NEED FOR HORIZONTAL ORGANISATIONAL ENVIRONMENT

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We cannot solve problems by using the same kind of thinking we used when we created them. © Albert Einstein

Despite our intuitive linear expectations, technological progress has exponential character. Volumes of knowledge, and flows of information that we have to process for arriving at viable solutions of global issues grows exponentially, which is described in multiple examples given in the works by Ray Kurzweil et al [1].

In social and military actions, or political uprisings, like Arab Spring and recent Euro Maidan, when people are intended to destroy something, defend or attack, the speed of decision-making is much more important, than the quality of the decision. And even a bad decision made in time and performed by all the group members makes a more valuable contribution to the victory in the fight, than a good decision that took much time to be elaborated. Collective decisions have to be carried out in time.

The other side of collective thinking is power. When people are aimed at research and creation. When they want solve common problems. And, what is most important, to achieve some consensus, so that most see that decision contributes entire world in long term, not a narrow group in short-term. And lots of people will be ready to perform such decision on voluntary basis. When people work without any oppressive machine, and unlock initiative, self-organization, research and creative potential of lots of people. Then the situation is quite opposite: the more information considered, the better the decision is.

In the early history of mankind, the role of military actions and struggle for the resources was very high in the evolutionary process. But the more we approach the era of space exploration, the fewer the role of a fight becomes: it slows scientific, technological and cultural progress. The role of cooperation, global understanding and collaboration, science and technology is increasing.

In his classical works, Vernadsky says [2]:

"Owing to the species evolution which proceeds incessantly and never stops, the reflection of the living matter into the environment changes abruptly. Because of it, the process of evolution (alteration) is transferred over the natural bio-inert and biogenic bodies playing the most important part in the biosphere; among them are such bodies as soils, surface and groundwater (seas, lakes, rivers, etc.), coal, bitumens, limestones, organogenic ores, etc. For example, the Devonian soils and rivers are not the same as the soils and rivers of the Tertiary or of our epoch. This is an area of new phenomena hardly taken into account by scientific thought. The evolution of species turns into the evolution of the biosphere.

The evolutionary process acquires a special geological significance because it has created a new geological force: the scientific thought of the social humanity. Now we witness its manifest entering the geological history of our planet. During the recent millennia, one observes an intense growth of influence of the living matter of one species (the civilized humanity) upon

the shift of the biosphere condition. Under the action of scientific thought and human labor, the biosphere goes over to a new state—to the noosphere."

It is becoming pretty obvious, that the world will unite anyhow because struggle is becoming obsolete and too wasteful in terms of utilization of materials, energy, labor, and other resources. The main questions regarding the process of building the united world are:

- How will it go?
- What will be the losses?
- What will we get as the result?

Currently, to simplify, there are two extreme scenarios of uniting the world:

1. Globalization, when one government smashes all other governments, one culture (doesn't matter which one: USA, EU, Chinese, Russian, Arabic, or any other one, or any combination of them) dominates destroying all the other cultures, and there will be the world with one government, spending most energy and resources on self-oppression.

2. Alter-globalization, when all the nations, cultures, disciplines, etc. elaborate on some common protocols and common scientific language for everyday tasks. This way, any culture learns constructive aspects of all other cultures, helping long-term survival, happiness, proliferation and prosperity of bio(noo)sphere. Any culture replaces destructive aspects in itself with incompatible constructive aspects from all round the world, so that each culture learns from all other cultures. The global horizontal mutual understanding and collaboration emerges via large masses of people. This principle is different from the hierarchy, where cross-group interaction occurs via very few "trusted" people. When CONSTRUCTIVE diversity increases to point of no-return, any hierarchy becomes technically impossible because any idea/device/code/habit/culture mutates very fast. So, any narrow top-hierarchy group is capable neither to understand, nor even to have enough bandwidth to oppress the self-organization. Thus, we come to the world with open, distributed, and constantly growing horizontal network without governments. Such world needs no oppression. As the result, humanity can put most of its attention, labor, energy, resources, etc. on fully terraforming and inhabiting other planets, proliferating the biosphere to other worlds. That will make us potentially immortal, flourishing and proliferating even after death of our mother star. The key difference is the organizational structure, network topology used for change.

Authors of the article have had volunteering experience since 2009 till present in such alter-globalization initiatives, as The Zeitgeist Movement (TZM), The Venus Project (TVP), and several organizations that had emerged from these two projects. The initial aim of TZM- and TVP-based movements and organizations was to provide the informal education to the large public. The education was aimed to achieve global mutual understanding and collaboration of all the nations. Such education is considered to allow the declaration of all the world's resources as the common heritage of all the world's people. Which is the basis for building the global cybernated Resource-Based Economy in order to abolish monetary relationships, achieve Sustainable Development, maximally unlock research and creative potential of all the Earthlings. First in TZM, and after in TVP, the same problem was faced: as the group grew, the quantity and quality of people educated on suggested issues increased. While more grass-root initiatives occurred, more ideas and projects different people offered - few people, the administrators of Internet resources (sites, forums, blogs, public pages and groups in social networks, etc.) became overloaded. The administrators became "bottlenecks" of info flows, information jams around them grew heavier, more relevant projects became declined without consideration only because

that few people with administrative rights had physically no time to read and understand what had been proposed. More and more people were being banned and slandered for offering their ideas by these few people who were not able to process the exponentially growing information flows. The administrators were suffering from stress and were behaving aggressively. Some of them were terribly overloaded, while the rest did not know what to do and were reinventing the wheel, arguing, quarreling, etc. But few people in position of power were afraid to lose influence, and forbade grass-root initiatives, saying that people must be free for learning their materials and performing tasks they may need some day, which also worsened psychological climate in groups.

Both in russian-speaking TZM, and 3 years after in TVP official groups, when group achieved 20-30k subscribers, and self-organization emerged, it was smashed by few admins, the feedback was destroyed, which is totally against the methodology and value system proposed by Jacque Fresco [3], in TVP group – ability to write comments was blocked, and group from grass-root initiative turned to simple commercial page asking for donations.

After analyzing both cases and similar groups, and analyzing deep historical perspective, we understood that similar situation happened during thousands of years history of mankind: between early Christians and the pope of Rome, Jacobins and Napoleon, Soviets and Stalin/Mao, etc.

The activists who were banned in Russian official TZM, or those who saw many people being banned, developed the first Recommendations for collaboration in Horizontal Organizational Environment [4], and for presenting this paper to official TVP community, were also banned.

By definition, a horizontal organizational system is the one where the interaction between elements is not only comparable, but also large.

The document declared 7 key principles of HOE formation:
1. *The agent must learn to hear*,
2. *Any person or group of people can make mistakes*,
3. *Feedbacks are essential and must work in all directions*,
4. *Horizontal links must be developed between all groups*,
5. *The more facts and ideas it considers, the better the project*,
6. *There may be several solutions for a problem*,
7. *Agents must be able to distinguish what is important and what is not*.

The key theoretical argument for the HOE inevitability is the fact that the volume of information to process, even to interpret the results gathered by many people and processed by computer systems, for working out the viable solutions of the global problems, is growing exponentially. It is many times bigger than the bandwidth and computational capacity of any single person's mind.

One of the key synergistic principles states [5], that self-organization is only possible in complex systems. In any small group the leader's role is important, but increasing the size and diversity of the group minimizes the role of its leader, and maximizes the role of a horizontal link, making it crucial for the group evolution. Some researchers consider that horizontal principles become significant in groups of 300.000+ people, others consider that this number starts from 20.000-30.000 people. Also, it depends on the complexity of tasks and interactions, flows of information needed to be transmitted, etc.

The horizontal organization takes more time and effort than vertical, but it can provide decisions of principally much better quality than a hierarchy can. It also provides pepople with strong involvement and consensus, so they can work on voluntary basis in their free time [4].

That is why the new quality of decisions requires a new topology of social relationships [6].

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