

Risks and intrigue of “digitalization”. Afterword to the articles by Gromyko and Smirnov

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As part of the reflection on the articles of Yu.V. Gromyko and S.A. Smirnov, the risks and opportunities of the “digitalization” of learning are considered. Risks are related to the “absorption” of subjective forms of activity in computer programs. Opportunities are in the construction of programs that initiate not only following algorithms, but also their trial and error correction.

Keywords: the element of «digitalization», the ontology of psychology, the way of the presence of an adult (teacher, parent), trial-and-error action.

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Риски и интрига «цифровизации». Послесловие к статьям Ю.В. Громыко и С.А. Смирнова

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В рамках осмысления статей Ю.В. Громыко и С.А. Смирнова, рассматриваются риски и возможности «цифровизации» обучения. Риски связаны с «поглощением» в компьютерных программах субъектных форм активности. Возможности выступают в построении программ, инициирующих не лишь следование алгоритмам, а их пробно-испытательное изменение.

Ключевые слова: стихия «цифровизации», онтология психологии, способ присутствия взрослого (педагога, родителя), пробно-поисково-испытательное действие.

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Both Gromyko's article and Smirnov's are devoted to an urgent, topical theme and concern — the concern for ways of maintaining human subjectivity in the spontaneous and massive growth of digitalization, which encompasses and absorbs educational acts.

I can cite a case I observed as an example-symbol of this absorption. A young mother is carrying her baby, who is about a year old, in a stroller. She is talking on her cell phone, and the child doesn't disturb her because she is busy watching what is happening on the tablet in

front of her. Is it possible to say that here the child is watching, looking at what is happening on the tablet? I believe that it cannot. It is not the child that looks at what is happening on the tablet, but the tablet device that moves the child's eyes — his eye movements are reactive, automatically controlled from the outside. The tablet does not work with the child, but instead of the child. Y.A. Gromyko and S.A. Smirnov argue that in the element of digitalization something similar happens to older children (and I would add that often to adults as well). V. Gromyko writes that the computer "takes away" the adult from the child, while S.A. Smirnov speaks of "digital rifts" between the child and the adult.

A note here is appropriate. What "adult" is meant? More precisely, what kind of adult presence is implied? Is it, for example, an adult (parent, educator) who is involved only in his or her own power-associated attitudes — his or her "Super Ego" — in the child's limitations? If yes, then the "rupture" of their relationship is only a replacement of one kind of child reactivity with another. The way in which the adult addresses the child is not a given, but is sought precisely in the task of constructing an act of mediation. And this is not a private "technical-methodological" consideration, but an ontological principle that sets the conditions of co-communion of adult and child — Co-Being in the construction of the Act.

Y.V. Gromyko proposes a way of introducing "numbers" into teaching ("cognitive-digital approach" in teaching), based on interesting developments by P.O. Skobelev. These developments build a computer simulation of teacher-student interaction. Most likely, there are also the results of applying these developments in teaching, i.e., data on the effects of their experimental testing; but, apparently, these data are presented in other articles. S.A. Smirnov proposes general principles for introducing the "digital" beginning to learning.

S.A. Smirnov relies on the cultural-historical concept of L.S. Vygotsky and its continuation in the works on the conditions and effects of mediation. Here he singles out the "sense of own activity" in the construction of action as the key condition and argues that this is what is lost when a child is involved in the "digital element".

V. Gromyko also relies on the works of L.S. Vygotsky, but at the same time treats them critically, arguing that the reference to "mental functions" coming from W. Wundt and others is insufficient for the construction of educational systems in their essence. One cannot but agree with this assertion, but with one important clarification. L.S. Vygotsky spoke not about "individual" mental functions, but about "psychological systems" — bundles of functions initiated in the act of mediation. And in the latter period of his work, in works on child psychology, he spoke about a systemic and semantic structure of consciousness. And now this assumption can be understood as an indication that, according to Vygotsky, the psychological system is

constructed in the retention or reconstruction of the Field of Meaning activity. I would venture to argue that it is here, in the construction and reconstruction of the Field of Meaning, that the origin of what Gromyko calls "mastery of activity" is revealed. Otherwise, the mere use of the word "activity" in no way indicates what a person masters and how he masters it.

Referring to the works of V.V. V. Gromyko proposes to speak not about mental functions, but about abilities, which does not cause objections if "ability" is thought exactly as mastering of a way of action. There remains, however, the question of the manifestation of such mastering. The manifestation of ability is not simply the fact of correct performance of a certain class of tasks.

Reading Vygotsky's work *Thinking and Speech*, Yu.V. Gromyko, following V.V. Gromyko, following Davidov, discovers the "rudiments" of activity theory. But not the theories of A.N. Leontiev and S.L. Rubinstein, but G.P. Shchedrovitsky's conception of thinking (see Figs. 2 and 3). The intrigue of G.P. Shchedrovitsky's scheme is in the "connection" of "pure thinking" and action in communication, which is built up as the exposure of the sign's (apparently, scheme's) meaning — the understanding of the signifier. In communication comprehension there are reflexive positions through which thinking and acting are connected.

V. Gromyko further argues that the "ontology of psychology" is set by the scheme — the language of thinking, while "concrete" research may be carried out in the languages of psychological functions, communication, and states of consciousness. BUT! It is necessary to somehow connect these several languages of research with the basic "ontological" scheme! Otherwise we will have "multilingualism" without mutual "translation" (which, by the way, is the case with many modern psychological conceptions). So it is the scheme of thought-activity that claims to bind, to correlate different languages of psychological research? It is doubtful, since the scheme itself only claims that reflexion and comprehension connect thought and action, but does not raise the issue of the conditions of construction of the very "knots" that connect reflexion and comprehension. No attention is paid to the question of constructing a way of their presence in fullness. Yet, it is a question of those conditions under which thinking becomes the way to mediate action, i.e., the fulcrum securing the action and keeping it in place. References to reflexion and understanding in the presumption of immediate truthfulness-understanding of this very reference are nothing but a withdrawal from the key question. This is because the scheme of thinking activity is believed to be the scheme for both considering and constructing a certain behavior. But it is assumed without investigating and revealing the transition from the language of consideration to the language of construction. These are typical classical scientific concepts.

In conclusion, I would like to draw the attention of both authors to interesting and important precedents for the construction of "children's" computer programs. For example, in MGPU a master's thesis was defended, in which the plot of a fairy tale was recreated on a tablet. At the same time, the computer program provided the opportunity to "manipulate" the image in different ways. There were children who manipulated the key event of a

fairy tale — they played, in the words of L.S. Vygotsky, not with its "plot", but with the "story".

Similar test-playing is possible in other, more "serious" programs. This is how a test of a mode of action can be constructed — a test of possibilities. "Smart" ways of "digitalizing" open up possibilities for trial-and-error forms of orientation. I think that this is how thinking comes out, is "exposed".

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