

PRESENT TIME: CRITERIA AND EXISTENCE POSSIBILITY

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The article is dedicated to the problem of determination of criteria of the present. The authors project and prove the idea: the duration is defined only in the moments of its interruption, as the time essence is in the dialectics of the continuity interruption. The present is limited by two interruptions and starts being perceived as a fractal – infinitely divisible moment. The comprehension of time as “the other side” of information is substantiated.

The affirmation about three time modes: past, present and future, is an exoteric one. The difference between them is, according the dynamic time concept, in the fact that there is no future yet, and there is no past already. But relative to the present moment the events continuously change their position: the future events are transformed into the events of the present, and the present events – into the events of the past. Thus, the affirmation about the reality of the present infers from it. But whereupon does our confidence that the present really exists rest on? Indeed, any act of consciousness about the present takes place in relation to the one that has already happened, and hence, to gone to the past. The endless “glissade” to the past is overcome only in the consciousness which neglects this constant loss of the present moment and equipoises this backward movement by the aiming at the future, forwards.

Of course, it is possible to take for the “instant of time” a certain time interval (which, in its turn, is determined by the duration of a certain event): a second, a month, even a cosmic year – then, with a clear conscience, one can make a statement of the type: “at the present moment, which has been lasting since 1908, the following events took place...” The poorness of such an equation of the essence (of the present) to the present state, event, i.e. to the phenomenon level, is evident. However, it is it that one had to be satisfied with. Contrary to such an approach one is forced to accept the fact that we have no criterion for choice of the present, which was paid attention to by Mc-Taggart in the above mentioned 1908 [1].

Really, to connect the present with the availability means to run into a plain contra-

diction, for just the availability is constantly open to question. We can reason about traces of real events, which remain in our consciousness, but the events themselves, alas, escape migrating to another mode of time. Even if we proceed from the premise that a real event and the trace that it leaves are simultaneous (that needs to be proved as well), anyway the event and its time are different things at all. What do we measure the duration (as the very first availability indicator of time) with? Only with the moments of its interruption we can fix the beginning and the end of any qualitative continuity and it is measuring of this section that allows us to speak about the duration. As an illustration of the dialectics of interruption of continuity as the time essence let us recollect a well-known tale about Cinderella. Cinderella ran away from the ball so fast that she lost her crystal shoe. It *had* just *been* on the foot, then it *was* away from the foot, and then there appeared this crystal shoe on her foot in *the moment*, which was defined by the event: Prince found her. Between these events (“had been on the foot”, “was lost” and “is again on the foot”) *no* one other event of *the same range* happened to Cinderella, though many other things missing this range took place. In other words, between the events “had been on the foot” and “is again on the foot” there *was nothing*. And this very “*nothing*” is the present, relative to which the events flow from the future to the past. Thus, there is the present where there is no time: it is interrupted. The present is limited by two interruptions and it itself starts being perceived as a fractal – infinitely divisible moment. Herein the “paradox of the present” is contained: the present exists (for there is something, for which it is the measure of changing and mea-

suring) and it doesn't exist (for it aspires to "slip" out of the reality of the present into the past).

Therefore, we come to the necessity of considering the interrelationship between time and information. In the very general concept information can be defined as a special form of reproduction, conversion, preservation and utilization of the structure and peculiarities of one system into another. In information, first of all, the structure of that very content, which is transferred, stands out. This structure is spatial and temporal. Getting nothing from the physical nature of the source, without reproducing immediately the physical nature of its elements, information "bears" in itself the source's structure (and through it – the content) to the addressee. It is of crucial importance, that the role of information is played not by the source's structure taken by itself, but the reproduction of it in the addressee. Between the source's structure and its reproduction in the addressee there is the same interruption that is between the present and the other two modes of time. Information lies in the ability of a given system to reproduce, preserve and utilize the structure /and "encode" the content/ of another system. It is necessary to distinguish between the following two sides of information: 1/ information as the ability, the property of a definite system class to reproduce, preserve and utilize the structure /and encode the peculiarities, the content through it/ of other systems; and 2/ information as the source's "model", as its image. Information as the source's "model" and information as the ability to accept the "model" – these are the two sides of one and the same phenomenon. If information is the transfer, the reflection of diversity in any objects and systems /of non-animated and animated nature/, then it is time that is the other side of information. Time expresses the dynamics of content, series of changes in subsistence, procedureness and existence becoming, violation of its limits.

The theme of time clearly reechoes with the theme "information" because every

change in the acquiring information system is based on some series of states, their duration, rhythmicity, etc. Already N. Winter noted that information is a measure of organization, and time – is an inner method of organization through frequency, duration, rhythm, etc. Can information and time exist without each other? Information exists in time, and time is changed under the influence of information. Let us imagine a system possessing no information /such a system is hardly possible, because the interaction of the elements composing it already provokes the whole system change; the system constantly receives information from its elements and sends them its signals. We can only abstract away from these inner interdependencies/. Does this system possess time? If really no information exchange takes place in it, therefore there are no changes. That is why there is no time there. But this system is involved into a wider system, in the time of which it exists. If the system receives and accepts a signal /as an information unit/, then it provokes its change. The given change is time. It is possible to say that information "creates" time. For example, neurophysiologists outline the facts testifying that the synapses accepting information from afferents of the first order possess the ability to convert time, and this, in its turn, leads to accentuation or abstraction of the entries' certain new properties. This ability of synapses to receive new information in terms of time transformation is holding much promise for the analysis of time and information interrelationship.

Information is inconceivable without material systems interaction. The penetration of more and more information into a system /no matter outer or inner/ "perturbs" it. And time in this case serves as an organizing and regulating matter. The system will be destroyed, if after receiving some information it makes a try to exist in another rhythm, which is inadequate /incommensurable, incompatible/ to the one, which is comprehensible for it. In the ancient Chinese book "Yi Ching" /"Book of Changes"/ it is said that a careless interference even into a process of a second-

ary importance can lead to irreversible alterations in the world. A negligibly small action can result in significant consequences.

Information is a thing that changes the system perceiving it. But hereby, it changes not only the content, structure, but also the time of the perceiving system. Time can be understood exactly as an organizing structure, isomorphic one for various complexity self-organization processes. Leibniz's idea of reflection of one monad in another is a prerequisite of synchronization idea – one of time properties “working” in the line of systems' self-organization. In the process of interreflection, according Leibniz, the coordination and synchronization of monads take place. The cooperative, coherent states represent the most highly organized form of inanimate matter – that is the word of science, which confirms the old guess expressed by Hegel [2].

Therefore, time plays a triple role of an organizing matter in the information interaction: 1/ the source of information reproduces among its own immanent properties and relations its temporal characteristics; 2/ the in-

formation transfer itself – is a process taking place in time; 3/ as the result of receiving information time alterations of the system perceiving it occur.

A system keeps informed about many states: both past and future. During its life the system goes through several bifurcations, where the choice of one of the possible sound branches of the system's further development is carried out. The information about this moment is transferred up to the following bifurcation, and “something born or done in this moment possesses the properties of this moment of time” [3]. The bifurcation points are those interruptions, which separate the present from the past and the future. Time, therefore, is a picture of interruptions, in the moments of which various choices occur.

References:

1. See: McTaggart E.J. The Unreality of Time. – «Mind», Oct. 1908, v.17, № 68.
2. Hegel G.W.F. History Philosophy. V.8, M., 1936, pp.62-63.
3. Jung C.G. Commentary on «The Secret of the Golden Flower»//The Collected Works of C.G.Jung. Princeton, 1967. V.13, P.12.