Daughter is 20 and Father 50

Jana, do you remember when, ten years ago, we outlined what a 'factual dialogue' is? Yes, Dad, sure. And it made sense. Every time, when I deal with something of importance to me, I am telling myself: 'Keep focus on the topic, be factual. I like to laugh, love making jokes, but I don't like idle dawdle. When someone puts me in these kinds of situations, I leave and rather do my reading instead. I see that you are still yourself, that you also got something from me. How you like your college major? Actually, a lot, Jana says without any hesitation. I made a good choice. When we together found 'System Engineering' at the Institute of Technology, the decision has been made. While I like history, love living in the present and from time to time think what the future might hold… the filter and the prism I tend to use when looking at things around me, at the past, presence, and future are (classical) philosophy, math, and the logic. This way I am telling that only to you because such view of life still too many people do not share and at times see such frank view as something rather eccentric. I often really wonder how some people, at times even my peers, don't understand such straightforward approach. It is a great deficiency which makes education of young people more difficult. Even adults seem not to see changes in life in a broader context. Jana, I appreciate your honesty. Please, start.

Human Behavior

I like it in the college and I have just one year left before graduation. I got what the two words, 'System' and 'Engineering' mean and what synergy they represent in 'System Engineering'. There are so many systems around us and each of them are part of some system (political, natural, and technical) and they belong to some system (knowingly or unknowingly). All this is influenced by education or simply by influence of an environment in which one grew up or in which one finds himself right now. Every one among us is one among the current seven billions of human beings and everyone has his individual behavior. The challenge is how to navigate and orient oneself in the labyrinth of human behavior.

Who We Are

I like simplicity and clarity. I accepted your view of general characteristics of people linked to skills that those people are either blessed with or absorbed by, the way as the life goes: Someone is Homo Politicus (HP), someone Homo Humanus (HH) and someone is Homo Technicus (HT). Why not? This is something generally clear and it doesn't insult anyone across the cultural spectrum of entire humankind and it is a good foundation for additional structured dialogues. The different situation is with human character on the spectrum of good and evil. That can be very tricky and no kind of labeling seems to work.

Homo Sapiens

Dad, listen to this thought: Anthropologists observe and evaluate phases of human development over millions of years. Million years ago our predecessors was Homo Habilis, then Homo Erectus, and about 100,000 years ago came Homo Sapiens. We are Homo Sapiens Sapiens. After 2050, there will be over 10 billion individual Homo Sapiens Sapiens. When we accept what the term 'Sapiens' means, i.e. "wise man" then all of us might say: Wow! So many wise people and since we are Sapiens Sapiens it might mean "wise to the second power." How will people and the whole nature deal with that?

Homo Diabolis

Jana, this is an interesting thought. Please, continue. From your point of view your model of HP, HH, HT has its continuation. Referring to work of anthropologists, sociologists and even psychologists it would be logical to seek the opposite to Homo Sapiens. Excuse me, I will talk for you: There is only one God, you said and He knows that the heaven and the hell are the limits for every individual and that each individual faces temptations to look behind the edge of this limitation, learn from it and open his eyes. And that's how the opposite to Homo Sapiens came to being: Homo Diabolus (HD). These opposites are outlining human behavior over the time passing by.

The Weight of Time

Yes, I said that if anthropologists work in timeframe of millions of years, the polarity of HS and HD is topical over the time span of at least three generations (about 100 years). The advantage of the model with HP, HH, HT, HS and HD can be written as a matrix and relations among them can be seen as a system. Links among them can be organized in the way that they are easily understood and open to discussion. The objective is to open a discussion about limits. Limits apply not only in technology or politics but even nature knows them. Then those limits that humans don't know or might never be aware off are something God knows about.

Matrix of Human Behavior

Limits in human knowledge are something people should know or at least try to learn about. When a person falls ill and a physician treats him, she does it using the knowledge of her era. With human behavior in a society the situation is similar. When a society is sick, it is necessary to treat it. I like the comparison of human illness with viruses. We can then see psychopaths in society as types of viruses and more accurately measure the coefficents of intelligence and emotions. It is a way to better understanding of the meaning of artificial intelligence for the further development of man.

Brain and Computers

I like that idea. It is in agreement what they teach in our university. I just have an addition to that: As humans started to walk upright, the volume of their skull and thus the capacity of their brain grew. We can say that size of their 'computing unit' expanded. Today, in globalized world, we notice a paradox as output of these 'computing units' is dropping faster when more people have the opportunity to participate in mutual communication. The cause is that the communication network is not developing. The result is that now almost perfect 'computing units' have a problem with communication and they are unable to assure understanding between themselves.

ICT and Humans

Dad, please, I will continue. I think that thoughts about the matrix of human behavior will help to figure out why communication abilities of people in globalized world are dropping despite the fact that 'computing units' are getting an extraordinary technical support. The risk that human communication network will collapse before it manages to develop into the required, stable environment is growing. Current decentralization (individualism) of 'computing units' is counter-productive. Despite that a desire for understanding among people is as old as are (documented) attempts in text communication. Things change; it's not a return to centralization. There are distributed systems in the game, a solution where "computer units" will be interconnected (all network participants as separate entities). An example is a discrete, decentralized data block "blockchain" protected against unauthorized interference.

Internet

Fortunately, now we have Internet and text communication has no restrictions. So many possibilities and alternatives of access exist that a weight of an individual is losing on importance and communication is giving to the prevailing opinion streams. The one who has better communication technology also determines the main direction of communication. New phenomena, the IoT (Internet of Things), have a great future. But it was a different story before Internet. Again, I point out the basic elements of life and to that related text communication. Daddy ICT is developing very fast. I don't know how a technology like blockchain can affects the whole human society. IoT vision is fascinating. Jana, thank you for an entry into the ICT world. Nonetheless, allow me to return one more into past.

Pay Attention to Roots

The content of a text can have a different origin or "roots". I will mention some examples, again from ancient China (4,000 years ago) and Europe (just 2,000 years ago). Origins of Chinese communication come mostly from a coincidence (events running in time parallel). The phenomena under scrutiny is perceived as a snapshot of a moment, right now and right here, describing the phenomena in detail but not explaining it. In Europe honored causality (knowing all what caused the phenomena) is left without any attention.

Impacts

The phenomena described thus in Chinese thinking looks more like an interplay of chances not as an explained chain of causalities. European roots are in careful sorting out, classifications, and judgments, about causes of the phenomena. Different roots of communication have their impacts on communication of our contemporaries. Thus the question is if people of different cultures can understand each other. We can see many different views on phenomena around us and many different roots of communication among us. If the populists take advantage of virtual views on the same thinks and diversity of communication roots we will return back to what has been known as "Confusion of Tongues".

E-Communication

Jana, how does your generation perceive the Internet? That's a difficult question as speaking for a whole generation makes little sense. Then it is not just text but also multi-media communication. Internet now provides sending of news, files, pictures, images, videos, discussion portals and telephone calls, videoconferences, etc. Trends in development point to fast transfer and to global communication environment. The goal of the Internet is to be as close as possible to a "private dialogue, eyes to eyes". In "instant connection" technologies one can find almost everything what one might expect from text communication technologies (for example, via Clouds or Fog Computing)

Artificial Intelligence

Fortunately, artificial intelligence is entering the world. It is independent of humans and his emotions. I think that there is not the danger that artificial intelligence will lead to people being controlled by machines, that machine will enslave us. I rather think that artificial intelligence given to machines will became an arbiter and eventually even a judge of human malevolence, perfidy, and deceit. Why I

think that? Mathematics and artificial intelligence belong together. I can recall words of my professor: "Mathematics teaches people to think and to ask if something is true but also why it is true." It is up to every one of us how we connect our "computing unit" into intellectualization of values of us, humans on the Earth.

Intellectualization

Jana, you say 'intellectualization of human values.' What you mean by that? Well, first I will try to explain intellectualization and then its application. To me, intellectualization is a kind of therapy of a "computing unit" trough receptors. It above all strengthening the mind and doesn't prevent emotions and instinct. In this case a receptor is not a mechanical or biological component, it is a long-term influence of communication (negotiations, benchmarking) and cooperation (seeking of consensus about shared opportunities, advantages, and responsibilities). With help from artificial intelligence people have a better chance to understand their behavior and value of a God to themselves.

Sad Outcomes

Dad, excuse me: Did I talked for too long? Not really, I said. It's true that the role of information technologies shouldn't be overestimated. I remember the time when the public sector dealt with problems of revenues and expenses from state budget. The management (politicians) had big problems with the budget so they invited IT specialists. No one among them really understood processes that "were ill." From public resources they bought computers, expanded capacity of data storage and modernized data transfer networks. Only subsequently they found out that usefulness, efficiency and economy of operation of state budget didn't improve and uncertainty about future actually increased.

Engineering

That's a good example of engineering missing. I am glad that I can again mention our university. Engineering is a broadly discussed and pretty much live topic. Engineering is not found just in machine industry or housing construction. It is in educational systems, in technology (production of food, delivery of water and electric power). Engineering and its logical processes give people jobs, long-term sustainability. Engineers implement results of work of science and technology; they bring up new technologies and build foundations of artificial intelligence.

Professionalism

For example, social and economic development (SED) and disaster risk reduction (DRR) are not only about financing, the role of banks and politicians, about "pouring money" into SED and DRR projects. They are, above all, about engineering, about quality projects. Dad, just asking: Would you know one can tell a good project? I would rather give up, I said. It is simple, she said: When is the project finished on time, within the original budget and during the entire construction – all the way to turning it over – engineers didn't need lawyers. Jana, you for sure read that somewhere, you didn't come up with that on your own. You know, I did. It is about evaluation of one large transportation project in Northern Europe.

Engineer

Jana, you again outdid yourself. It's nice that you are not saying what the university is like but what it taught you. I appreciate that. It reminds me of an example that I heard off when I was at a university some 30 years ago. A story from the times when the principle of personal effort was completely honored. It is a story of a coal baron and an engineer. A coal baron bought a land and coal under it. He invited an engineer to the property and said: In three months I want to know the price of the coal mined here and if it will be competitive. He shook engineer's hand and left. Engineer knew that he got a fantastic assignment that he can't refuse. He understood what the coal baron wants.

Circumstances

He was lucky. He attended a good university which prepared him well. He knew that he will need to integrate many disciplines and skills (at that time without computers, mobile phones, or internet). He knew what he knows and where to ask and whom to get involved in the project. In the end, he succeeded and the coal baron paid for his work well. The old timer who remembered the situation was telling us about it intentionally. He was aware of deterioration in integrity of engineering work, in schools, at companies and in preparation and implementation of projects. That environment put us – at that time young engineers – in a position of half-baked experts, people who don't even know about system engineering.

Governance

Dad, you can find plenty of strange examples in other professions, for example, in governance. In public sector it is these days common that a politician, thanks to mastered assertiveness becomes popular and after elections he became – immediately and without any training – a ruler (a prime minister or a president). It is a problem in many countries and it is dealt with in different ways. With general education, expert support, tough competition. Those who rule over large capital in the world are not in any better situation. Concentration of their wealth grows faster than the adaptation ability of their team – which manages their property - required by new circumstances. Time proven governance by owners and managers of their property is failing.

Owner and Custodian

What you mean by that? Jana caught up her breath and asked me to continue myself. OK, I said. Today we should be saying owners and custodians in public and private sectors and ask what they have in common and how they differ. If they want to succeed they must understand the nature of processes that they manage. And if they don't have these skills or talents they are unstable and that is good news for their competitors. Owners (of political mandate or company's property) must have their custodians (bureaucrats or managers) on their side, otherwise custodians turn into competitors (either active or potential). That's what they have in common. And in what they differ? For sure in variety of objectives, although – financially speaking – both sides have just two kinds of duties.

Control and Mission

Jana, now I wonder what you will tell me. OK, said Jana. The first duty is to check on financial flows passing through the 'piggy bank'. Do you remember my role of a 'banker' when I was ten? The second duty is not to cheat and steal money but invest them money purposefully and efficiently. This is a precondition necessary for success of any owner and her custodians. None of them can follow his personal gains in having free access to financial flows while he is in managerial or custodian role. Those who direct these financial flows to their personal illegal benefits will be uncovered and prosecuted and judged. With support of artificial intelligence this can be done faster than today. Simply, "smart contract" technologies don't allow it.

Decentralization

That's true, I agreed. Artificial intelligence will neither enslave people nor will it take jobs from them. On a contrary, it will allow them to be able to take a deeper look what priorities and hierarchy of things around them are. Rules of the world must first absorbed the role of decentralization in increasing globalization and only then set up flexible (by reason managed) regulation and opening of a space for 'artificial intelligence'. This is a task for the science and power centers. This is a challenge for leaders themselves to acquire the skills that make it easier to them to use and sustain thus activated tools under control during never ending turbulent changes in human society.

Reason

Dad, you do not care if in the decentralization process it is the personality of the ruler in the public sector (state, province, office) or the personality of the owner of a private company. If you thought so, please explain it. Well, for example like this: defending human rights or defending the company's profit without a sense is not possible in a long-term. The one who does not use reason himself gives

a chance to the competition to be defeated. Jana, what do you mean using reason? As you know, it uses both HS and HD (the result of reason can be both good and evil). Dad, you're testing me, right? I have already told you what kind of filter I use for such situations.

Screening Filters for Life

Philosophy guides me to the right path. Math helps me with a proof that such path is the right one. Then logics gives me assurance that I am indeed on the right path. Those paths lead to ethical behavior (toward nature and people alike). That sounds good. Jana, what's your understanding of regulation where the subject is access to money or where the issues are freedom of people? Dad that is not an easy question. But briefly: freedom is where equal conditions in access to money exist (conditions set up according to financial flow rules adopted by the society) and freedom of citizens is where one can use her money as she pleases, but within the framework of the law adopted and respected by the society.

How the Time Passed by Quickly

Jana, you did a good job. You shifted the fundamental problem of system engineering to lawyers. But you are right. Societies are people and their legal system. That is a good observation also useful for your future work. I am glad that besides the public and the private sectors people talk about societies and common property of people and nature in places where people live and work. Jana, I wish you that you successfully complete your university and find a work that you enjoy. See how fast those ten years went by. I already look forward our next talk. You're still my little girl, I love you very much.