events.

Sometimes I like to observe from distance the mass of people in daily life. I am very much interested in observing a bustling environment and its busy people. I also like, as an outsider, to observe in television and in the internet politics and the activities of politicians.

Whenever I had an option to chose a home, I always selected the core of downtown as my residence. I love watching it but I am just not participating in this life as a lounge lizard or social butterfly. However, calling me a hermit contains a kernel of truth. I have no problems being by myself without company. During some periods of my life, I lived alone for many weeks, even months, in apartments without having any in-person contacts other than for buying groceries. Cashiers in stores or in supermarkets in China don't engage anyway in conversations with customers. Most of them don't even seek eye contact. Shopping therefore is not a social event like in western countries, where you socialize with staff in grocery stores. Going shopping for groceries in China did not interrupt my solitary lifestyle during these periods of isolation. Beggars in China also don't engage in conversations with their customers as it often happens in Western countries. Many Chinese consider the attempt of eye contact as an invasion of privacy.

Many people feel the rush to meet people or to start long telephone conversations for no other purpose than to avoid feeling alone. Many people – mostly men - go to bars or to drinking holes to meet other people for aimless chats. They need the human warmth of the company with whoever is in the bar. I prefer meeting people only when there is a purpose and when I can expect a constructive outcome. Finishing a meal is not such an outcome. I can eat alone while considering without disturbance the events of the day. This makes me an introvert but not a hermit.

It always annoyed me when colleagues in projects started every day shortly before lunchtime to form groups to go out to restaurants because they did not want to eat alone. The endeavor involved lengthy discussions about who would join the group, about the type of food, about suitable restaurants and how to get there. These clarifications took very long every day. Discussions during lunch are then too often aimless. The more colleagues attend from various different professional backgrounds, the fewer serious issues the group discusses. Everybody is supposed to remain politically correct, which often excludes voicing honest opinions. I prefer one-to-one lunches where I know my counterpart and where I can discuss specific issues in the privacy of a cozy eating-place.

When I was on missions in foreign countries, invitations by colleagues to socialize after work in their hotel rooms or in restaurants were definitely not my favorites. We work together all day and discuss during working hours many issues that are not related to our work. Meeting again during the evening did rarely make any sense to me except if there were private or confidential issues that I wanted to discuss.

If an international consultant takes his wife along during a short-term mission - which I never did - the consultant has to entertain his wife in the evening because she had spent all day alone. Inviting colleagues is one obvious way of entertaining an accompanying wife. However, the conversations then are too often wandering and meandering. Speakers constantly interrupt each other with unrelated remarks and subjects are zigzagging at random. I felt that these evenings were a waste of time since I prefer structured conversations or meetings with some sort of agenda and an outcome other than to have killed some spare time.

As a student at high school, I had tried to establish a discussion group with not more than five classmates. I suggested discussing one topic that we would select for every meeting. I hoped that the group would then discuss the selected topic in orderly and controlled fashion. I failed with the execution of this plan because the participants did not show sufficient discipline and did rarely focus on the subject of the day. This is a characteristic of group psychology. Groups can easily sing together or do synchronized exercises but they can usually not have an orderly discussion.

Socializing is one method for business people of getting in touch with potential clients or customers. I do not remember that there was a German word for it at the time when I was young. The German language has later adopted the English expression 'networking'. Some lounge lizards dance at all weddings to remain widely visible. They use social life to pick up business contacts. Politicians have to use this tool and usually do nothing else. I rather believe that work of good quality attracts clients more efficiently than participation in social life. As a lawyer, I would have felt uncomfortable to welcome in my office a new client who came to ask for my services after we had met by coincidence the evening before drinking together in a bar. I always felt that there should be some neutrality and distance between a client and his lawyer. They should not be buddies.

Instead of acquiring clients through social networking, I appreciated very much a new client who came to retain my services because he had observed me when I had acted previously in a court case where he had been on the other side of the dispute. When I later became an international consultant, I also noticed that almost all assignments came from previous work that I had done with companies or with former colleagues.

Judges in the judiciary are a special species of people. If a judge has an extensive social life and strongly engages in social networks and in social associations and in society, this will not only distract his legal mind but he will also quite likely meet in his courtroom a party of a dispute who is a social acquaintance. He then risks that people consider him biased in favor or against this man. Obviously, this can happen frequently if the judge participates passionately in social life. People might also blame him for bias if he has in society or in social media voiced opinions that are relevant in a court case. The risk of apparent bias is quite strong in small communities where everybody with some weight knows everybody with similar weight.

I observed such a situation in Maseru, the capital city of the Kingdom of Lesotho, where I worked for some months at both the High Court and the Magistrates Court. Lesotho has a population of 2 million souls of which 300,000 live in its capital Maseru. Given that business in Lesotho is concentrated in its capital city and assuming that only 5% of the population might have business at the courts, the potential clientele of

the judiciary is only some 15,000 people with only an extremely small portion of these becoming involved in cases at the High Court. The few justices, 10 to 12 in numbers, at the High Court therefore have as much as possible to refrain from social life because the layer of society, to which they belong, is almost the same as the layer of society from which potential clients of the High Court come. To avoid the suspicion of bias, the justices in Maseru avoid social life and have become almost like hermits. I observed that this was a heavy psychological burden on them and contributed to what scientists call judicial stress. In a tiny country with only few justices, a facility to cure judicial stress and to prevent its negative behavioral consequences does not exist as it does in the US. Given my predisposition to avoid immersion into society, I would be in that respect a perfect justice in Maseru. I would live with my wife in a comfortable secluded house on a hill with view of the mountains and the sight of the clouds in the sky. On a large terrace, I would study legal issues on the internet and would enjoy every evening the colorful African sunsets with one or two glasses of dry Riesling from South Africa. Every morning on workdays, my driver would pick me up in a black Mercedes for a short ride to the underground parking of the High Court Building. I would access my office through a dedicated elevator and a private entrance without having to meet other people – not even my secretary in the outer office because my office has a separate entrance door and obviously also a private bathroom. In the evening or at any time during the day when I fancy to go home, I would engage in the same discreet journey back home without having met anybody during the day except when I have scheduled a hearing. This would be the life of a monk who lives not for God but for justice.

During the 1990's, I observed in Vanuatu the flamboyant and outspoken Chief Justice with the fancy name of Charles Adolphus Vaudin d'Imécourt. He was a citizen of Mauritius. The judiciary and all larger companies in Vanuatu had to hire foreigners for most leading positions because the required skills were not available locally. This has changed. More and more high-level posts are now in Ni-Vanuatu hands.

Vaudin d'Imécourt did not only voice with colorful words his private opinions about current public affairs but he also regularly had, for everybody to see, breakfast with the prime minister in the outdoors of a popular restaurant in Port Vila. His public life gave rise to suspicions that he was biased and not independent. Vanuatu's immigration department eventually cut short his employment at the Supreme Court by denying him re-entry to the country when he wanted to return from a holiday. This is how powerful the immigration department was – and still is - in Vanuatu.

Stephan Harbarth is since 2020 the president of the German constitutional court. He ran into sharp public scrutiny because he had a private dinner with chancellor Merkel who had previously pushed for his appointment to the highest court. The two friends had dinner just before hearings in cases that involved the constitutionality of government policies related to the COVID crisis. Justices are supposed to refrain from such social life. His dinner with Merkel was only the tip of the iceberg because Harbarth was before his appointment to the constitutional court not only a leading member of parliament and member of Merkel's political party but also a lawyer with strong links to the powerful German automobile industry.

The media reported about a situation similarly bad in Poland. The public knows that the presiding justice of the constitutional court, Julia Przylebska, is a close friend and ally of Jaroslaw Kaczynski, the leader of the powerful Law and Justice (PiS) party. Members of the highest levels of the judiciary must avoid such friendships and refrain from close social contacts to avoid the impression of partiality.

The Supreme Court Justice Sonia Sotomayor visited in May 2023 the Bronx Children's Museum together with first lady Jill Biden on the occasion of the formal opening of the museum's new building. The US president is party to many cases before the Supreme Court, I find it therefore inappropriate that the two ladies jointly appeared in a widely publicized public event. There was for Sonia Sotomayor not the

slightest necessity to demonstrate her close relationship with the president's wife, which is in my opinion not in line with high ethical standards of the highest court in the land.

The spouses of justices in high-level courts typically keep out of the limelight. They might discreetly engage in community work or might follow a professional career but they usually don't engage in politics or voice publicly opinions about issues that risk to become a subject in their spouse's court. An infamous exception is Virginia ('Ginni') Thomas. She is the very conservative wife of the very conservative Supreme Court Justice Clarence Thomas. She publicly called Joe Biden's election victory in 2020 "*the greatest Heist of our History*". She urged Mark Meadows, Donald Trump's chief of staff, in 19 emails between 05 and 24 November 2020 not to concede Trump's loss of the election. She urged him strongly to pursue relentlessly all efforts to overturn the 2020 election results. In an email of 10 November 2020 to Meadows she wrote: "*Help This Great President stand firm, Mark!!!...You are the leader, with him, who is standing for America's constitutional governance at the precipice*". Meadows replied a few minutes later that '*I will stand firm. We will fight until there is no fight left. Our country is too precious to give up on. Thanks for all you do.*" We can assume that she did not consider her husband's responsibilities when she lauded the 'constitutional governance' of Donald Trump. We only know that Ginni Thomas shared most of her ideas in right-wing social networks. We can also assume that this strong-willed woman did not refrain at home from trying to influence her husband. Nevertheless, Clarence Thomas did not recuse himself when the Supreme Court heard appeals involving the election results of 2020. Ginni Thomas would probably not have cooked dinner for her husband if he had recused himself.

Billionaire Harlan Crow is chairman of a very successful private investment firm in Texas. He is also a mega-donor for the republican party of which Clarence Thomas and Ginni are allegedly members. Crow is not only famous for his wealth but also for his long-standing friendship with the two Supreme Court Justices Clarence Thomas and Samuel Alito. Crow invited Clarence, Ginni Thomas and Samuel Alito together with a group of right-wing activists on his private yacht and airplane to many luxury trips, for example to Indonesia and New Zealand. Crow also invited these friends for holidays at his luxury properties in the US. Crow tried to dismiss allegations of obtaining privileged legal information by stating that he had "*never asked about a pending or lower court case, and Justice Thomas has never discussed one*". This sounds incredible in the true meaning of this word. After I have spent summer holidays with Santa Claus it would also sound incredible if I claimed that we had never discussed any issues related to Christmas.

If I were an American citizen, I would be scared to see a justice of the Supreme Courtin in such a close friendship with a republican activist and to know that his wife is actively involved in election fraud conspiracies or other contentious political issues, including the attendance of Ginni Thomas at the rally that stormed on 06 January 2021 the Capitol to prevent Joe Biden's certification as president.

Appeal to Heaven Flag

If I were an American citizen, I would equally find it disturbing to see an upside-down US flag or the flag 'Appeal to Heaven' flying ten days after the storming of the Capitol in front of the home of Justice Samuel Alito in Alexandria, Virginia and in front of his holiday home in New Jersey.


Upside Dow US Flag

The upside-down flag had been a symbol of the "Stop the Steal" movement in the weeks and months following the election 2020. Right wing protesters had also flown the 'Appeal to Heaven' flag during the storm of the Capitol on 06 January 2021.

For the public perception of an impartial justice, it does not matter whether he or – as he claimed – only his wife Martha-Ann had mounted this demonstration of support for the storming of the Capitol. Alito's explanation that he had nothing to do with his wife's action is a 'Mrs. Defense' by which entangled bigwigs always claim that their wives had acted independently and without their husband's knowledge. Alito's excuse sounds to me almost as convincing as the statement of a man who surrounds himself regularly with members of Hell's Angels but claims that he totally disagrees with their ideology.

I find it appropriate that the ethical guidelines of the Canadian Judicial Council (CJC) mandate that judges must '*cease all partisan political activity upon the assumption of judicial office*' which includes making donations to political parties. The CJC sanctioned Ontario Superior Court Justice Diana Piccoli with an "expression of concern", which is the lowest sanction available under the oversight regime. She received this mild reprimand because she had made multiple donations for a total of $700 CAD to a political party after her appointment to the Superior Court. The judicial watchdog argued that '*political donations by a judge are not trivial and have the potential to undermine public confidence in the independence of the judiciary*'.

Members of the family of politically important persons are free to be politically active. Wives in our current culture have the inalienable right to develop and to live their own personalities and professional ambitions independent from their husbands' occupations. But if the minister of health – as it happened in France in 2023 – is married with a CEO of a big pharma company or an important health insurer we realize that husband and wife '*become one flesh*' (Matthew 19:5) and we think immediately about conflicts of interest.

In the case of the wife of a supreme court justice there might be the obligation to refrain from the use of the right of free speech in contentious issues that might end up on her husband's desk. But obviously, nobody dares recommending limits in an environment where individual rights always count more than obligations towards society. Observing Ginni's subversive activities and the negative impact that her crusades have on the public perception of her husband's integrity, I would like to suggest that justices should be subject to celibacy similar to Catholic priests who in this way escape the influence of a strong-willed wife and can fully dedicate their lives to their professional obligations. On the other hand, members of parliament must confirm the appointment of justices. Democrats and republicans in parliament always disagree with a partisan attitude. It would therefore be a wise decision if a candidate for the post of justice decides to be married to a republican wife if he is a democrat and vice versa. This might give his candidature bi-partisan support. However, I believe that justices should anyway not be members of a political party. If a judge openly is member of the democratic party in the US, his decision will always be denounced as politically motivated if the case involves an issue over which both political parties are at war. The church of which the judge is a member already forms a possible source of bias. A country that is serious with the principle of separation of church and state should not allow judges to be active members of a church. On the other hand, if judges are atheists, members of the public will accuse them of being advocates of the devil. In line with such a way of thinking are in the US seven states with constitutions that explicitly ban atheists from holding public office. Given their strong focus on the Christian God, I am not sure if someone who believes in lord Brahma, the God of the Gods, passes as atheist in these seven states.

While I don't like living in a group, I very much appreciate – and even need - the presence and the interaction with one single partner. One person, one female partner is all I need. This makes me a monogynist hermit. The desire to have a solid and exclusive link with one person – and only one person – exposes me to the risk of feeling sad or lonely when there is a misunderstanding or an emotional flaw in the relationship. These feelings then don't have an outlet with another person in my herd. My

pronounced focus on one single person might date back to the first few years of my life when I lived as a baby without parents in an anonymous crowd of very young children in a Kinderheim. In an apparent feeling of loss, I concentrated my attention on one specific nurse whom I apparently regarded as my beacon and anchor. I still need today one female person as an exclusive harbor to share my private live. I attempted to drop my emotional anchor securely into my first marriage, which I felt was heaven. After this attempt had miserably failed, I had to enter into new partnerships, which were always exclusive and emotionally demanding until disenchantment made me pull up the anchor to sail the boat of my life to new islands.

I do not feel the need for a social life beyond the time that I spend with other people for specific purposes. I don't need others for aimless chit chat. I cannot imagine living with a partner who loves going out to parties, pubs and social events just to avoid being at home. I have even difficulties living with a partner who makes in my presence frequent and lengthy phone calls without purpose. I am allergic when someone talks too much without other purpose than to talk and to keep in touch with others. It is even more difficult for me if my partner does not share with me the topics of such conversations. But I assume that chitchats don't need and don't have a decent topic.

I tend to be autocratic and monopolistic in my love. I know that I have this dreadful trait of character and confess that this as a weakness. I try very hard – and some times in vain - to control negative moods and reactions when I feel that my partner does not hundred percent focus on her relationship with me. More contacts with other members of the herd might alleviate this problem.

I often found my life during the last school years emotionally demanding. It was a busy and noisy environment. I became interested in a serene retreat. I wanted to know what I would feel if I were living far away from school in the isolation of a monastery without the influence of a busy and noisy environment. Religious motives were only very weakly – or not at all - in the background of my mind. I mentioned this desire to join a monastery to a catholic official – actually a prelate - who had once come as guest to my parents' home. In response to this, the old cleric recommended the Benedictine Abbey of Maria Laach in the Eifel Mountains and offered to create inroads into the abbey for me. He might have received an award if he had been successful to recruit a new monk. He might even have received an extra reward if I had managed to convince me to become a catholic.

But my idea remained only an idea and I did not follow up on trying to be accepted in the monastery as a trainee monk. It was only some years later at university when the idea re-appeared in my mind. I studied the issue and found out that the life in an abbey like Maria Laach was in a closely-knit community of monks with firmly enforced daily and hourly routines and frequent prayers, masses, bible lectures and other prescribed religious activities from early in the morning until late in the evening. I also remained skeptical about Christian meditation. Christian meditation apparently focuses and concentrates on Bible passages in order to intensify the love of God. Meditation, in my opinion, should not have a specific material purpose and should not be practiced in a group. It should be a neutral mental exercise, as advocated by Buddhism and Hinduism. Meditation should cultivate a calm and positive state of mind without thinking about specific contents.

My life as a member of a group of monks would fortunately have included some practical and useful work in gardening, carpentry and other trades, by which the abbey finances its operations. Except for the carpentry and other trades, which I would have liked to learn, all other features of the life as a monk, including the duty to participate in continuous religious group rituals, were the opposite of what I wanted. I could, however, live with the obligation to keep silent for most of the day. Nature had definitely made me unable to perform all other monastic obligations.

Trappist monks and nuns must strictly keep up with the vow of silence. They must not talk at all with their colleagues. Silence, so the saying goes, is gold but talking is scrap metal. Silence, they say, strengthens spirituality. Apparently, only one monk has the right to say one short sentence during Christmas dinner while the following year another monk has the right to pronounce one brief sentence. This is the core of the following joke: During the first year, one monk says that he does not like the lentil soup that they traditionally eat on this important day. The following year, a second monk declares, "I love lentil soup". During Christmas dinner in the third year, another monk uses his right to speak by saying "I am annoyed by your constant discussion about lentil soups". This third monk could have been me.

I admit that I like observing people. Magnetism, chemistry or inaudible acoustic vibrations seem to emanate from other people and we all seem to have a veiled antenna to receive these signals. It is like a secret and hidden language between bodies, which expresses itself mysteriously in various different forms. I rarely remain indifferent when I see someone. Either sympathy or antipathy develops unconsciously in my mind and without my control. In any way, I always speculate about what these people might think and which life stories had formed the wrinkles in their faces. Many people seem to react when they see me. I can only judge by their looks and gestures, which in some cases indicate some sympathy and in others ominous disapproval. Some form of invisible and silent communication seems to transmit respective feelings. My interest in this type of silent interaction shows that I am not a hermit. I feel that I live in a group.

Many females emit involuntarily some secret signals that target specifically males. People call this the 'come-hither signal'. It might be some form of magnetism or it might be chemicals or inaudible acoustic vibrations that produce this signal. Or it might be a combination of all these silent and invisible emanations. Men's natural instinct in any case notices these signals, which trigger libido and the desire to have physical contact. Even at my current age of 80 years, I sometimes respond mildly and instinctively to the sight of a woman but never in the same way when I see a man. I feel some sort of enigmatic magnetism that attracts or interests me if the woman is younger than I am or is even of similar age. I then often speculate what my life would look like if the woman that I see were my wife or my partner. These thoughts feel as if they were opening a virtual window, from which I spot a hypothetical and nebulous new life of Wanderlust. This, again, shows you that I am not a hermit.

Babies and very young children also seem to emit signals that generate warm feelings in the observer. This photo shows a two-days old baby in the maternity ward of a hospital. Nobody – not even tough men – escape tender emotions, which actually also develop at the sight of puppies, kitten, bunnies and other baby animals.

Baby, two days old

We inevitably perceive these small versions of human beings or of animals as cute and lovely. Scientists have identified hormones like oxytocin, serotonin, and dopamine whose levels automatically increase in the body of the observer when he sees a baby, no matter whether a human or non-human baby.

These hormones and neurotransmitters, which you cannot escape, create some sort of motherly feelings. Levels of these hormones also increase when someone – particularly a woman - sees a sick person and develops the desire to help and to care.

I can understand that a man with a sex drive much higher than mine, and who is less restrained by education, might get so much stimulated that he loses control and shows clearly his attraction by staring at the female or by whistling. Nature creates some men with an abnormally high sex instinct. These poor men might entirely lose control and grab the female's backside without controlling their instinctive urge.

There is nature at work which education was unable to tame. This is not a moral issue for me. I feel sorry for these men because their undomesticated instinct gets them into trouble. It is not their free will. Obviously, I also feel very sorry for the targets of such aggressions who are victims of untamed nature similar to being victims of thunderstorms, lightening and eruptions of volcanos.

I heard that in outer islands of Vanuatu, when men work with women in the fields, they sometimes help themselves to sexual pleasure as if the women were ripe fruits ready to be harvested. Before Christian missionaries arrived and told women that they were victims of crimes in these situations, it seemed that women considered the men's acts as happenings as these happen naturally.

In the late 2010's it became publicly evident that the male behavior, which I have just mentioned, is not restricted to cultures like in ancient Vanuatu. Men, no matter whether they were bishops or other very important men, also practiced in western countries this culture. Many bigwigs like Harvey Weinstein the movies mogul, and Donald Trump helped themselves freely to sexual pleasures without asking for the women's consent. Donald Trump was tape recorded when he bragged that a celebrity like himself '*can do anything*' to women, including just kissing them or '*grab 'em by the pussy'*, as this man liked to put it.

It is remarkable that victims of sexual violence did not publicly complain many years ago when such transgressions happened. In line with the prevalent values in these past decades, they considered these events as more or less natural parts of their lives and of the culture in their countries. Women must have thought that they could not do anything about it even if they did not really like what men did to them. But this has changed with the #MeToo hashtag and movement. Tarana Burke from Bronx, New York, established this movement in 2006 on a small scale to support African-American survivors of sexual violence. The use of the term 'survivor' instead of using the term 'victim' is obviously meant to highlight the severity of sexual abuses. You will not talk about a survivor of a violent robbery.

MeToo became a strong movement in 2017 when many victims of Harvey Weinstein, who was an extremely prolific predator, came forward and encouraged other victims (or survivors) of sex offences to do the same. Subsequently, the movement created an avalanche of resignations by male executives when women came publicly forward and published in the media credible allegations that these men had taken liberties that a new culture strongly condemns. The perpetrators often paid the victims substantial amounts of money after clever lawyers had negotiated settlement agreements with the perpetrators to avoid criminal prosecution, civil lawsuits and too much negative publicity. The media reported abundantly about these cases because spicy stories from the private lives of male VIPs sell well.

Life of Humans, Animals and Plants

Most human beings think that they are the autonomous masters of the world because they control everything with their unique God-given intelligence and technology. Most people also think that they control their lives autonomously with their free will. Men – and only men, as the Bible says - "*ought not to cover his head, forasmuch as he is the image and glory of God: but the woman is the glory of the man*" (1 Corinthians 11:7). God, in contrast, "*made the wild animals [*only*] according to their kinds, the livestock according to their kinds, and all the creatures that move along the ground according to their kinds*" (Genesis 1:25). Animals are good for "*being tamed and have been tamed by mankind*" (James 3:7) and "*Everything that lives and moves about will be food for you*" (Genesis 9:3). Human beings, particularly males, have in the hierarchy of values in the Bible the highest rank. The Bible values women and all animals unfairly low. Religious people follow the Bible and give God anthropomorphic features with sentient feelings like love, jealousy and anger but many considered it inappropriate to attribute emotions to animals. Animals are objects. This assessment is not only wrong. It is also arrogant.

Animal welfare researchers have established that many species of animals are sentient, compassionate and conscious. They are even civilized in terms of human understanding of civilization. Except cats, animals kill other animals only if they are hungry. Scientists now acknowledge that animals can be loyal, patient, devoted and can have other human characteristics like cleverness and anger. Dogs, in particular, show a high level of loyalty to their masters. The 71-year-old Rich Moore, for example, went missing in August 2023 during a hiking tour in the southern Colorado mountains. When rescuers found his remains after ten weeks, the man's terrier was still at his side. The dog had lost almost half of his body weight but had survived on water from an underground stream and by hunting small animals like field mice and chipmunks.

Beavers, which people usually don't slaughter and eat except for their allegedly tasty tails, are skillful builders of their homes, which we call lodges. Their buildings have several chambers, two entrances; one above and one under water and have many other interesting architectural features. Beavers are clever architects. Plans and blueprints for their lodges are not on paper but in their minds. They don't attend classes to learn how to build their sophisticated lodges. Scientists have established that animals not only learn from own experience but are able to learn from other members of their species who act as their teachers. Researchers have conducted experiments and have confirmed this capability for chimpanzees and bumblebees who learnt by watching behaviors that are too complex to learn by themselves. This seems to be evidence that animals have the same or similar mirror neurons that makes them emulate the behavior of others.

Animals, including beavers, complete their homes without waiting for the results of environmental impact studies. They just do it and do it correctly according to their plans.

Beavers are monogamous like some humans and live in clearly structured families and communities. To create ponds that they like, they use their strong teeth and jaws to build dams by felling and gnawing trees. They solidify the material with mud and stones. Beavers cleverly adjust their structures to the conditions of the environment that they know well. They also know how to respond to changes. They do not have to go to technical training centers to learn the required skills. They do their fabulous work by instinct, as many people say who don't want to admit that animals have the gift of conscious intelligence. Nature has given beavers skills that they improve by experience because they are keen learners by doing things. In principle and basically, I cannot see a difference between a beaver dam and the Hoover Dam in the Black Canyon of the Colorado River. There is no qualitative difference. Only the levels of technology are different. Beavers and other clever animals lack the capacity of human beings to talk and write gloriously about their work. This is a significant difference. Beavers do not have the problem with financing their lodges. They stay reasonably within their means and do not need mortgages. But I can imagine that beavers will show in one form or the other gratefulness if members of other beaver families assist with the construction of their lodges. They might return the favors that they received by helping other families to build their homes.

Primatologists tell us that orangutans, to give another example, weave intricate nests with pillows, linings and blankets from branches and leaves some 10 to 20 meters up in the canopy of trees. Orangutan babies learn the intricate art of nest-making by watching their mothers. They are regularly able to do it themselves at the age of seven years. Some spoilt children of human animals never learn how to make their beds.

Spiders, as we can observe ourselves, build sophisticated and artful nets to catch flies. Birds build beautiful and state-of-the-art nests for their offspring. Birds seem to know the quality and characteristics of the material that they are using. They know, for example that flexible sticks or twigs provide more

stability than rigid rods. Prairie dogs, to give another example, ventilate their burrows with several openings at different elevations for a favorable flow of air. Many architects lack the cleverness when they build houses. Instead of designing them for air to flow naturally through a house, they provide for the use of air conditioners.

And there are thousands of other examples in the animal kingdom that highlight the capacity of animals to create admirable housing and other structures to improve their living conditions. Animals have cognitive skills and plan the work that they are doing and cleverly adapt their plans to changing environments and circumstances. It is a futile semantic question whether they do what we call 'thinking' when they build their homes and if they are conscious of their work.

Let's assume that an extraterrestrial researcher comes to our planet. He observes that beavers build their lodges, that bears and birds build their nests and he will also observe that humans build the Hoover Dam, houses and other structures. He will write in his mission completion report that humans and non-human animals are in principle the same except that nature has given humans a more performant body with more agile arms and legs and hands with ten 10 fingers. If the peer reviewers in his home planet ask him if the living beings that he observed are thinking and are conscious of what they are doing, he will probably answer that this is a silly question because all living beings, including humans, obviously know what they are doing because otherwise they will not be able to plan and to do everything that they are skillfully doing. As to their consciousness, he will say that he cannot answer this question. Let's assume that our extraterrestrial researcher has brought along on his mission a hand-held functional MRI (fMRI) machine. He will then report that his machine had discovered impulses in the brains of all living beings when they were active and even when they were resting. But he will admit that he was unable to identify the content of these impulses.

Animals construct their housing without claiming that they do it by their free will or do it for holy and sacred authorities. Theologians might say that human beings do all this primarily for the glory of God and only incidentally for their own benefit. But this is a far-fetched idea, which is typical for religious leaders who always move God in the foreground and keep nature and nature's laws in the background.

Most animals communicate with some sort of language. Many linguists have studied the features of animal languages for a variety of animals like gorillas, chimpanzees and also the language that beavers use. As scientists always do when they have in difficult areas insufficient facts, they make assumptions and develop theories. And they quarrel about the semantic question to what extent and in which features we can compare animal language with human language or if we can call animal language a language at all. They base such opinions on little actual observations of animal languages. Human beings have extreme difficulties to decode animal language. There are sounds, for example, that animals like bats make and that the human ear cannot hear. Fruit flies produce songs and sounds with their wings. There might be many other communication techniques like movements of eyes that animals cleverly use in addition to sound and visible body movements. Beluga whales have a mass of fat tissue on their foreheads that animal scientists call 'melons'. Researchers have observed beluga whales in the Mystic Aquarium in Connecticut for hundreds of hours and believe to have noticed that these marine mammals change the shape of their melons and produce jiggles of their melons to communicate with other whales.

We might need an alien intelligence to understand the language of most animals. Software with artificial intelligence might possibly be able to decipher animal language.

Bats produce high-frequency sounds outside the range of human hearing. They emit pulses of these sounds to listen to the echo that objects send back. In this way, bats can echolocate these objects and

estimate their distance in total darkness without visual input and can interpret these echoes to assess type and size of objects. It is quite likely that bats also use some features of this technology to communicate one with the other. After all, most of them do not live a solitary life but manage to keep together in often very large colonies with interesting social structures that they manage by communicating with their own language. It would be an interesting experience to put on glasses that allow us to see the world exactly as bats observe their environment. I wonder what I look like in the eyes – sorry the receptors – of a bat. It might not be a flattering image.

Researchers, who always find new targets for their work, have asked 14 blind people to echolocate objects by producing mouth clicks or clicking with their tongues and to listen to the echoes that the objects bounce back. After 10 weeks of training, the researchers at Durham University in England established that all test person became quite efficient in evaluating the size and orientation of objects. They also pointed out that blind people become thanks to neuroplasticity of the brain more susceptible to noises than people without visual impairment.

Most living bodies emit electrical fields, which surround them. These fields are not audible and are invisible for most animals, including for humans. But some animals have the ability to detect these electrostatic fields with so-called electroreceptors. Some aquatic animals have this ability. Researchers have recently detected electroreceptors in caterpillars who use these receptors to detect and to fight approaching wasps and other predators. Apparently, the wingbeats of the wasp create the specific electrostatic field that the caterpillars recognize as coming from their predators.

In my layman's mind I am convinced that flies are also able to detect electrostatic fields. I have many times as an experiment moved my hand very slowly and carefully towards a fly sitting somewhere in my office or in the kitchen. Every time the beast flew away even when my hand was still some 25 cm away. I did these experiments from different directions, particularly from behind the fly. It always moved away probably because of the approaching electrostatic field of my hand.

Humans also mysteriously sense the presence of other humans when they don't see them or hear them. I often observed this when I walked silently behind someone. The person all of a sudden seemed to suspect that I walked behind him and turned around throwing a suspicious look at me. Similarly, if I come without saying anything relatively close to someone who attentively reads a newspaper, the person will suddenly turn his head and look at me. This seems to be evidence that the person sensed my electrostatic field. Many Chinese people, as I noticed, don't seem to have these receptors for electrostatic fields. They keep reading even if you come close.

A very vast and mostly unexplored habitat exists in the oceans, which have an average depth of 4,000 meters and reach a maximum depth of 11,000 meters at a location called Challenger Deep of the Mariana Trench in the western Pacific some 200 miles southeast of Guam.

Oceanographers study the oceans, which represent more than 90% of our planet's living space. They distinguish several zones. Starting with bathypelagic zone, which is in a depth of 1,000 to 4,000 meters we find no more sunlight. It is absolutely dark. The temperature hoovers just above the freezing point and the pressure of water is over 110 times that at sea level. The area below, which we call the abyssopelagic zone (abyss for short) reaches down to 6,000 meters of depths. More human beings have walked on the moon than have dived to these zones, which are mainly unexplored and unknown. We know, however, from very few deep-see expeditions that the abyss is home of an incredible number of deep-sea creatures that can withstand the pressure of up to 600 times the pressure at sea level. There is obviously at these depths no sunlight but there are openings in the seafloor, called hydrothermal vents.

Hot magma from beneath our earth's crust creates an underwater hot spring of up to 24° Celsius where researchers have with the help of robots detected communities of giant tube worms, mussels and of other animals that live on the seabed and below in caverns. Some of these animals look like aliens, Martians or dangerous devils who, if they come up onto the surface, might invade our land to scare us. If life is possible in such incredibly inhospitable environments, I don't see any reasons why life should not be possible on some planets even if they look totally inhospitable to us.

To get back to the topic of animal language, I am sure that these strange deep-sea animals are able to communicate and have probably a social life. We don't know any details but it seems that some creatures produce light in a process called bioluminescence. We know similar features from glow-worms that produce light with bioluminescent organs. Scientists suspect that deep-sea creatures use this type of light to find food and mating partners and to communicate with each other.

Researchers have also established that electric eels and stingrays produce high voltage outputs for communications. Elephantnose fish (Gnathonemus petersii), that live mostly in African rivers, emit pulses from an electric organ in their tail and pick up incoming impulses with electroreceptors in their skin. They can perceive - electrolocate - their environment by sensing changes of the electric field when the impulses bounce back from an object and they can in the same way understand messages from their fellow fish.

I have not gone any deeper into the topic of animal languages but I might advance my opinion that animals are similar to human beings insofar as they communicate using efficient methods to keep their families or herds safe and to organize their communal lives. It is absurd to question whether animals are thinking and are conscious when they communicate. They obviously know what they want and what they do to obtain or achieve what they want.

Animals communicate also with humans and emulate human behavior. This is very obvious for dogs. The other day I observed a dog at a crosswalk of an intersection. This animal patiently waited when the light for pedestrians was red and started using the crosswalk when the light turned green.

Recent experiments have shown that even kangaroos in certain situations can "intentionally", as researchers called it, communicate with humans.

How about plants?

Roald Dahl, the imaginative author of short stories, presented a story entitled 'Sound Machine'. A weird man with the name of Klausner believed in the existence of many different sounds made by living creatures, including flies and plants. These sounds, he credibly claimed, are inaudible to the human ear that cannot catch very low or high-pitched sounds. Driven by this idea he created with determination a machine that picked up sound vibrations that are too high-pitched for reception by the human ear. His machine converted these vibrations into a scale of tones that human beings can perceive. He claimed that he was able to hear with the help of his machine the shrieking sound of pain that roses made when a neighbor of his backyard cut them. He then wanted to demonstrate to a friend that his machine will make the sound of pain audible that a tree makes when it is hit by an axe. He was unsuccessful with his demonstration because when he landed a first heavy stroke of his axe on the tree's trunk, a branch fell down and destroyed the machine that he had placed underneath the tree.

We know that the human body produces bio-magnetic signals. Some healers offer cures in which they manipulate the bio-magnetic fields in the body with external magnets. They claim that their bio magnetic therapies can maintain and even restore physical and mental health by balancing the bioelectric flow in and around the body's cells. I have the suspicion that bio-magnetic therapies are quackery but the fact remains that the human body, particularly the brain and the heart, produce magnetic fields. A device

called SQUID (superconducting quantum interference device) can measure the strength of the magnetic field. But the machine cannot identify the effects of different strengths of magnetism. It is possible that human beings have antennas or receptors that can receive and interpret magnetic signals coming from another person or from an animal and makes the brain respond to them. This is the background of the proverbial saying that two people can be magnetically attracted or energetically aligned. The opposite can also happen when two people feel a magnetic aversion.

Electric and magnetic fields (EMFs) that fill the environment outside the human body are different from electric flows and bio-magnetic fields that develop inside the body. EMFs contain energy that we call radiation, to which external sources expose our bodies unavoidably every day. These sources can be natural like sunshine or can be man-made like mobile phones, microwave ovens etc. Scientists agree that high frequency radiation like ultra-violet (UV) from the sun and X-rays can damage DNA and cells in the body. But most scientist agree that low frequency radiation from common devices like mobile phones, Wi-Fi routers and Bluetooth gadgets have no negative impact on human health. Clever business people exploit people's remaining fear that low frequency radiation from outside might negatively interfere with bio-electric and bio-magnetic signals in the body and causes stress at cellular level. These shrewd people offer '*a small piece of exclusive technology that uses negative ions to block and diffuse EMFs*'. To make you buy their device, they emphasize that it looks like classy jewelry and is a great gift for Valentine's Day and for birthdays. This is where vanity and superstition meet.

Anyway, there is much invisible energy floating in and around our minds and bodies. This is in line with Klausner's way of thinking that most bodies produce inaudible sound vibrations and magnetic waves, which our normal senses cannot perceive. This could explain the phenomenon of telepathy, which parapsychological researchers claim to have discovered. Telepathy is the transfer of thoughts from one person who sends signals to another person who receives these signals without using the usual senses. Extrasensory perception (ESP) is the term for this basically unproven phenomenon, which might as well the result of coincidences.

The Klausner of Roald Dahl is actually not a total screwball. He is right when he says that human beings are acoustically handicapped because the maximum frequency that we can hear is only about 16 kilohertz while our environment is filled with sounds with frequencies between 20 and 250 kilohertz, which we thankfully cannot hear. If we could hear all these noises, they would profoundly disturb our enjoyment of nature. People who suffer from tinnitus can relate to such a nuisance because they constantly hear unwelcome ringing or other noises in one or both of their ears.

A professor at Tel Aviv University, Lilach Hadany is her name, has used a special microphone similar to Klausner's sound machine. With the help of this device, she established that tobacco and tomato plants emit sounds at a frequency of 40 to 80 kilohertz. Her machine translated these noises into sounds that turned out to be similar to the pop of popcorn. Mrs. Hadany also found out that these plants increased the rhythm of the pops at random intervals when the plants were under stress either because of lack of water or after she had cut off some parts. She obviously found no evidence that the plants produced this noise intentionally. Air bubbles in the plant's water column produce the pops when they collapse under some kind of pressure or stress. Scientists generally agree that the pops or other noises that plants might make are not intentional but they also agree that other organisms might hear and interpret the pops. A female moth, for example, might not lay eggs on a tomato plant that is under stress. Other researchers have confirmed the hypothesis that plants are gifted with very basic communications skills. They have identified – for example – distress calls in form of smells that grass or flowers emit when we cut them. This smell of freshly cut grass is not only pleasant for most of us, it also attracts certain insects that sit

down where the grass was cut and – by doing this – alleviate the plant's wounded parts. The insects probably do not consciously select these places to sit down but might just be instinctively attracted by the smell similar to me who gets attracted by the smell of freshly cut grass or by the smell of freshly brewed coffee.

All the ideas above might be pure speculations but when we look at nature, we have to free ourselves from the obsessive Idea that plants and animals are nothing and that the homo sapiens has the highest rank in the order of all things. Because human beings share many features with animals many scientists now refer to animals as 'nonhuman' animals to distinguish them from human beings, which are 'human animals'.

Do animals have what we call feelings?

Yes. Many animals think and feel and can show empathy. They distinguish friends from foes and from rivals. They know the path towards a higher status in their territory. They compete and know how to achieve results. Outstanding examples of big animals that have shown empathy are humpback whales and elephants.

The African elephant grows up to 4 meters in height and to a weight of up to 9 tons. Because of this huge size and the elephant's proverbial thick skin, people considered this animal until recently as an insensitive, clumsy and dummy animal.


African Elephant

But we know now that elephants not only are excellent communicators but have outstanding memories and human-feelings like loyalty, love, compassion and also anger if provoked. Elephants can communicate with humans. This photo shows Kinna, an orphaned African elephant living in the Tsavo East National Park in Kenya. He smiles while sharing his feelings of attachment using his trunk to hug or to kiss his friend. We cannot hold against Kinna that he has unfortunately no other means to express his obvious feelings. Elephants are skilled as well. An elephant in a Berlin Zoo, for example, learnt on its own how to peel with his trunk a banana before eating it. I started admiring the elephant's accomplishment after I had a broken left arm and had to learn the difficult task to peel a banana using only one hand.

And obviously, dogs are very intelligent thinkers and are able to express their own feelings. They understand instinctively the slightest feelings of their masters, friends and foes and have an efficient memory. They are certainly not driven by a free will.

Carnivorous animals kill other animals for food and for survival. In this respect humans behave like all other meat-eating animals. Humans – like all carnivorous animals - hunt and slaughter many different species of animals. In addition, humans exploit animals for production of milk, eggs, fur etc. and for medical experiments. But even in that respect, we can compare humans with parasites like tapeworms etc. Parasites use a host's resources to maintain themselves.

To cut the long story short, I wish to conclude that I, as a member of the human race, feel like a member of one of nature's many species of living beings. Animals are more sensitive and intelligent than many people claim. We are one family and should respect each other as equals. We should empathize with animals. The Daoist philosopher Zhuangzi (莊子) in the 4th century BC considered it as ideal if '*men lived in sameness with the birds and animals, side by side as fellow clansmen with the myriad creatures*'.

But many people still have the arrogant belief that human beings are superior because God has created humans with a free will and with the capability to reflect on themselves. Most importantly, they think that we are privileged because we have the ability and obligation to praise and worship our creator. The Bible promotes the idea of unrestricted dominance of men over animals by establishing the '*Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground*' (Genesis 1:28).

The philosophies of the Quran and of Daoism are different. They admit that the human being is an amalgamation of two things: we have an animal basis on top of which sits a spiritual component. Islam recognizes correctly that humans share with animals many instincts such as the instinct for survival and preservation of the species. In addition to these animal instincts, Islam teaches that human beings have a soul that animals don't have. However, there is no scientific evidence that something like a soul exists inside or outside the body of a living being. If we claim that humans have a soul we should also admit that animals have a soul because there is no conceivable reason for the difference.

The Maori philosophy in New Zealand and the philosophy of Ubuntu in South Africa highlight the obligation of human beings to respect everything in their environment and that we should not consider anything to be superior to others. But traditional law reflects and confirms the biblical rough way of thinking. The law treats humans as subjects (legal persons) and everything else, including animals, as objects (legal things). A joke tells the story of the oral exam of a law student. The professor asks the candidate to go to the window. "What do you see?", asks the professor. The student replies that he sees the street, cars and people whereupon the professor corrects him by saying that as a true law student he should notice only subjects and objects.

Legal subjects (people) have the right to own, kill or abuse all things, including animals, at free will. In this sense, humans have the power, the free will and the right to kill and abuse animals and nature. You are absolutely free to damage an object unless somebody else owns it. In this case, you damage in traditional view not the object but someone else's property rights.

The denigrating attitude towards animals is now slowly changing based on findings by scientists. They discovered that some animals like elephants, dolphins and whales are not only intelligent but also show empathy and other feelings that humans have. Elephants help other elephants when they suffer and show emotions and they grieve for their dead. Honeybees, fruit flies and even cockroaches are not only able to develop feelings but can also communicate certain feelings. Our dislike of cockroaches does not exclude the fact that they are sentient beings. Not everything that we humans don't like is objectively worthless.

Researchers have discovered that bees and octopuses, in particular, are remarkably intelligent beings. They display, as they say, highly evolved cognitive abilities and various emotions with 'alien minds' and 'alien intelligence' that they possess. This makes me wonder how – for example – honey bees perceive our world. It would be fascinating to have an opportunity to live for some time in the brain of a honey bee and to see the world with its eyes and its mind and with its alien intelligence. If the genius of Aladdin's lamp gave me the opportunity to experience for some time our world with the eyes of a honey bee, I would promise to write for scientists an enlightening report when I come back as a human being.

The differences between animals like flies and bees and human beings are not as big as we tend to believe. These little beasts have brains that are much smaller but still susceptible to some of the same hormones like dopamine and serotonin that trigger feelings in the human brain and mist also trigger similar feelings in their brains. Scientists also remind us that all living beings – including men – evolved from the same slug-like creature which lived around 200 million years ago on earth and evolved and diversified ever since

into different species, of which some – like insects, elephants and dolphins – share with humans the capacity of having feelings. It amazes me how much time and money are available for neurobiologists and entomologists, for example, at the University of Oxford, to do fundamental research on emotions of fruit flies and other insects. I wonder how much their research advances mankind in the near future.

Following up on scientific discoveries of feelings that certain species of the fauna share with humans, animal rights activists made progress towards the codification of animal laws and animal rights. California, for example, approved in 2018 'Proposition 12', which bans confinement of egg-laying hens, veal calves and breeding pigs in a "cruel manner" as the proposition vaguely has put it. The 2021 animal welfare law in the same state requires that farmers must give mother pigs at least 24 square feet of space each. In comparison, the standard size for a prison cell in the US is only double this size. The animal welfare law also bans the currently common use of gestation crates, which are 7-by-2-foot stalls, which severely restrict the movements of pregnant sows.

The UK government has added in new animal welfare laws octopuses, crabs and lobsters to a list of protected animals because scientists have established that cephalopods (such as octopuses, squid and cuttlefish) and decapods (such as crabs, lobsters and crayfish) are sentient beings who are able to experience pain and suffering. Vertebrates are already on the list of sentient animals in the animal welfare legislation in the United Kingdom.

I heard about a by-law in an Italian municipality that made it illegal to keep goldfish in curved bowls because the pets, looking out of the bowl, would have a distorted view of reality. The authors of the by-law claimed that not allowing the pets a clear view was animal cruelty. This story might be a joke but it highlights how far overzealous animal rights advocates might go one day.

Animal rights groups have already started to disrupt the 'Grand National', which is since 1839 in the Aintree Racecourse in Liverpool worldwide the greatest steeplechase. The organizers claim that some 500 million people from 140 different countries watch it on television. The Grand National is a horse race run over fences and other obstacles like water jumps or open ditches. The race had resulted in deaths of 36 horses since 2010. Two horses died during the 2022 race alone with many others injured and some put down as a result. The animal rights activists claim that exposing horses to mortal dangers is animal cruelty. If these activists were also concerned about human lives, they should protest against the frenzy of performance during Olympic games and world championships where at least as many athletes lost their lives in competitions like alpine skiing, luge competitions and marathon. Many more athletes than horses in the Grand National in the UK died during cycling competitions alone. Between 2021 and 2022, at least 1,148 professional and amateur athletes died from cardiac problems. Not included in the number of deaths during sports competitions is the number of athletes that succumb performance pressure by early deaths, by overstretching their bodies' capabilities or by responding to unbearable stress with suicide.

I do not know how lawmakers and animal welfare researchers have established that animal welfare laws will make the pigs and lobsters happier before they are slaughtered or while they are being killed. These animals do not have the language skills to tell us and we don't have an instrument to measure their happiness or their pain. We do not even know how we can measure the happiness of human beings on a scale – let's say – from zero to hundred. We have no idea how differently we feel when we are 90% happy as compared to a happiness of only 60%.

Some people who want animals to live an extremely pleasant life, demand that animals must have the ability to live as they wish and should not be subject to any interference by human beings. They even claim that the entire nature and the environment have rights similar to human rights. Their way of thinking

corresponds with the proposal that some advanced educators make when they suggest that parents should not interfere with the natural development of their offspring.

The Te Urewera National Park has the largest rainforest on New Zealand's North Island. In 2014, the government recognized this rainforest as having its own legal personhood with the same rights as a person. I don't know how this works in detail. If they were applying the law consistently, they should punish someone for afflicting grievous bodily harm when he cuts the branch of a tree. Someone who steals a young plant could be punished as a kidnapper. Anyway, the New Zealand law recognizes the aboriginal Tūhoe people as the forest's legal guardians. The Maori concept of "guardianship" (kaitiakitanga) reflects the perceived harmony between living people and the living natural world as equal partners similar to the teachings of Daoism.

The Maori concept has in 2022 gained friends in Spain. Environmentalists pressured their government to enact a law that grants personhood status to the Mar Menor salt-water lagoon, which is with 1,600 square kilometers the largest in Europe. We don't know what Mar Menor's gender is. He or she cannot speak and act but is legally represented by a group of caretakers made up of local officials, local citizens and scientist. In a move towards privatization, the Spanish law has tasked these representatives to jointly defend the lagoon from further degradation taking away this responsibility from the Ministry of Environment, which has the long winding name of Ministry for the Ecological Transition and the Demographic Challenge (MITECO).

Should I become a vegetarian if animals have the same rights as human beings?

Some animal rights' activists say that we should not use animals for food and must not hunt them. They also demand that we should not breed animals. Non-human animals must decide by themselves when to copulate. They say, that we must protect the animal habitat, so that animals can live according to their choosing and according to their free will. I anticipate that almost 8 billion people, who currently populate our planet, will probably not have sufficient food if we implement this concept. The true crime of humankind, however, is that people have multiplied into gigantic numbers that require disgraceful and degrading methods of livestock breeding, meat production and meat processing. There might be some pressure taken off food supply if production of artificial meat and revolutionary new agricultural methods will become successful. But insects, which some activists discuss as alternate food will be off limits if researchers find out that grasshoppers and other insects are also sentient beings and that we must give them animal rights.

Far-reaching animal rights limits the right of humans to kill. We should complement this concept with a strategy to reduce population growth and hence decreasing the need for meat. Another strategy to protect animals from being eaten would be the theoretical attempt to educate other carnivores like tigers to become vegetarians. Why do stern vegetarians demand that human beings should be the only creatures on this earth that must not eat meat? Nature has created the Homo sapiens and many other animals as carnivores. This feature of nature is for me, the believer in nature's wisdom, the reason to reject strict vegetarianism. Eating animals is a natural thing. Believers in Dao say that tigers, and even mosquitoes, eat humans; why should humans not eat other animals? But I fully agree that we should respect animals and must not maltreat them and not kill them beyond the need for food. Respect for nature requires such restraints.

In this context I remember Antonio, a highly imaginative Italian friend, who advanced a concept to reduce the number of killings in conventional wars. He agreed that a soldier should be allowed to kill an enemy. But he added that the killer should have this right only if he has the obligation to eat the victim's flesh.

Having sufficient food and being not hungry any longer, the soldier would not kill another enemy soldier. I told my friend that his innovative idea was despicable because it involves cannibalism. But he answered that we should not kill anything living unless it was really necessary for food. My friend's thought seemed to imply that eating the flesh of a man as the only way of survival – for example in extreme distress at sea - could be justified by the law of nature and the natural instinct of survival of the strongest. After all, this law has allowed the evolution of man from humble beginnings as apes to the glorious beings that we are now. Let's honor this law.

I remember three stories in my life related to the thorny subject of our presumed responsibility towards animals:

The first story dates back to my first years in high school in Mainz, my former home town. The teacher had requested that we write as homework an essay about an event that would come to our mind and that we wanted to write about. I described in all length a cat that tried, and was eventually successful, to kill a young bird, which was sitting helplessly in a tree and could not fly – I do not remember the cause of bird's problem. I just was attracted by the scariness of the scene and took interest in what the natural outcome would be.

I was not good at writing and was therefore not surprised that I received a very low mark as quite often in these early years of schooling. My mother then made an appointment with the teacher to seek advice how my writing skills could be improved. During the meeting, the teacher revealed that the low mark was only partly due to bad writing skills. But he explained that he had given a low mark primarily because I should have saved the bird instead of watching passively the cruel activities of the cat. He apparently thought that I, as a human being, had failed to interfere in what is natural behavior of a cat.

The cat, as I know, is the only animal that seems to take pleasure in killing a mouse during a lengthy and cruel fight that the cats enjoy without the intention to eat the victim. Apparently, cats playfully kill out of boredom and for entertainment. I observed with macabre interest such a fight in Port Vila, Vanuatu, where we kept a cat to fight a plague of mice. Mousetraps did not solve the problem because mice are smart. They wisely always control their craving for food and don't touch the cheese in the mousetrap, which they recognize as such. I found it incredible how long our cat chased and attacked a poor mouse sometimes throwing it around like a ball after it had become weak and bleeding. When the poor mouse tried to play a dead man, the cat became impatient and kicked the unfortunate beast until it moved again only to hit it once more with another terrible strike of its paws. I did not intervene. After all, ridding the house of mice was the cat's job, which she did efficiently but – in my opinion - with too much cruelty and pleasure. Cat lovers say not to worry because this is what cats do by God-given nature. They recommend that observers of the unequal and cruel fight should relax and even enjoy the show. If you do not like it, they say, you are not suitable to keep a cat. This recommendation implies that we should not try to educate a cat to become more humane. This is very difficult – if not impossible – anyway. Cats are by far not as educable as dogs.

Fans of bullfighting in Mexico and in Spain face attempts to make bullfighting illegal. Animal rights activists rightfully say that bullfights are bloody and cruel business. Lovers of bullfights, who attend the events that they call 'fiesta brava' say that it is a traditional sport. They use the argument that the matadors are not fighting innocent elephants or dolphins. They are "*fighting animals who are raised for this, to show their abilities, to have a chance and, if not, die nobly in the ring*". This is how a correspondent for the 'Reforma' newspaper in Mexico put it to justify artistic but cruel killings of bulls.

The second story in my life that I want to talk about is also related to our presumed responsibility towards animals. It happened in Manitoba at the cattle farm on which I lived. In the middle of a harsh winter night, a new born calf had right after birth lost its mother. We had to feed the calf inside the moderately cold garage, which was attached to the house. We used a milk bottle until the calf was strong enough to be released into the pasture. These regular feeding procedures made us good friends according to the French saying l'amour passe par l'estomac (The way to the heart is through the stomach).

The calf then became the only one in the herd that allowed us to hug her. All others ran away when we tried to touch them. But the logic of cattle farming was not abolished. Our friend, the calf, ended up like all other heifers being slaughtered for its meat before we had to feed her through another severe Manitoba winter. I ask you seriously: Would you have saved the animal until old age from its natural and final destination?

The third story happened in Vanuatu. A bird hurt itself banging in mid-flight into a large glass window of our house and became unable to fly away or to move. As a side note I might mention that busy researchers have calculated that several 100 million birds die annually from collisions with glass facades.

We cared tenderly for the bird providing food and shelter until it was able to fly away. My wife during one of these healing days prepared lunch from a lobster that we had caught the same day in the ocean. Water was boiling in a big pot when a concerned friend called to inquire about the health of the bird. While my wife was discussing the health of our little patient holding the phone in one hand, she dropped with the other hand the still living lobster into the boiling water. This is the recognized method to kill a lobster in a brief action and to keep the meat of the lobster fresh and tasty. But decades later, scientists have established that lobsters and crabs are sentient beings who are able to feel pain and must not be killed in boiling water. Animal welfare laws – at least in the UK – now protect lobsters, octopuses, squid and cuttlefish from this method of killing.

There is one more thing that I have almost forgotten to mention in the comparison between humans and other animals. It is the way we use the 24 hours that we all – humans and animals - have available every day. There are animals like lions, bears and cats that sleep most of the day. Scientists have focused in their research on fruit flies because they seem to have an organism that serves as a model for humans. It appears that fruit flies have some characteristics that are quite similar to human biology. But unlike most humans, the fruit fly sleeps regularly 16 hours every day. These excessively sleeping animals become active only if they are hungry and have to hunt for food or have sexual needs. As a general rule, animals do not do anything but resting, snoozing or sleeping if they are not forced to take care of daily necessities or copulating for reproduction. Young animals might joyfully play with each other but this activity seems to disappear very fast with age.

Dogs can stay and wait patiently next to their masters or in front of a store without getting bored and without wanting other entertainment than watching the environment. Let's assume that my significant other was telling me to wait a couple of hours in front of a department store until she has finished shopping for a dress. Let's also unrealistically assume that I am good-natured and that I am prepared to wait in front of the store as she told me to do. In such a case I would get bored and would feel compelled to seek some entertainment or start an activity to make the time go away faster.

Thinking and writing about the human existence is one of the activities that makes available time fly faster. As a matter of fact, human beings thousands of years ago might have developed spirituality and philosophy when their methods of hunting and providing food had become so efficient that they had spare time. They then used their excess brain power and the spare time to think about spirits, ghosts and

Gods that they believed to be behind things. Too much spare time became the mother or father of philosophy and of religion. We do not have to fear the mother or father of philosophy any longer even though today's people seem to have excessive spare time. Nowadays people spend all their free time – even time while in the toilet or walking in the street – on their mobile phones to follow social networks and internet news. There is no time left for own thoughts or for philosophy.

The capacity of human beings to observe our world consciously and to develop philosophies about what we observe is not a blessing as we think. It distinguishes us from animals; yes. But we do not really advance with the explanation of the world and its meaning. Instead of wasting our time with philosophy that leads nowhere we might be better off sleeping and dozing happily as all other animals do without the unstoppable and instinctive desire to think, talk and write about philosophical or religious topics.

Average adult human beings sleep eight hours a day and spend eight hours at work. They might spend four additional hours to commute, to run errands and to eat. Under these assumptions, there are four hours left as spare time. Unlike animals, many human beings do not doze away these four hours or whatever other time is left. They always seem to be driven to do something even if it is not essential, important or useful. Boredom during too much spare time triggers bad ideas as the saying 'Idleness is the root of all evil' suggests (Müßiggang ist aller Laster Anfang).

A retired person normally has much more spare time even if he has to pick up his grandchildren from school. It is our human nature that we do not want to doze away our spare time like a lion, bear or fruit fly. In that respect, most human beings are different from animals. My father started collecting French cooking recipes that made his mouth water. Other pensioners collect stamps or complete crossword puzzles or watch movies. Instead of doing some of this, I am currently reflecting on comparisons between animals and human beings. This prevents me from feeling bored today. I do not know if this makes sense but it gives me the illusion that I have filled my day today with something intellectual that makes me look different from my dog. I try to find tomorrow another topic that might come to my mind and about which I can write but this might at the end not be significantly more meaningful than to solve a crossword puzzle.

We want to be deceived

Aleksandr Solzhenitsyn, who received the Nobel prize for literature in 1970, correctly noted that the soviet government constantly lied. He also stated that the people knew that the government was lying and that the government knew that the people knew. These statements describe very well the omnipresence of lies and the prevailing acceptance of lies.

There is no free will if we base our decisions on ignorance of facts or if third parties influence our decisions with lies. But many people don't need third parties to be deceived. We deceive ourselves by discarding facts that we don't like because they are unkind. Many people don't want to hear unpleasant truth. Christian Morgenstern, the German poet whom we know for his nonsense verses, has celebrated in a poem the principle that things cannot exist if they should not exist, (*weil, so schließt er messerscharf, dass nicht sein kann, was nicht sein darf*"). Vice versa, we think that things must exist if they should exist.

People prefer indeed hearing and believing simple statements that are plausible and pleasant but are not true. They also hold for the truth what is in line with what they already know and think - no matter the reality. This is part of the human trend to see only what you want to see and to hear only what you want to hear.

If you see something unusual and unexplainable like a shiny huge rectangular piece of metal in the middle of the desert, you will be reluctant to say "I don't know where this comes from", instead, your brain might make you believe the story that journalists have published. They have no evidence but claim in their

report that extra-terrestrials have forgotten this object to take with them when they left our planet in a hurry because they felt that they were discovered. A serious journalist would say that he does not know the origin of the metal or that some experts have to investigate its origin. A journalist has to produce and to sell interesting news and will tell the story of extra-terrestrials. He knows that he does not know but his customers, as he knows, prefer reading the story of extraterrestrials. They want to read interesting and entertaining stories no matter their truth.

Not knowing something that we want to know is painful. We want to produce or to hear a plausible explanation even if it is wrong because otherwise our innate information appetite will remain unsatisfied. If you are hungry, any food will do. On the other hand, people usually judge a person as a weakling and a dummy if he bluntly admits that he does not know. To keep one's social standing – for example as a leader - you have to give an answer.

Imagine a candidate during a public discussion in an election campaign. Someone asks him how many more refugees will come to the country. The candidate cannot admit that he does not know and will instead give a number that people believe even if he invents a number. If someone presses the candidate on the issue and asks what he will do if the numbers turn out to be higher, the poor man can also not say that he does not know. He will have to give an answer that is in line with what people expect even though he knows that what he says is not realistic. He might lie and say that his party has a plan 'B' and that, please don't worry, everything will be under control.

The public does not want to hear the truth. People are happy if they hear what they want to hear and the candidate in the election campaign will not use his free will to say what he thinks but he says what people want to hear. Many political speakers are prisoners of their audience.

The ancient Romans were artists in expressing important meanings in short sentences. One example is "mundus vult decipi", the world wants to be deceived and consequently, it will be deceived ("ergo decipiatur"). Where there is demand, there will be supply.

Two parties are necessarily involved in deceptions. One person boldly deceives and the second person in this game falls naively – or even gladly - prey to the deception.

Napoleon reportedly claimed that "*If you wish to be a success in the world, promise everything, and deliver nothing.*" He knew how easy it is for a charismatic leader, who he was, to abuse credulity of the masses. Obviously, Napoleon was by far not the only person who got away with deceiving and seducing the masses. Donald Trump is a modern master in lying and finding masses of believers.

The second actor in this game is the victim of deception. He believes negligently fake news or empty promises that someone makes. But you don't need someone else to fall prey to deceptions. You happily deceive yourself by judging yourself too optimistically. "I am the Greatest" is one self-opinion that does not stand up to reality and truth. As with lies, which we take for the truth if they are repeated often enough, self-deception comes in the form of auto-hypnosis. An individual might repeat many times a lie about himself until he believes it.

I observed a milder form of this attitude as a lawyer when I worked on a client's case. I dug out all arguments in favor of my client and suppressed, which was my job, systematically all negative factors. When I then revised the statement to the court that I had drafted for my client, I became regularly a victim of self-deception and actually believed that my client was going to win his case or was innocent. The hope of winning a case developed into certainty. My wish was the father of my feelings.

One form of self-deception is the disregard of recognizable dangers that we think away. We know, for example, and disregard this knowledge that the kitchen of a restaurant might be dirty particularly in a small and simple place in a country that we know has problems with cleanliness and hygiene. We do not allow our knowledge to play a role and enjoy the food, particularly if it is nicely spiced. Similarly, we would never decide to eat sausages if we had in front of our eyes the greasy junks of meat and cartilage that butchers use to produce them. Tyler Rouse, a pathologist at the Stratford General Hospital in Ontario analyzed hundreds of sausages from supermarkets. He found out that most sausages contained very little skeletal muscle but he found mostly bits of bone and blood vessels and cartilage and even plant material from the content of the slaughtered animal's intestines.

Obviously, we know that the butcher used repulsive ingredients but we enjoy the sausage because it is finely ground and superbly spiced. One butcher put it to my father: "The quality of the ingredients does not count for a good sausage. What counts is how often and how finely it is minced and how skillfully it is spiced".

Before we go any further into the wisdom of the saying that people want to be deceived, let me tell you a fairy tale with the title "The Emperor's New Clothes". Hans Christian Andersen, the Danish story teller, published the tale in 1862. It is interesting that the story is quite popular with Chinese people as well. They claim Chinese authorship of the story that is known under the same title (huángdì de xīn yī - 皇帝的新衣). Either Andersen has stolen the story from the Chinese or vice-versa. But this does not diminish the appeal that the story has. You probably have read the tale but I recount it briefly anyway in my own words to refresh your memory and to point the finger at my interpretation of the story:

Once upon a time there was a young emperor, who was obsessed to look handsome and well dressed. He accepted a very expensive offer that two well-spoken fraudsters had made. They promised to make for him clothes so beautiful and so special that stupid and incompetent people could not see them. The fraudsters, who had received the emperor's money in advance, pretended after a few weeks that they had finished their job and helped their royal customer getting dressed in the inexistent garment while his ministers and staff looked on. The emperor, who did not want that his entourage judged him as stupid, showed sincere satisfaction with his new clothes. All on-looking courtiers followed suit and expressed excitement about the elegance of the attire. Nobody dared to say that there were no clothes on top of the emperor's underwear. They all were scared to contradict the sovereign. They were also shy to be rated stupid and incompetent if they admitted not being able to see the new clothes. The emperor then proudly presented the new clothes at a formal parade for his subjects who had heard about the special feature of the emperor's outfit. They all praised its beauty because nobody wanted to look and sound stupid and incompetent.

The actors of this story are firstly the sellers of clothes who deceive with fake statements. This is still common practice in today's retail industry. We then have a buyer whom the sellers can easily deceive because he is narcissistic and has too much money to waste. There are finally the observers and background actors who are too shy and too proud to admit that the 'alternate' reality is actually fake. Some politicians nowadays call their lies 'alternate reality' and apply a strange logic by referring to the real reality as fake news.

Andrew Tate, a British-American kickboxer and misogynistic influencer with millions of followers called himself '*king of toxic masculinity*'. When he was arrested for rape, he denied this fact by saying '*I am not a rapist, but I like the idea of just being able to do what I want. I like being free*'. The logic behind this sentence is weird because he calls other men who did what he did, rapists but when he rapes a woman, it is the expression of his free will.

The faithful follower of the king in the story about his clothes would in today's world post the news about the emperor's beautiful clothes in social networks and would receive thousands of likes. And this might have the result that the fraudsters acquire numerous new customers who are compelled to follow the latest trends and who want to buy expensive and special garments.

I cannot help associating Anderson's tale somewhat with today's high-end luxury fashion and cosmetics. The sellers also use presumptuous and deceiving descriptions of their goods and fake scientific explanations to influence their naïve customers. They hire background actors who write and talk about it in celebrating reports. Hollywood with its glamourous annual Oscar Nights, Grammy Awards and similar events also fall in this category. What looks exclusive and glorious as the 'best red-carpet looks' must be exclusive and glorious. The organization that celebrates Oscar awards during the pompous Oscar nights calls itself 'Academy of Motion Picture Arts and Sciences', which is an insult to scientific academies. It is actually an advertising agency that skillfully promotes movies, actors and fashion. There is the famous truth that not all that glitters is gold. But most people do not remember this truth and fall prey to everything that shines like, for example, gold-plated Oscars.

Fake news and conspiracy theories can be so appealing, so soothing and plausible that many people take them for the truth without the pain of critical thinking. Public figures add persuasiveness to their statements with their eloquence. Many people find that the truth is boring or threatening or too difficult to grasp. Anti-science people anyway think that it is inappropriate to approach issues in life with a scientific mind. Fake news or anecdotal evidence is often more pleasant and convincing. Here is an example:

Marjorie Taylor Greene, a republican lawmaker – or should we say lie maker - from Georgia in the US, published seriously in the internet her claim that a space-based solar generator, used in a clean-energy experiment, must have beamed the sun's energy back to Earth and started in 2018 devastating forest fires in California. She came to her conclusion, she said, because there had been too many coincidences to ignore. She mentioned people without giving their names, who reported to have seen blue beams of light that looked like lasers. She also highlighted the fact that three of the largest companies for the development of combat lasers for the American air force have their head quarters in the area where the wildfires occurred. She also mentioned that the fire suspiciously had raged along the trail of a planned high-speed train, which certain politicians oppose. She highlighted in her report the claim that one Jewish investment firm, Rothschild Inc., had been involved in financing all this. Subsequent media summarized Greene's story with the shocking headline that a 'Jewish Laser Canon from Outer Space' had ignited the forest fires. Such a story sells well because people have the free will to believe any junk as long as it sounds plausible, pleasing and entertaining. Scapegoating the Rothschild family is particularly pleasing for all those who feel uncomfortable with the great influence that Jews have in the US. A lazy mind does not want to read a complicated article of a scientist who explains the causes of wildfires and how we can prevent and fight them. It is much easier and more pleasant to believe an interesting story or to blame Jews instead of going through the pain of finding the truth and the real culprits for the wild fire.

Some people know that stated facts need thorough verification and analysis. We know that the truth compared with lovely lies is often more complicated, might be unpleasant or might be unknown. But an attractive and plausible lie is much more comfortable for lazy brains. Or do you protest against the outright lie if someone tells you that you look handsome and young today? You know that you have not the slightest chance to be a front runner in a beauty contest but you tell yourself: 'If he says that I am handsome, there must be something true to it'. Isn't it? Similarly, if an opinion is popular, our herd

instinct suggests that this is an indication of quality and truth. "Everybody knows it", is the quality seal for a statement.

If you go to the supermarket to buy milk you might find one red box of milk with a label that says "Rich in Calcium" while the label of a blue box next to it does not mention any calcium. You have heard, without verifying and without knowing why, that calcium is beneficial for health. You select the red box even though the milk in the blue and cheaper box contains the same amount of calcium. All milk contains calcium anytime and anywhere. The label of another box of milk might rightfully claim in bright letters that the milk is 'Nicotine Free', which might prompt a customer to select this box because everybody nowadays knows how bad nicotine is for your health. But there is no milk in this world that contains nicotine except possibly breast milk from smoking mothers. Labels in general are most often conveyors of fake news. If a label on a bottle, for example, claims that the bottle contains olive oil, its liquid contains – if you are lucky – 10% olive oil and 90% unspecified other oils. If you are lucky, you will detect the very fine print on the label that your olive oil is a 'blend'. Similarly, the seller of honey has put more sugar in the jar than real honey. Honey is actually one of the most faked foods in the world. Fraudsters dilute it very often with syrups from rice and sugar beet and with other sweeteners. Fraudsters often also fake milk, spices, fish and seafood. Sellers use he word 'taste' in small print on labels while they show the word 'chocolate' bright brown letters accompanied buy a chocolate bar. The word 'taste' indicates that the drink or the powder is actually not made from chocolate but only tastes like chocolate.

Fraudulent labelling is ubiquitous and governments don't punish it because it is industry standard. Every manufacturer does it and consumers are happy to be deceived. Deception is common practice in trade.

Coincidences, as mentioned by Marjorie Taylor Greene above, trigger self-inflicted deceptions because we don't like to believe in coincidences. We tend to construct in our minds causalities that do not exist. Let's assume you walk in a street and you hear a noise coming from around the corner that sounds like a shot; you are not sure at this moment. You spontaneously think that it might also have been a blown tire or something similar that caused the bang. But if you see one minute later around the corner a man lying lifeless on the sidewalk, the situation becomes clear to you: somebody has shot this poor man to death. There is no doubt about it in your mind. And yet, this quick conclusion is a mild case of a conspiracy theory because there are other possible explanations. The noise that you heard might not have been a gunshot as you originally considered, and – if the man is really dead, which might not be the case – he might have died shortly before you heard the bang – or he might have died from a heart attack when he was surprised by the noise of a blown tire.

Journalists who produce news about the stock market, excel in presenting questionable fast conclusions. I regularly read news like "Stocks close lower as concerns on banking fallout spread". Journalists jump to such a conclusion when – as in March 2023 - the Silicon Valley Bank (SVB) faltered and the stocks closed lower. A multitude of other factors make the stock indices rise or fall. These journalists frequently – to give another example - explain a rise of the stock market index with a high number of new jobs that the economy created. But if the stock index falls and there is still a high number of new jobs, they will tell you a reason for the decline that is not related to job creations.

I became victim of a quick conclusion when I returned to Pretoria from my first mission in Chongqing, China. My girlfriend discovered thick black and long hair in my hairbrush while my hair is thin and blond. She came to the instant and plausible conclusion that the hair was from a woman. But she further concluded that I must have had an affair with this woman. 'She has used your brush in the intimacy of your bathroom, where you always keep the brush' she angrily argued and did not want to hear my argument that a cleaning lady must have used the brush wile I was not in the hotel room. However, I

must admit that the latter explanation would not have convinced me if I had been in the situation of my rightfully suspicious girlfriend.

Almost forty years ago I admired the cityscape of Manhattan from the 99th floor of the previous World Trade Center in New York. Many years later on the famous day of 11 September 2001, for Americans it is 09/11, terrorists destroyed the twin towers by flying one highjacked aircraft each into the buildings, which both entirely collapsed spectacularly. The terror attack killed more than 3,000 people. Fortunately, I was not one of them. If I were a Chinese man and a strong believer of Buddha, I would credit him for having saved my life. Have I not many years earlier during the visit of the big apple asked Buddha in my daily morning prayers to protect me? I would also ask myself the scaring question about my fate if I had forgotten to pray in the morning before visiting the World Trade Center. If I had not prayed, the terrorists might have struck on the day of my visit. As a faithful believer I would conclude that Buddha has saved my life. As a Buddhist, I would thank my savior. I might express my thanks with buying a handful of paraphernalia from monks in a temple.

An almost irresistible temptation or self-deception is to attribute success and failures to specific persons or events. We like to explain success and failures with more or less plausible causality. For committed Buddhists the success of an endeavor is the result of Buddha having responded to a devoted prayer. However, if you fail in the activity, for which you prayed, it will not be Buddha's fault. You know – or believe – that Buddha is never the cause of problems. A fiasco is the result of a prayer that you had forgotten to make or that you made without the necessary devotion. Buddha never threatens with anger, jealousy and punishment as the Christian God does. Buddha is – God forbid – not the author of misfortune. He just does not protect you from harmful forces if you don't pray long enough or not with the appropriate dedication.

One Chinese doctor specializing in the diagnosis of fetuses with ultrasound scans, often feared to make incomplete or wrong diagnoses. She prayed every morning for one hour to get Buddha on her side to avoid mistakes. One day, after she had made a mistake, she did not analyze the reasons why she missed the correct diagnosis and did not try to learn from it. Instead, she detected the problem in her daily prayers, which she lengthened to one and a half hours and then credited Buddha for having avoided additional mistakes. In line with the typical Chinese attitude of quid-pro-quo they will not pray at the beginning of non-working days because Buddha's help is not needed on these days. They give him a brake.

The overly firm belief that Buddha steers life safely away from risks and from misfortune, prevents many Chinese to consider other safeguards. A Chinese friend, for exmple, had lost 10 years ago the equivalent amount of $35,000 USD by playing carelessly the stock market. He did not study the reasons why he had lost the money and did not in earnest study how to avoid unnecessary risks. He started nevertheless playing the stock market again in the same way, in which he had lost money 10 years before. I warned him that he might lose money again. But he replied seriously that this could not happen again because 10 years ago he had been a Christian. He was now a Buddhist, he explained, and prayed every day; Buddha would therefore protect him from losses. I have obviously serious difficulties following this logic if we can call it so. Even if Buddha likes you and your prayers, he will not be able to transform silly investments into clever money-making schemes.

I am always amused when a soccer club dismisses a coach after one or more defeats for which his club blames him. His sacking is understandable because the members of the club demand consequences and want to see fast changes. They will not forgive management if it does not take immediate and decisive action. The members of the club find it plausible and convincing that management has taken strong action by dismissing the trainer. The firing of the trainer, however, might be the result of a fallacy called action

bias. Doing nothing, people seem to think, is wrong even if the trainer is one of the best in the world – whatever the competencies are that a trainer must have. But I admit that an endless series of losses of the soccer team does prima facie not shed a good light on the trainer. There are exceptions where you cannot blame the trainer for bad performance if the team is immune from training and improving. The Bhutan national soccer team, for example, has consistently been ranked as one of the worst national teams in the world even though they tried their luck by changing trainers every so often. According to 2019 Statistics, the Bhutan soccer team has won only six international games since its establishment with a total goal difference of minus 279. If Jürgen Klopp or Pep Guardiola was taking over the management and the training of the Bhutan soccer team, the Bhutan Football Federation would probably fire their coach if the consistent string of losses continued. They would continue blaming the trainer for not having turned around the usual bad performance of the club's soccer players. An exceptional chef might be able to marinate and cook a leather sole into edible meat but he definitely will not be able to do the same with a slab of rock.

In this context, I mention s Kinzang Lhamo, Bhutan's first ever Olympic marathon runner. In the 2024 Olympic games in Paris, she arrived at the finish line walking leisurely instead of running and finished 1.5 hours behind the winner who made it in 2.5 hours. I wonder if the Bhutan government celebrates Kinzang Lhamo arrival at the finish line because she had reached the arrival line or if they fire her coach.

People regularly credit the trainer of a team if the team wins. He keeps his job even though winning a soccer match depends on many circumstantial other causes. Charismatic trainers who sell themselves well, enforce the impression that they alone are the authors of the success.

Similarly, people often credit chief executive officers of companies with success as long as they show profits and the share values go up in the stock market. They celebrate CEOs as heroes if the business flourishes. In a typical act of cognitive bias, they sweep contributions of circumstantial factors deceptively under the carpet. The CEO does this in the attempt to keep the illusion alive that he is an infallible manager. If losses occur, the executive officer will not blame himself but will point at unfavorable market conditions and other circumstances not under his control. The management board and the shareholders believe his story if he sells himself well. "It will get worse before it gets better again", is a popular statement by which a manager shows a clever mixture of gloomy realism and – at the same time - confidence in the future under his guidance. He wins time because if losses continue in the next quarters, he tells the shareholders "This was my correct forecast. Do you notice how ingenious I am?" If the company after more periods of losses actually produces profits again, the manager will once more take the credit by saying "I told you that I can turn it around" even though improved market conditions are the only real causes for regained profitability.

As I think about it, I want to apply the principles, which create the rise and fall of trainers and of industry leaders, to prime ministers and presidents of countries. People consider them as wise and efficient if the country by coincidence runs smoothly. But leaders of countries run almost automatically out of favor if the country gets into problems without the fault of their leader. If a pandemic like the COVID-19 health crisis drags on, most people blame the leader of the country no matter whether anybody else could have shortened the length of the crisis. Scapegoats are cheap in the public market of opinions. If China wins the competition for world dominance it would be silly to blame Joe Biden or any other president of the USA. It would also be silly to credit Xi Jinping, the president of China. The reasons for such developments are not in the power of a single person and his free will. They are the makings of history. No president can bend the arc of history.

There is another type of self-deception or cognitive bias. If someone cherishes a firm opinion, he most likely will disregard and reject facts that speak against his opinion. Many parents – mothers in particular - fall into this category when hard facts risk to tarnish the overly high opinion that they have about their precious offspring. They disregard and think away bad facts as if they did not exist. Neuroscientists explain the sometimes-irresponsible bias of parents in favor of their children as an effect of hormones like oxytocin, serotonin and dopamine. These hormones create the well-known mother-infant attachment and other love-related feelings, which can blind the mind. Oxytocin is for this reason also called the love hormone. Animal mothers, which also have a very strong mother-infant attachment, can become very aggressive when they want to protect their offspring from perceived threats. A cow moose, for example, killed 70-year-old Dale Chorman in 2024 while the man tried to take photos of the animal and its two newborn calves near his home in southern Alaska. The moose, that previously might have seen guns in the hand of humans, must have mistaken the mobile phone for a dangerous weapon. Moose, like many animals, have strong cognitive skills and good memories.

As a lawyer I had regularly to wait in the courtroom until my cases were called. Instead of studying my files, I often listened to the proceedings while waiting. This allowed me to study the judge's characteristics, which are important to know for a lawyer. I also listened when cases of other parties sounded interesting. One day I witnessed a case, in which the ambulance service of my home town sued a boy of 18 years for 150 Deutschmarks that they claimed the young man owed them. The young defendant's helicopter father was sitting close to him and spoke on his son's behalf. Here is the story that the lawyer of the ambulance service presented: One late night of a Friday, the angel of son was lying motionless on a sidewalk. Passers-by tried to wake him up but he did not respond. Fearing serious health problems, they called an ambulance, which took him to the hospital where doctors detected no anomalies except heavy smell of alcohol. After a few hours of rest, the young man had recovered. The doctor released him to go home. In his son's defense, the helicopter father vehemently argued that the ambulance service had been excessively invasive because his son had not been drunk. "He never drinks", he claimed with angry voice in his delusional plaidoyer. He called the contrary contention an evil lie – fake news as we say today. The judge tried in vain to mediate but the father did not want to listen to reason. At the request of the lawyer for the ambulance service, the judge adjourned the hearing for a later date to hear witnesses about the level of the son's drunkenness. But I was sure that the stubborn father would not give up even if witnesses declared that the son was totally drunk. Researchers call this 'confirmation bias'. It is the attitude of a person who only believes information that conforms to his existing beliefs and rejects any other information. If I had been the father of this boy, I would have told my kid that the people from the ambulance service had honestly cared for him and had very good reasons to intervene. I would further have told my son to pay up immediately and to avoid in future the embarrassing situation to fall asleep in the middle of a public sidewalk.

The claim that an afterlife exists is a widely-spread application of 'mundus vult decipi' – people want to be deceived. It works in the very difficult situation when a person grieves about the loss of a parent, relative or friend. The illusion that the deceased friend or relative has actually not disappeared into nothingness brings comfort. It is a pleasant but fake belief that the deceased will continue being with us watching from heaven. Self-deception by believing in afterlife alleviates the natural fear of people to disappear from this world without anything but bones or ashes left behind. The illusion that death is not the end of it, is soothing. Let's therefore take afterlife as a reality. It exists because it should exist and must therefore exist.

I admit that it sounds comforting for a person on the death bed if relatives tell the dying "Good bye, see you soon in heaven". It would sound quite rough if someone next to the death bed was pointing out that

this is the definite end of the game and that nothing but dust will be left. As the bible realistically says: "*All came from the dust and all return to the dust*" (Ecclesiastes 3:20). I made the subject of afterlife the topic of another essay.

Similarly, a meeting in daily life often ends by someone saying 'see you later' even when there is no likelihood of another meeting. But 'see you later' sounds much better than the truth, which you undiplomatically would express by saying: "Good bye, this was our last meeting".

I observed another form of self-deception that a young criminal practiced with his mother who lived in a city far away. In daily and lengthy phone calls he painted for his mother and for himself a picture that showed him as an honest and hard-working man who received, as he told his gullible mother, praise from his superiors and enjoyed all other types of recognitions like regular salary increases and promotions. The son was very careful hiding his brush with the law. For example, when police had confiscated his mobile phone during an arrest, he told his mother that he had lost his phone. He did all this with the laudable intention not to disappoint his mother and not to worry her. But he enjoyed at the same time during their frequent telephone conversations that his mother was proud about her honest and hard-working son, which he was not because he had actually become a drug dealer. Spending time with his mother on the phone gave him regularly the nice illusion that he is an honest guy. It was a daily holiday from his own criminal life. 'If my mother, who ignores the truth, praises me', he autosuggested, 'I must be a good guy'.

Dreams and virtual Worlds

Long time ago I characterized the content of dreams as virtual reality because happenings in dreams are no reality. But then the IT industry monopolized the term Virtual Reality (VR) for the simulation of a real environment that their software produces in the minds of people. To keep the two unreal realities apart, we should call the reality that we experience in dreams rather a 'dream reality'.

The simulated environment, that we also call 'the Metaverse' comes from the outside into the mind of a person. Like a dream, It feels like real but is not physically real. It is reality that a computer invents and sends to the brain by artificially stimulating the senses with technology like headsets or head-mounted display (HMD) to make a person see, hear and feel artificial reality. Devices that are more complicated than headsets use haptic technology, which makes the user feel virtual objects as if they were real sensations by the five senses. Virtual reality games offer haptic devices that you wear around the hands. They give you the impression of real touch and feel. They then produce for our senses exactly the same feelings as if the user were touching a real object. Some sex toys also use haptic technology to make these toys produce the same feelings as an actual sexual experience.

Touch screens are simple applications of haptics. When you press the symbol of a button, the screen reacts with a sound or with a vibration that makes you feel as if you had pressed a mechanical button. You will find more sophisticated applications of haptics in arcade driving and flying games when the steering wheel or flight stick simulates with vibrations rough roads or choppy flights. Flight simulators present the most sophisticated version of haptics. They make the trainee pilot feel with a variety of virtual sensations as if he were steering an airplane in real flying conditions.

The content of a dream comes from inside the brain of a person. The brain produces dreams from information in its memory and not from information that comes from the outside world via eyes, ears or indirectly via headsets or other devices.

Virtual reality and the content of dreams are similar insofar as the both the dreamer and the observer of virtual reality perceive as reality what they see, hear and feel. But this reality is fake. It is simulated reality because what we see and hear and feel in a dream or in VR is not physically happening.

It is a gift from nature that during dreams a flag in the brain is set, which discards most details of dreams and does not store these details in memory. Otherwise, we would be confused because we would not know which details that we remember from dreams are real and which ones are only dreamt. Usually, no details but only the dream's genre as pleasant or frightening, remain in our mind and will unconsciously influence our mood and decisions during the day. We remember details only from very few dreams, especially from lucid dreams, which are semi-conscious dreams that we have while we are half-asleep. After such lucid dreams we might indeed be confused and might take what we dreamt as an actual event.

While the brain does usually not retain details of most dreams, the developers of VR can use mnemonic methods in their software that make the brain more easily retain details of the virtual events. We know these methods as 'memory palace' or 'mind palace'. It is a way to increase the memory's intake capacities by associating perceptions of the senses with existing memory content like songs, poems, rhymes, and acronyms. Technology like head-mounted display devices also stimulate the brain's capacity to remember the details of virtual reality. If educators use this technology to let the student immerse in the environment of the learning content, they can use virtual reality as a teaching and learning tool. This is more efficient than books or displays on digital whiteboards. I can imagine that a student will learn, for example, a foreign language easier when VR allows him to immerse in the virtual environment of a foreign country where the language is spoken. This will be much more efficient than learning from books.

Given the cognitive similarity between actual reality and virtual reality we might have difficulties telling one reality apart from the other. We might ask ourselves, in which of the two worlds we really live.

Some modern philosophers go as far as to speculate that the hard reality that we observe in daily life might actually be the simulation of a world that God or a divine entity create for us. The Greek philosopher Plato already invoked this idea in the 4th century BC with his Allegory of the Cave. He suggested that what we see is not the actual reality but only the shadow of it. What we see is projected like a shadow play on a wall in front of our eyes.

Conspiracy theorists reject a scientific approach. Some of them claim that what we see and hear in the world, in which we live, is actually a simulation that a secret and mighty global power elite produces. They claim that the events and happenings that we observe are in reality the tools that this secret elite uses to fool us commoners to achieve the elite's own aims and goals.

The American conspiracy theory of "the great replacement theory", for example, states that a secret political elite – particularly Jews - deliberately use immigration as a tool to reduce or even extinguish the white population and its powers in America.

Famous and equally infamous is a book with the title "Protocol of the Elders of Zion", which conspiracy theorists published in various versions and in many different languages. The Nazis alone have published 23 editions of the Protocol. The book describes secret meetings of Jewish leaders who conspire to dominate the world from behind the scenes. These meetings have in reality never taken place but reflect the fear or suspicion of many non-Jews that Jews systematically and secretly build up their dominance in the world. Some versions of the book blame Jewish conspirators to have staged the October Revolution in Russia. A Mexican edition of the Protocol advances the conspiracy theory that the Elders of Zion had orchestrated the holocaust in exchange for the founding of the State of Israel on Palestinian land. A Syrian edition claimed that the Elders of Zion have secretly organized or facilitated the 2001 terrorist attacks on the World Trade Center in New York. Joseph Goebbels, Nazi minister of propaganda, acknowledged that the "Protocol of the Elders of Zion" is a forgery but he added his belief that the book reflects an intrinsic truth, which probably made the book extremely popular and its content believable.

The question if a 'secret political elite' exists or does not exist is in the same logical category as the question whether or not God exists. If we ask someone to believe that God exists, how can we convince this person to reject the belief that the secret elite does not exist? The only difference is that an enormous number of people believe that God exists and have million times written about it. It became a reality even though there is no scientific verifiable evidence for its existence. Fewer people believe in the existence of a secret political elite. However, if over a few decades the number of people dramatically increases who believe in the existence of a secret elite, it might become reality as God is now a reality for the majority.

On the other hand, if everybody believes that something – like the secret elite - is fake, it is not automatically evidence that it does not exist. This is our dilemma: we know from hearsay many things that we cannot touch and see and of which we cannot verify their existence. If we believe an unbelievable story, you can classify it either as a religious dogma or as a superstition or as a conspiracy theory. If you think that science is a wrong approach you are free to believe the one or the other as you wish and feel.

The more general question is to what extent the things that we see and hear are actually true reflections of reality and to what extent they are not real. Simple examples are colors. The colors that we perceive are not the real colors of objects.

When we perceive an object as red, we are convinced that it is red. However, the object is actually not red. All objects reflect only the light after it has absorbed all other colors, which natural sunlight contains. When the daylight becomes weak or disappears all colorful objects becomes grey or black. This is the popular background of the saying that "all cats are gray at night" (in der Nacht sind alle Katzen grau). Scientists call this the 'Purkinje effect' in honor of the Bohemian physiologist Jan Evangelista Purkyně who described this phenomenon more than two centuries ago probably for the first time.

The human eye can see only a limited range of colors. We need infrared cameras and other artificial eyes to see objects and their colors that our human eyes cannot see. Some animals can see colors of different wavelengths.

Humans can only notice colors with a wavelength of between 620 and 750 nm (nanometers) and a frequency of between 400 and 484 THz (terahertz). The objectively verifiable numbers of nm and THz do not mean that every person perceives the colors in the same shades. Every person will perceive a red object in an entirely different shade. Colors are different realities for most people.

The eye with its photoreceptor cells does obviously not measure the wavelength and frequency in terms of nanometers and terahertz. We have in the eye's retina two types of cells called cones and rods. Cone cells have the ability to see colors in well-lit spaces, while rod cells specialize in perceiving colors in dim light but with less color. These cells receive the sensation of color and forward the information simultaneously to the brain for processing. Our brain assesses and evaluates the visual sensation in its own way. We can compare this process in the brain with the color settings of computers and cameras when they work with colors of pictures. They don't show the actual colors. Computers use the parameters of the color setup to show colors on the screen, which has its own color setup. Similarly, a person's eyes and the brain process the colors in different ways depending on biological neurodiversity and the person's associations with emotions. The eye's lens also influences the shades of colors that we perceive. After I had received new lenses in a cataract surgery some colors changed. What I used to perceive as beige looked now pink, some black objects now looked bluish and slightly greenish colors now appeared in bright white color. This practical experience confirms that not the objects have colors but that we produce these colors with our eyes and senses.

There are two different ways in which we can do research of colors. One is to look how light physically behaves mathematically in terms of nanometers (nm) and terahertz (THz) and how light breaks down into different colors visibly or invisibly to our eyes. The other method is to research how humans or animals perceive the colors, what their feelings are when they see colors and how certain colors can influence a person's mood. Every person perceives the same color in different shades and feelings while wavelength and frequency of one color is fixed. The German poet, artist, and politician Johann Wolfgang von Goethe chose the second method. He became famous in the early 19th century by publishing his Theory of Colors (Farbenlehre). Goethe taught that the black color is an active color and not just the absence of light. Colors, he said, are all '*a degree of darkness*'. He harvested with such statements strong opposition from the scientific community but he received praise for his description of the psychology of colors and their effect on emotions. The red color, he said for example, '*conveys an impression of gravity and dignity, and at the same time of grace and attractiveness*'. This is nice poetry but not backed by scientific experiments, which will have difficulties measuring for a visual impression the levels of gravity and dignity.

We call an object 'red' because the light coming from it has a specific wavelength and frequency in terms of nanometers (nm) and terahertz (THz). But our senses and the brain are not light meters, that we also call lux meters. We perceive colors with the shades that our eyes and brain show us and which are probably different from person to person. We know that we should call a certain shade 'red' not because we know the values of nanometers and terahertz but because people tell us that we should call 'red' what we perceive. This is one of the reasons why people have each their favorite colors. Obviously, a person's memory will associate a color – or a smell – with a pleasant or unpleasant past event, in which the color or smell dominated.

The ocean and the sky appear in many situations in blue color but can also turn to various different colors. Air and water are colorless but we perceive the sky and the ocean in colors that are not the colors of water and air. The colors that we perceive depend on how the water and air brake down and absorb the sunlight in different situations. Objects don't possess colors. Objects just reflect and absorb the sunlight in different ways. Colors are the fata morgana or optical illusion that the eyes' photoreceptor cells delude us into seeing and perceiving.

In this context it is interesting to note that Chinese call a suntanned skin 'black skin' (shài hēi -晒黑). What we call black tea is for them red tea (红茶 - hóng chá) and they call brown sugar 'black sugar' (hēi tang-黑糖). This underscores the unpredictability and volatility of colors, of language and of our perception of reality.

Let's get back to dreams. Experiences and feelings during a dream have an impact on the life and mood of the dreamer once the dream ends. The person usually does not realize consciously these impacts but dreams influence his behavior and his decisions. I never wake up in the morning with neutral feelings. I always have either positive or negative moods that influence my behavior. This composure is the result of nice or bad dreams even if I do not remember their details. Dreams strongly influence the morning mood even if we don't remember having made a dream.

Dreams develop without conscious input. Even if I tell myself before I fall asleep that I want to have a nice dream about a specific type of story, my brain goes its own way. Some dream experts claim that you can manipulate the content of dreams but I have not made this experience one single time. I naturally have very often wished before I fell asleep to have a nice dream about a specific person or situation. It has never worked. My so-called free will was never able to influence the content of a dream. We cannot select specific types of dreams from a menu, which would be a nice feature. The only exception occurs when I wake up in the middle of a pleasant dream if I remember it. When I then come back from the

bathroom to continue sleeping and tell myself that the dream should continue, sometimes my dream continues.

The saying goes that you got up on the wrong side of the bed if your negative feelings in the morning make you behave impolitely or if you are grouchy. Dreams have a huge impact on people's behavior. A nice dream makes you see the world with rose-colored glasses. A nasty dream will make you look at your environment as a scared pessimist or misanthrope.

I made it a point to observe the phenomenon on myself and believe now that dreams probably influenced some decisions that I made in the morning or even later in the day. I remember when I had to answer an email, in which I rejected with friendly words a proposal that a team member had made in a project. As I usually do with important emails, I make a draft and re-read it next morning to make sure that the content makes sense and is acceptable. One day I woke up and was in a bad mood. This prompted me to sharpen the tone of my email beyond what I had written the evening before. I then pressed the 'Send' button without further input by my free will and felt better. My mood had improved – at the expense of the email's recipient.

Let's consider a judge, who has to decide during a morning session of the court about penalties. It is quite likely that he will be less lenient under the influence of a bad dream than he would be after an enjoyable dream or after a dreamless night. Daniel Kahneman has reported about experiments that have shown that test persons that he had reminded of their mortality favored authoritarian ideas more than test persons that he had not reminded. It also seems that awareness of mortality influences decision of judges. A test has shown that judges who were reminded of their own mortality prior to their decisions, set the bond for an alleged prostitute to an amount that was almost 10 times higher than the amount that other judges fixed who were not reminded. Obviously, a dream that deals with issues of mortality will have the same effect as a verbal reminder prior to a judge's decision.

I have intense lucid dreams almost regularly every night and even when I sleep during daytime naps. I often see faces of people clearly and their names come up even though I had not met them for many years and had been unable during the day to remember their names. My dreams are sometimes so realistic that I believe afterwards that they were actual happenings. In one dream I lost my mobile phone in a situation where it was vital to have it available. Nowadays, you actually need a mobile phone more than your ID card or your wallet. When I woke up, I panicked under the clear impression that I had actually lost my mobile phone. I then found my phone in the living room. I was relieved that I had found it again while I still had the firm impression that I had actually lost and found it.

Dreams deliver often crystal-clear pictures and sounds as if the brain had produced them with high fidelity technology. One night some time ago, Prime Minister Justin Trudeau appeared in my dream addressing me in his typical way of talking and moving his lips and eyes when he speaks. He always moves his eyes as if he were retrieving the words of his speech from the air. Trudeau told me that I was an expert of the human right of free expression. He invited me as a guest speaker to join him in a town hall meeting in a city that the dream did not identify. While I was walking to the townhall, I woke up with the happy feeling that a famous man had recognized me as a specialist in the human right of free expression. If God or Jesus had appeared in my dream, I might have gone to the town hall to advocate the establishment of a new church. But Trudeau's appearance in my dream did not inspire me for any action. I did not even join his liberal party.

Joseph Smith established the Mormon Church after God and Jesus had visited him in a dream while he was in his bedroom. Similarly, Jesus visited Mr. Sun Myung Moon on Easter Sunday of 1936 in a dream,

which prompted Mr. Moon to establish the Unification Church in South Korea. This shows how strong the effects of dreams can be. Dreamers like Mr. Smith and Mr. Moon perceived these scenes in their dreams as if they were hard rock reality and they then acted upon the virtual reality in their dreams. They mixed and combined virtual and actual reality.

Many people report in the internet that they had met Jesus or God or both together in their dreams. This is in line with the God's announcement that he "*will pour out my Spirit on all people*" (Joel 2:28). The promised outpour of God's spirit comes in form of dreams for old men and comes in the form of visions for younger men. Coincidentally, I see a contradiction when theologians say on one hand that God has not a body but **is** a spirit and when the quote above says that God '*pours out my Spirit',* which implies that God **has** a spirit that he can pour out on all people. But logic and accuracy are not the strength of religious thinkers.

Sigmund Freud, the famous psychoanalyst, analyzed dreams and interpreted the contents of dreams as expressions of the unconscious mind. God was in Freud's opinion not involved in dreams except as illusion for people in need of a father figure. Theologians and church ministers think obviously differently. In their opinion, not the brain produces dreams but God speaks to people with dreams and visions by which he wants to reveal the dreamers' purpose of life. They interpret, for example, a dream, in which both God and Jesus appear, as evidence that you are in a catch-22 situation in your life. They interpret a dream, to give another example, in which Mary appears as evidence that you are missing the relationship with your mother. They give detailed advice how to understand messages that God tells you in the dreams. But these religious interpreters of dreams don't tell you what you should make out of thousands of other dreams in which God, Jesus or the Holy Mary don't appear and don't speak to you in dreams. This was Sigmund Freud's specialty.

People who dream about afterlife, heaven or hell, might believe that they actually had experienced for a short moment the reality of afterlife. If a person is knocked unconscious or is injured with the result that many biological functions of the body are deactivated, the brain will be the last organ to follow suit. The brain even remains active during a coma and can produce dreams and pictures in such a sorrow state of your body. Scientists have even measured brain activities for 10 minutes after a person's heart had stopped beating and was declared dead. As long as the brain is not dead, it can produce dreams about many fancy things – including dreams about the Beyond. So-called scientists of Near Dead Experiences (NDEs) collect information about dreams of persons who were nearly dead and dreamt about something that they afterwards interpreted as visits to the afterlife. But firstly, these biased specialists collect dreams only from persons who volunteer to come forward with their claims to have visited the Beyond. They do not collect dreams systematically from all others who had dreams during NDE's and did not bother reporting their dreams to the NDE specialists.

The NDE experts secondly assume that in the process of dying there is a moment when the person is half on earth and half in the Beyond. During this moment, they claim, the still active brain can pick up true and real pictures of both worlds. In my view, this is nonsense because the active brain can use only inputs that come either from the senses or from its memory. Since the senses like eyes and ears of the half-dead person do not work any more, there is no possibility that the brain can absorb new observations from the senses. The only source of inputs for the dreams is for the near-dead person the existing memory of the brain which will dig out ideas and pictures in all kinds of formats. When the person comes out of the coma and remembers the pictures of the dream hopefully correctly, he might interpret them as the Beyond. Afterlife must be in a prominent position in the mind if this person selects such an interpretation. If he had never made afterlife an issue in his thoughts it is unlikely that he interprets the dream as a vision of

the Beyond. When a person is near-dead, the normal supply to the brain of substances from organs has slowed down and this has in all likelihood an impact on the performance of the brain, which might produce in the dream unusual colors, lights, flashes and feelings. A person who is convinced in the existence of afterlife, will interpret these unusual lights and flashes as evidence of a preview of the afterlife while another person might interpret them as the brain's pleasant or frightening fireworks, which they actually are.

To complete the nonsense, some NDE experts explain unusual dreams by claiming that the near-dead person had made an out-of-body trip to an unnamed destination where the near-dead person has remarkable encounters. They fail to explain in which way the brain of the near dead person can receive information and pictures from these out-of-body encounters without active senses like eyes and ears.

The NDE-experts interpret these dreams as temporary visits of the Beyond but they fail to compare the contents of the dreams and have therefore not made an attempt to establish if the features that people have seen in their respective dreams are consistent and describe the Beyond in similar ways. After all, if different people visit one and the same Beyond their description of what they saw should be similar, unless everybody has his own personal Beyond that looks different for every individual.

Reading the stories of NDE dream collectors makes me feel as if I, too, was making an out-of-bound experience by travelling through an irrational internet, in which everybody can voice opinions no matter their merits. Social networks actually create for some people an alternate reality that they like more than the real world.

When I was a child, I suffered several times from inflammation of the tonsils. My father had received from the family doctor the advice that this was chronic tonsillitis and that the best way to cure the problem was to remove both tonsils in an easy surgery that they call tonsillectomy. The doctor explained that tonsils are redundant remnants from previous stages of human evolution. This explanation was in line with opinions that were popular many decades ago. Doctors today seem to have a different opinion when they assert that tonsils help fighting infections and diseases by trapping pathogens from the food and the air that we take in.

Anyway, in the hospital I received a probably full narcosis, while the surgeon cut off the two tonsils in the back of the throat. During the surgery I had a very vivid dream. I was standing in the bow of an old and dirty cargo ship next to the boat's windlass, which slowly hoisted a big anchor. I did not like the rust and dirt on board of the ship and particularly disliked the old rusty winch. I was enormously frightened by the very loud hammering noise that the machine made when it cranked up on the teeth of the windlass the huge anchor chain link after link. The hammering noise was painfully loud. I wanted to run away from the terrible sound but I felt like paralyzed and could not move. When I woke up, I could not remember having seen consciously any windlass prior to the surgery. If I had been as wise as I am now and if I had been able to use the internet, I might have posted my dream as a near-dead experience with the discovery that the operators of the Beyond don't use bright colors, lights and flashes but very noisy windlasses as methods of acoustic terror and torture.

Dreams during extreme situations in life can change your mind without your conscious input. I have met some people who after a sudden and serious illness told me that their attitude towards life had changed. Facing near death must be an experience that re-configures the brain. Knowing theoretically that you are mortal is different from a situation, in which you look with your own eyes in the face of Grim Reaper. As a result of this sudden shock, some people decide to live their lives more consciously or they might suddenly change from being atheists to becoming strong believers in a God.

This change of mind is not a free decision, but the result of a re-configuration of the brain. As some neuro-scientists have established the brain activates a group of specific genes, called vesicular monoamine transporter 2 (VMAT2), which is commonly called the 'God Gene'. If other genes weaken, the God gene can come to the foreground and can make people predisposed for mystic or religious beliefs. Old age might generally make VMAT2 more dominant, which would explain that some atheists, when they become old, start believing in God.

I often go to bed without a full dinner because I fear that the digestive system might become too busy to let me soundly sleep. Probably as a result of this habit, I dream quite often about delicious food. It is not abstract food. I feel like actually chewing cakes and I sense very distinct tastes like chocolate or caramel in my mouth. The pleasure that I feel is delightfully real. Similarly, the brain might produce realistic dreams about sexual activities if a person has sexual appetite. I remember few of these dreams that were amazingly realistic and fulfilling.

I often also hear music – mostly catchy tunes - in my dreams that I had not heard for a long time and that I had forgotten. In other dreams I am often in the stressful situation that I am extremely short of time to reach a railway station or an airport while I am hastily trying to put stuff into a suitcase, which is too small for my belongings. Or I panic when I have difficulties finding out where exactly the railway station or the airport are and how I can get there on time in an entirely unfamiliar environment. Such dreadful dreams can make me nervous for the rest of the day because I continue fearing that I miss something if I do not speed up.

In situations when I am alone in the nature, unreal thoughts come suddenly up in my mind like day dreams. Standing alone on a deserted beach and looking out at the wide ocean makes me sometimes imagine that nature might suddenly show its might with a huge tsunami. I might also imagine that the ocean suddenly retreats leaving behind a muddy or even dry landscape in a deep valley. I also sometimes visualize that a beautiful lady emerges from the ocean, walks towards me and promises a life in paradise. And then there is the moon, the earth's biggest satellite. Man-made satellites regularly leave their orbit and fall back on the earth if they do not entirely burn during their travel through our atmosphere. Satellites become more numerous and bigger. The International Space Station (ISS), has the size of a football field and weighs more than 450 tons. Organizing a controlled re-entry, which they call deorbiting, becomes a gigantic task that is necessary to avoid the nightmare that junks cause damage and death when they slam onto the earth.

I then try to imagine what will happen if the moon does what man-made satellites do and decides to come down and splash into our earth. After all, the moon was born some 4.6 billion years ago from a splash of magma when the planet Theia collided with our earth. The moon, the lost sheep, might want to come back. It is anyway miraculous that the cosmos is full of enormous energy that keeps all stars moving and prevents them from collapsing one into the other. This might happen when cosmic energy – black energy for example - weakens. Matter might stop orbiting and might plummet into a black hole that has overwhelming gravity. A very tiny reduction or increase of the cosmic energy could wreck havoc as it might happen any time but – as we hope – not during our lives.

My mind sometimes shows me other dreadful scenarios during a day dream while contemplating nature. I imagine that the earth might stop spinning around itself. There is currently no danger since the world is spinning faster by 0.5 seconds than the 23 hours, 56 minutes and 4 seconds that it needs to do one complete turn. The earth spins at 1,699 km/h at the equator without thankfully making us dizzy. We don't even notice this fast movement. We also don't notice that the earth travels at 107,986 km/h around the sun. This is roughly 24 times faster than a bullet when it leaves a Remington 223 rifle at speeds of up

4,390 km/h. But this reality thankfully does not touch us. We don't see and feel that we travel at extremely high speed around the sun.

In the event that our earth spins more slowly or stops turning, I only hope that my country will be on the sunny side of the globe and that the oceans remain where they are and do not completely inundate the earth's sunny side. But it might also be that the earth, which needs to spin, stops spinning and might plummet into the cold cosmos away from the sun, which we badly need.

I also sometimes consider that the gas and aerosol envelope of the atmosphere could suddenly disappear. Life will become impossible if the air and atmosphere escape the gravitational attraction of our planet and fly slowly away into space.

All these day dreams, ideas and pictures develop without my conscious will. It is as if my brain was on its own initiative changing the perception of the environment in front of me. And obviously, these uncontrollably appearing gloomy day dreams influence my mood for the rest of the day.

The questions why we dream and where the contents of dreams come from have been the subject of thoughts and treatises for many centuries without conclusive results. As always when human beings cannot answer an unanswerable question they speculate and abundantly write about it.

Sigmund Freud in the 19th century became famous for his psychoanalytical approach to analyze the origin of dreams and to interpret their contents. Psychoanalysis later became extremely popular in the USA. They entertained their contemporaries with their analysis that some people live in different worlds. Hitchcock's famous movie 'Psycho' is an example of how much a psychoanalytical hype had penetrated the life and the movie industry in America. This hype is history now.

Scientists in the 20th century made an attempt to explain the origins of dreams as random electrical impulses from the brain stem. This, they say, is evidenced by EEGs that they performed on humans and on animals. Critics of this hypothesis correctly point out that the existence of electrical impulses during the sleep might be evidence that there is brain activity but the impulses do not explain what the origins of the impulses are and what their content is. Electric impulses in the brain could be the result of exciting things that the sleeping person experiences but we do not know any details until the dreamer – if he remembers – tells us what his dreams have been about. But the dreams might not be related to the electric impulses that scientists have observed. We will get some clarity only if someone develops in the distant future a computer that can translate the electric impulses into text and pictures.

The brain probably produces dreams randomly using free associations, which casually re-activate bits and pieces from the depth of our memory. This includes memory of fears, desires and temptations that we currently have or had in the past. In an associative process, the brain tosses aimlessly these bits and pieces of memories and feelings around like balls in a lottery wheel. This often results in weird stories that we experience in dreams.

Our brain does not stop bringing up wild and random associations during dreams. The brain will do this also during the day when information comes in from the senses while we don't sleep. During the day, the brain continues routinely to combine bits and pieces of actual information coming from the senses with bits and pieces that the brain digs out from its memory by associations. This is why people perceive the reality in front of them differently depending on the associations that the brain digs out from its memory. In this way, the brain produces for everybody individualized pictures and interpretations of reality.

Roald Dahl, the British novelist of Norwegian descent was gifted with wonderful imagination. He wrote short stories. In one of his stories, Adolf Knipe, a young technology freak, builds a machine that he calls

Grammatizator. The machine automatically produces and prints short stories and even longer novels using two sections of a huge memory like the memory of the brain. One section is the 'word memory' containing all words of the English language. A person's vocabulary is also part of the brain. The other is the 'plot memory' which stores templates for various different types of stories as they are typical for Reader's Digest of for women's or men's magazines. The user of the Grammatizator is able to select with different buttons and dials the theme of the story like historical, humorous, wild-west, country life etc. He then presses the 'Go' button and the machine produces automatically a story in plain and neat English. The brain produces dreams in the same automatic way except that the dreaming person does not select the genre of the dream and does not press the 'Go' button. It is the brain that does all this according to a person's pre-configuration and daily composure.

When the brain creates dreams, it works probably like Adolf Knipe's Grammatizator. Inspired by the levels of various hormones that are active during the night, the brain more or less randomly selects. the general character of the dream, for example fear, revenge or happiness. The brain then uses randomly information stored deep in its memory to compose by way of associative processes the dream's content.

Psychedelic drugs like LSD, psilocybin or ketamine can trigger powerful visionary experiences and mystical experiences as if they were artificially generated dreams or virtual reality. Some of such drugs produce states of mystical experience, encounters with spiritual entities or the loss of oneself as it must feel in Buddhist Nirvana. Some experiments apparently have shown that therapists can produce specific contents of psychedelic experiences for their patients by judiciously administering a special cocktail of drugs in specific contexts and environments. Reportedly one experiment had the result that the test person's connection to nature was greatly improved - whatever 'connection' means in this context. Experiments also seem to indicate that alcoholics acquired a different attitude towards alcohol after a particular psychedelic experience that a special potpourri of drugs had induced. The experiments finally seem to have shown that therapeutic benefits increase with the intensity of the mystical experience. All this will never be possible with a free will – if it exists – and casts doubts about what the reality is that we experience.

We know that psychedelic drugs produce certain results in the brain. Substances in regular food that we consume like potatoes, green pepper pork etc. contain drugs insofar as they influence the workings of our brains and bodies. We are probably the product of these foods. We would certainly look and think differently if the food that we customarily eat, contained different mind-changing substances like hints of LSD. Biohackers try to change (to 'hack') the body's biology with systematic interventions like fasting in intervals, manipulating sleep, exercising in special ways and changing the intake of certain food. Biohackers experiment with all these methods to find out what makes them feel better and how they can change the perception of their lives. They will, for example, stop the intake of sugar for a certain period of time just to see how their bodies respond for the better or the worse. They correctly assume that you are what you eat.

Intensive exposure to a religion and its mystical stories about God, about the creation of the world and the features of afterlife, might have an effect that is similar to a drug-induced dream. Educators who use religious instruction like a therapy confront a young child on one hand with the threat of ending up in a lake of fire in hell and to attract Gods damning ire. They present on the other hand the child with the wonders and pleasures of paradise. Such a therapy results in the formation of a true Christian person. But the effect of such a transformation does not seem to be permanent. His church will still request that he regularly attend church service to renew or strengthen his faith and to fill the box for cash offerings. Drugs also have an expiry date and must be re-administered to keep you on the intended track.