

THE DIGITAL WORLD AND THE CONTOURS OF THE FUTURE: CREATIVE ACTIVITIES ARE CHANGING THEIR DIRECTION

There is a lot written about the role of governing laws and accidents in human development. It seems at first sight that the role of accidents should reduce when the humankind is growing up. Everything that is in line with the human nature, everything that touches the heart, delights is analyzed and fitted into various theories.

However, we watch absolutely unexpected jumps, turns in life that do not fit into any theories. My explanation of this phenomenon is that the digital world engulfing us generates much more variants than before.

Human mind is constructed in such a way that variants, not fitting into the thinker's worldview, are automatically rejected in the process of thinking. Geniuses differ from common people exactly by reviewing the variants that seem senseless or fantastic.

Computers, robots join the thinking process in the digital world. They can deal with giant numbers of variants that a human head cannot hold. And the human role becomes different. There is the task to appraise the computer-generated variants as to their value for the humankind besides generation of variants and appraisal of a fairly small number of them. And organization of appraisal is a separate not simple task.

I'll give several examples to illustrate the presented thought.

Photos, cartoons, poems, statements, comments, jokes, etc. appear on social networking websites, some of them become popular with their consumers. And they are not always posted in pursuit of popularity. The flow (of variants) is great and they are chosen naturally by public "voting".

The second example looks fantastic because it has not been practically applied yet. But development of supercomputers will soon transform this fantasy into reality.

I'm saying that a computer (software) calculates all possible sequences of letters of the Russian alphabet, plus a space, the length of which is, say, 100 symbols. If there are approximately 35 letters (symbols), there will be 35^{100} variants.

After that selection of sequences consisting of words with a grammar sense takes place.

After that sentences, or groups of sentences constructed correctly are selected from them.

Texts with a sense (surely, various senses) are selected from them.

And finally variants referring to literature (for example, poetry), culture, science, technology, etc. are selected at the final stages. In particular, available chef d'oeuvres from this or that field are revealed. For example, popular expressions or catchwords by comic writers or poems by Pushkin can be repeated.

Certain people make the choice at the final stage. And a lucky choice can be fixed as an individual decision with respective protection of copyrights.

It has been thought till now that chef d'oeuvres are generated by geniuses, they are unique, there are very few of them. Here everything is generated by computers, and the issue is only the choice from the giant mass of the generated. The role of appraisers, reviewers, critics grows.

The described process of word variants' generation also spreads to variants of images, for example, pictures. It's possible to review squares of various colours in the two-dimensional space. There are very many possible variants but they are not unlimited. At the same time, squares should be rather small but noticeable for human eyes to generate drawings and other pictures.

By the way, a certain process of picture generation is realized by Stephen Wolfram in his *A New Kind of Science* (see ???). It's possible to find many various drawings generated by cellular automaton in this book. The author is especially interested in

pictures occurring in nature: snowflakes, flowers, trees, pyramids, rings, spirals, etc.

By the way, there may be notes instead of pictures, and then the problem of selection of computer-generated melodies appears.

The third example is again related to the Internet.

I'm speaking about the so-called fake news, invented forecasts and stories. Information about real events coming to mass media costs a lot. You have to go to the site, shoot, ask questions, etc. And any fakes can be generated in giant numbers, especially with the help of quickly advancing robots. Information consumers can't tell a fake from reality. As a result, another "fake" reality is generated, which becomes no less appreciable and important than the real one. A lot of people are shocked from time to time when facts, known to them during their whole lives, finally turn out to be myths. At the same time it should be emphasized that we are not speaking about the past only when, for example, absolutely different images of Ivan the Terrible can be presented. According to the rules accepted now, leaders are elected by general vote, and the images of these leaders are formed in virtual reality. And the virtual image may have nothing in common with the real one. It's well-known that it's much easier to generate sensations artificially than look for them in real life. Computers can calculate such variants, which the real world does not know.

I hope that I've managed to demonstrate the change of creative activities' direction in the environment of universal digitalization with the above examples. It became possible to order computers to generate variants. As a result, it's becoming more of them by many orders of magnitude, and the choice of the required by the society from them is becoming much more difficult. Because of that advancement of appraisal tools becomes urgent, in particular, rejection of variants. The structure of the creative people detachment will change in the direction of reduction of those generating variants and increase of those who appraise them.

As for the tools for variants appraisal, including their institutional support, here we should employ the experience in research of the problem of social norms' generation and evolution. Social norms as a social phenomenon have been studied in detail from the ancient times. See, e.g. the review by Victor Istratov (V. Istratov (2016)). There is a lot of useful information to be found, including for advancement of the institute for new knowledge generation as well as innovations in literature, culture and arts.

References.

Wolfram Stephen (2002) A New Kind of Science. *Wolfram Media, Inc.*

Istratov V.A. (2016) Modeling of Social Norms' Formation in Social Sciences. *Economics and Mathematical Methods. 2016. V. 52 #4.*