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### **INFORMATION TECHNOLOGY PROBLEMS IN THE CONTEXT OF LOGIC OF SCIENCE, SCIENCE OF LOGIC, LOGIC OF TECHNOLOGY AND LOGIC OF HISTORY**

**This article discloses the contradictions of methodological approach for the research of “information era” phenomenon and its non-compliance with the changes in professional and social activities, as well as in scientific thinking. The stated dissonance in methodology and practice is concluded from contradictions of fundamental basis of history and its modern transformations.**

**Keywords: logic of science, science of logic, logic of technology, history of science, science of history.**

The formulation of the problem of mutual mediation in information technologies development by denying the theoretical foundations of logic of science, science of logic, the logic of technology with practical base of history logic means the exhausted limits of so-called "dualism of nature" as a factor for categorical and productive evolution of the classic story. There are no direct studies of the stated problem, except for the works of Vazyulina V.A. [1], and Bibler V.S. [2], which laid the foundation of a new technique of reflection of unity of the manifold in a phenomenon of the world's history formation, and the authors' monographs [3, 4]. It can be stated the unacceptable backlog of methodological search of modern philosophy and theory of science of contradictions, the solution of which involves "acting knowing the logic of the case" – the action, armed with a fundamental understanding of the fundamental bases of these same contradictions. The current content of "method" and "objectivity" contradiction of industrial activity as a whole and individually is between the dead-end schematics and dogmatism, causing and culminating in an attempt to resolve the universal contradictions with the help of private methodologies.

The article objective is to identify key issues in metaphysics of modern methodology, which cause quite metaphysical (within the meaning of mechanicalism) history modeling of information technology era, and unnatural and inefficient solution methods of this or that special questions of economy development, which resulted from issues.

“Logic”, stated in the title, are divided conditionally. Contemporary history is the time of when “logic” of technology, science, logic, economy implicitly becomes integrated into a single science and practice of history. In other words, it is the time when presuppositions and conditional “basis” form a single basis of single history. Inability to understand this phenomenon is the defining logic basis of inappropriateness of methodology used in order to solve current contradictions in all area of social activity.

It is necessary to make one more clarification. Such wording as “information technology issues” seems incorrect, because these issues concern only the subject. However, the subject of social activity and history, as a whole, has been replaced by “digital subject”, thus, depriving the history of will and ability to develop. The main (the discovery of fundamental development laws), already mentioned in culture, adds endless descriptions of processes, occurring in its “death zone”. Misunderstandings in researches, basing on the absence of foundation of the modern world [5-16, etc.], are akin to the hope of settling in a virtual space between Utopia and Apocalypse. So, in this warped space, information technologies appear to be history problem rather than a breakthrough. And indeed, the notion of problem need to be clarified as a “trial-lemma” with the semantics of the test (probations) by paradoxes when empirical inductance in comprehending the not verifiable induction of the world continually takes the form of a strict disjunction - the paradox that registers the unresolved contradiction. This situation is obviously of complete inconformity of cognition methodology and ability for modern world development.

It should be noted that the amorphousness of thinking paradigm combined with the methodology of information era development spread to the cogitation about methodology as well. In this respect, scientific mind basing on formal logic (presence of dialectical mind is out of question) is like one of V. Shukshin’s characters, who bought a microscope in order to discern bacterium and kill them with the wire. History, divided into different “areas” of cognition with formal logical analysis, is tried to be integrated with the help of synthesis. However, “dead water” and “water of life” to resuscitate the dead (in this case – Logos of history, choking in the old basis) is encountered only in fairy-tales. Such an “innovation” as “interdisciplinary approach” will be of no help, since the information technology era represents a merge of separate “objects” of cognition and activity with objective reality in its universal content, including history and thinking, as such content cannot be “placed” *between* separate “objects”.

I will allow myself to be metaphorical in the designation of the problem, which is based on the *fundamental manipulation of the fundamental* as the substantial foundation of the world, which finds itself *in the principle of the*

*identity of the material and the ideal as a concurrence of the universal and the individual.* This principle is ignored now, when without its decryption it is impossible to decrypt the original code of information technologies, which have reached a formal, but still perfect universality. The brief reflection of syndrome inconsistency between "business of logic" and "logic of business" in the information world.

In human history, you can discover three major manipulations with the fundamental. The first one relates to Hegel's dialectics system, which crowned the abstract formation of fundamental history groundings and cognition of his principle, expressed through abstract-universal equation of thinking and existence. Hegel compared logic with "money of spirit" and was first who showed the essence of history "capital" in the form of development laws. But this "capital" was dead, as objective – idealistic expression of the ideal is doomed to closed within the classic history. The second manipulation with groundings became possible in the 20<sup>th</sup> century and firmly connected with the appearance of "empty" global money. This imaginary ideal, "conventional" money ascertained the transfusion of political economic expression of the ideal into mythic space, which replaced living forms of economic development with dead ones. The dead capital of emissive money replaced the "alive" capital of not only the necessary, but also free world time. The set of exchange values and abstractive exchange value of world production time did not turn to be social wealth, which liberates human from alienated labor. It has become a killing of world free time by idleness as a form of exchange of the production time on time of its exaggerated mindless consumption by one "layer" of society and on the lifetime annihilation by the other, which was banished from the space of "necessary labor force" by information technologies. It has become a killing of the world free time idleness as a form of exchange at the time of production time-exaggerated his mindless consumption of a "strata" of society and the annihilation lifetime of the other, banished from the information technology space "necessary labor". Fetishization of goods, which replaced the human essence, terminated in the replacement of generating money semantics by sign semiotics, that caused "a symbolic exchange and death" to the "system of things" (Jean Baudrillard) and to the system of dehumanized social relations. In this way, emissive "global money" proclaimed the replacement of global necessary and free time, having trapped the lifetime into the space of exchange for unreal time. This "money" is "earned" today. Its final objective is to exchange its mythical character for real one, replacing the reality with myth. Information technologies are the third fundamental manipulation in the world history. The thing is that they stay in unnatural for their univer-

sality specific, antagonistic basis of fundamental history contradictions. Such scale and powerful antagonism are “resolved” but leaves the desert behind.

We will consider the semantics of third manipulation. First, through the distortion of the identity principle between the material and the ideal, information technologies present the ideal as “the sum of information,” which is valued as “the sum of technology” (S. Lem). This information is used functionally without becoming “the pabulum for reflection”, even less “the reflection for information”. This phenomenon of absence of necessary formation aligns the fundamental and applied “non-existence” of contemporary history, which does not comprehend the real (in the unity of essence and existence) nature of ideal. This “union” replaces the logic with analogic, when the latter functions as “logic basis” for *re-evolution* of civilization.

Economy is undoubtedly the defining basis for society development. But, it is the basis in the meaning of supposition, and not in the meaning of fundamental grounding. Information technology era reveals the border where economic supposition requires to be equated with the basis, but absolute basis cannot be delivered in specific limits. Though, antinomy of the objective (basic contradictions) and subjective (capability to understand these contradictions and solve them in practice in accordance with their fundamental, substantial essence) are conditioned by subjective reasons. The glittering heights became gaping tops, and from the abyss, the wrong side of the depleted, but still continuing its unnatural existence of history alienation looks through. But, the depth of this abyss does not wring the viciously triumphant roar of Mephistopheles, who is testing the strength of the human mind and senses, because the mind voluntarily “fell into a pure intelligence” (E. Cioran), and was captured by technocratic thinking that turned a man into a function without intrinsic forces.

However, the history hides as well the “dark ground” (Heraclitus), which needs a fundamentally new speculation (mind sight) – the one that sees the world immanently to its laws, and does not try to force it into the stereotypes of relativistic views. Otherwise, it is the anarchy of relativism of subjective “*attribution of meanings*» and *justification of oneself with absolute relativity*. But, if everything is relative, the relativity itself is relative too; and the absolute as an absolute law of transition forms is approved in bringing the relativity to the second rejection through relative (transient) forms of development.

How did these tampering in the logic of science happen? How did the loss of the basal four-axis coordinate system and its absorption by three-dimension system become possible in the twentieth century? The logic of science is determined not by the amount of theoretical and applied (techno-

logical) achievements, but by their unity as the core of the theoretical development of the scientific world. In technological terms, the science serves as the productive power. In the logic of the world systems genesis, science is the single whole with the philosophy. Scientific knowledge was carried out in syncretism with the philosophy of antiquity, submitting it; and in the Renaissance, the science is a single whole with philosophy on the basis of pantheism; on the manufacturing stage of capitalist production the science is a single with the philosophy, subjecting it; from manufacturing, science as a technology differs from the idealistic philosophy, turning it into the "philosophy of nature." In F. Engels' "Dialectics of Nature", the classification of sciences is concluded from the genesis of the material movement forms, which are "reified" in the technological formation of production modes. Non-classical positivism rejects philosophical methodology, replacing it with methodology of science. This happens despite the revolution in natural science, which further would serve the empirio-criticism a dirty trick by discovering limited empirical bounds of the scientific world and the necessity for philosophical grounding of science foundations not by "natural science in the spirit world," but by such production and historical society's practice, which is identical to the transformation of the history of science into the science of history. This transformation is conditioned by the universalization of tool, subject and the most subjective components of production and historical activities. The same phenomenon could take place immanently to the time of human self-liberation from the sphere of the utilitarian production in such a way that the utilitarian production reaches unprecedented efficiency level. The necessary labor time is "subjected" to "free time" and the change in their relation fundamentally alters not only the picture of the world as a whole, and not only the understanding of human's place in the world, but also a transfusion of material production into the intrinsic measurement of meaning in life. What happens to the logic of science in the space of alienated base of information technology development? At first, it is irrational escape of scientific knowledge methodology into a peculiar kind of ideal empiricism, which turns into idealist empiricism. Secondly, long overdue science transformation from the productive power into a *direct productive force*. The total "universalism" of science does not transform into the polytechnic education and the polytechnic way of social activities, if the polytechizm is a comprehensive study of labor activity. The consequences of such "not achieving" the logical conclusion of science transformation into the way of thinking and the way of nature use were disclosed by F. Junger in his works "The Perfection of Technology" (1939) and "Machine and Property" (1946). The author outlines a system of technocratic

society's collapse, showing how "the utopian part of the utopia" of technological progress is set. It is the part that contacts with the connection of the non-connectable, with borders non-compliance, with unjustified conclusions from conflicting backgrounds, including economic ones: "Scientific technocracy causes deformation in all spheres of social movement: *primarily the financial one*, because "the developing technology cannot be interested in a stable financial position, it is actively involved in the area of finance in order to undermine their stability"; "a technician is likely to have a technical approach to finance issues" [17, p. 146]. In this case, the financial collapse is treated not as a local or temporary phenomenon. "It occurs at a certain stage of technological progress and it is then when the funds, which technology needs to finance its organization, are beyond all reasonable limits within which ordered financial policy becomes possible" [17, p. 148]. That is the integrated methodology for comprehending the alienated integration of science, technology, economics, and culture. With its complete warp it highlights the necessity to resolve the contradictions of the logic of science and the science of logic, the logic of technology and the "techniques" of logic, history of technology and the "techniques" of history, the history of philosophy and practical philosophy of history in a dialectical manner. This insolvability of contradictions is the distorted, reversed basis of the current history crisis in all its guises.

In this logical situation, the history needs to place accents in the concepts semantics that seem "self-evident" to the majority. In the functional meaning, the terms "tool", "subject of labor", "labor force" are not difficult to understand. But, in a fundamental dimension, the whole history of the production methods appear in developing the ratio of necessary labor and free (so far, in other words "non-working") time. The entire history of the productive forces development as the history of the labor productivity development is the history of the necessary labor time reduction and the "free" time increase. The classic capitalist production has already brought this contradiction to an extreme extrapolation. What turns to be "the necessary labor time" under the machine production system in the aspect of the essential human forces is shown not only in the first volume of Marx's "Capital". One can read the Jack London's story "The Apostate" to see "unknowable" of free time, as well as his identification with the existentialist phenomenon of "nothing." In other words, by replacing the workforce with not only the system of machines, but also with the system of processing technology systems, the necessary labor time becomes "pressed" and the "unfree" free time is released. That is why, the modern political economy needs not Neo-Malthusianism, but "cybernetically reasonable" "ethics of killing" of a huge amount of living. A sort of beautifully packaged genocide.

This does not obviously come to the rejection of information technology. It is about resolving the contradictions when information technologies liberate the humankind from the sphere of material production, but do not make it free basing on the modern distribution of existence conditions.

The fundamental expression of productive forces development is that "... the history of *industry* and the prevailing *objective* being of industry is an *open book of human essential powers ...*" [18, p.123]. But, the "source" of historical progress as a contradiction between productive forces and production relations went into a decline in "synthetic" jumble of information technology development in some political systems, and the destruction of the productive forces in the others. Therefore, the "driving forces" of the history were washed away in the amorphous mixture of bases. Addicted to the "semantic" meth, they already voluntarily go after it to the pubs of staggering history building, trying to improve the dwelling in the building with the eroding foundation by "Western style renovation." The collapse of the creative subject of history comes amid its substitution with anonym, which "creates" the grounds for revealing the phantom "digital" historical subject ("No! We are not cogs! We are proud chips!"). The development time and existential time of the history subject presented as antinomy. This "information time" of "alongside times", frightening with unconsciousness desolated spaces of history, in which the movement is enhanced to the limit, but the exceedance does not occur. This fantastic phenomenon, hidden behind the primitive utopianism of so-called synergetics, speculates on history "simultaneity", denying the contents of "linear" time in vain.

The logic of history is related to the so-called linear time. But, the "linear time" is *not directly correlated with the evolution, being the immanence of the formation phenomenon*. A formation as a unity of "existence" and "nothing" is dematerialized and abstracted in the transformation of the material and the ideal to the universal form, which expresses the world foundation. Since the genesis of knowledge by universal type succeeded only in Western civilization (because only it has gone through all the stages of material production methods), the "linear time" refers to the genesis of the material production methods in the form of socio-economic formations. The basis of becoming universal in abstract philosophy was the social labor division, which led to the private ownership of production means, the state, classes, disintegration of syncretism of material and ideal production into two illusory-independent entities ("economic base" and "ideological superstructure"), which resulted in human splitting between the same illusory "essence dualism" in the form of "bodily" (sensuous) and the "ideal" (consciousness).

The end of history formation in the "linear time" is marked with the release of Hegel's "The Science of Logic". The First World War "confirmed" the end of the "linear time" not only by the war for markets and world repartition connected with it, but also by the completion of alienation, representing the general in completed-distorted form of speculative capital of "compressed" required time. That is why, it was doomed to generate a socialist revolution. The First World War evidantiated for the first time connections in history, which appear as one (simultaneous) history, but still not as the common one. World War II was programmed to defeat the fascist version of the "neo" imperialism and fundamentally changed the world map, eliminating the colonial "coloring" from it. As to the time of single history, it "was moved" and established itself at the base of socialism (it must be remembered that it (socialism) is the *transition period and during the transition period the basis is still unstable – it contains the opposite essences*). The defeat of socialism in the "cold war" has given a "new lease of life" to capitalist production mode, which were "on its way out". The logic of history has splitted into fragmented "national alogisms", the arrhythmia of which has not yet led to their disappearance from the world map, but brings to an end the state of clinical death.

However, the development of information technology as a productive force occurred just during the period of confrontation between the two main political systems of social life. The early renderings of cybernetics as a "bourgeois science" by ignorant socialist ideologist are undoubtedly funny and sad at the same time. But, that is not what it is about. As the manipulation of true meaning of ideal productive forces, information technologies "united in a unified system of coordinates" the whole world. This is not just about the simulacrum of misinterpreted globalization, and not about the "web of networks", which is now self-expanding as distorted "cloudiness" in the reflection of virtual consciousness and self-consciousness. The problem is that, boasting about "non-recurring different times," information technologies on private basis build a single world (The Universality) again in the plane (T. Friedman not coincidentally called his book on the information technology phenomenon "The World is Flat"). The world closes the Mobius loop, in which the infinity stretches through the plane, taking the side of bad, quantitively accumulating multiplicity. Although, it is unnecessary to present the theoretical claims to the journalist T. Friedman, one must understand that the logic (or rather – illogic) of modern history does not progress into a true "*simultaneity of the single world*" (M. Gefter), but regresses into timelessness of Arab coordinate system, which only marks the space, stretched in bad infinity. It is undoubtedly the plain vision of the modeled on the pattern of the plane world. This vision produces a kind of



"flatfoot" of the historical movement, which in order to be possible, requires "crutch" (support) in the form of short-term effective "working programs" and "projects" for the "crisis recovery" to assist the speculative capital to bypass created by itself icebergs, which the world history is doomed to crash into on modern political and economic grounds. For, there is no recovery for the current global crisis, because this is a crisis of break the world limit. "Modes" of the crisis – environmental, raw, technological, political, demographic, social, and cultural – are known to the contemporaries without academic degrees. And, the pseudo-science "synergy" is of no use here. It, a poor thing, does not know what "speaketh" about and, obviously, cannot give itself scientific credence. It is a sort of a positivism "fungus", which theoretically ended in K. Popper's concept.

In this simultaneosity of different "times" as the development levels included in a single global system of antagonistic systems, there is the source of the explosion of incredible power, which can endanger A.Toynbee "civilization breaks", Samuel Huntington's causes of "clash of civilizations", transferred into artificial modules, Z. Brzezinski's "The grand chessboard" and others and spur a chain reaction, which destructive energy release equals the energy of neutron bomb. That is why, modern synchrony of non-current to each other development "chronologies" expose the need for the uniting of all "logics" (science, technology, history, phenomenology) into a single methodology of history conversion based on the true unity. In this respect, it is noteworthy the remark of the Russian scientist Yuri Zatuliveter in respect to the reflection of linear time limit and alienation of modern history simultaneosity in the contradictions of modern programming: "The model of consecutive calculations opened a paradoxical phenomenon. In John von Neumann's works, the memory is linear, in other words it has one dimension, while users are multidimensional. The purpose of programming is to lay a multidimensional manifold of environment structures into the Procrustean bed of a single measurement. Programming technologies are aimed at facilitating this in a real machine environment. In practice, the problem of "linear Procrustean bed" is deeper. In technical implementations, John von Neumann's model inevitably split. By splitting, we mean providing a simultaneous access to multiple memory areas. This is due to the need to take into account and overcome the capacity and speed limitations of the memory devices. With the splitting of the memory, parallelism of actions is introduced, which increases the computer performance, but greatly complicates the architectural solutions. This increases the number of freedom degrees, and the challenges of managing a machine calculations progressively grow. The programmer additionally deals with challenges of packing of

multidimensional data structures and programs into memory segments of limited length, as well as linking the dynamics of parallel computing processes "/ ... /" The era of incremental calculation models' dominance - the simplest scheme of machine calculation - is coming to an end. The space, functionally more powerful single model takes over the simplest model of incremental calculation. [19, p. 93-95, 98-100]. It should become a scientific foundation and guarantee of "bloodless" transition to a common information space "/ ... /" However, with the depletion of natural resources and infrastructure development, the progressive importance of private property will decrease. Historical opportunities of the private property is limited. Today, their limits are clearly seen "/ ... /" Perhaps it is the computer world that is preparing to make a historically irreversible step towards the elusive until now socialism "[19, p. 93-95, 98-100].

I took the liberty to use this big quotation within such quite small by volume for the stated topic article, because it discloses a new syncretism of information interrelatedness of logic of science and logic of history in their pivotal coincidence – the contradictory of methodology, which is resolved not on the dualistic, but on monistic basis of further possible development. The development of the economy is as a condition for achieving genuine economic freedom in the meaning of the independence from the existence conditions (which requires, in its turn, to address the measure issues of reasonable needs, the development of which begins with the culture of mind needs), genuine political freedom, the measure of which is the transformation of a human into the creative history subject, genuine ideological freedom, the measure of which is universal thinking of a personality of global scale. There are already no other criteria of true history development as a human measure and a human as a history measure.

1. Вазюлин В. А. Логика истории. Вопросы теории и методологии науки / В. А. Вазюлин. – М. : Изд-во МГУ, 1988. – 327 с.
2. Библер В. С. От наукоучения к логике культуры / В. С. Библер. – М. : Политиздат, 1991. – 413 с.
3. Шкепу М. А. Феноменология истории в трансформациях культуры / М. А. Шкепу. – Киев : Изд-во НАУ, 2005. – 343 с.
4. Шкепу М. А. Архитектоника общественного времени / М. А. Шкепу. – Киев : Изд-во КНТЕУ, 2012. – 343 с.
5. Эко У. От Интернета к Гутенбергу: текст и гипертекст. Публичная лекция на экономическом факультете МГУ 20 мая 1998 года / пер. с итал. Е. Костокович // Эко У. // Новое литературное обозрение. – 1998. – № 32. – С. 5-14.
6. Бодрийар Ж. Символический обмен и смерть / Ж. Бодрийар. – М. : Добросвет, 2000. – С. 49-386.
7. Ваттимо Дж. Прозрачное общество / Дж. Ваттимо. – М. : Логос, 2000. – 126 с.
8. Делез Ж. Анти-Эдип. Капитализм и шизофрения / Ж. Делез, Ф. Гваттари. – Екатеринбург, 2008. – 546 с.
9. Гефтер М. Я. История – позади? Историк – человек лишний? / М. Я. Гефтер // Вопросы фи-

лософії. – 1993. – № 9. – С. 3-15. **10.** Гуссерль Э. Кризис европейских наук и трансцендентальная феноменология / Э. Гуссерль // Вопросы философии. – 1992. – № 7. – С. 136-176. **11.** Зомбарт В. Буржуа. Этюды по истории духовного развития современного экономического человека / В. Зомбарт. – М. : ГИЗ, 1925. – 324 с. **12.** Имамичи Т. Моральный кризис и метатехнические проблемы / Т. Имамичи // Вопросы философии. – 1995. – № 3. – С. 74-82. **13.** Лем С. Сумма технологи / С. Лем. – М.-СПб. : Terra fantastica, 2002. – 468 с. **14.** Уэбстер Ф. Теории информационного общества / Ф. Уэбстер. – М. : Аспект-Пресс, 2004. – 396 с. **15.** Философия техники в ФРГ / составитель Горохов В. Г. – М. : Прогресс, 1989. – 528 с. **16.** Форрестер Дж. Мировая динамика / Дж. Форрестер. – М.-СПб. : Terra fantastica, 2003. – 379 с. **17.** Фромм Э. Здоровое общество / Э. Фромм. – М. : АСТ, 2005. – 516 с. **18.** Юнгер Ф. Г. Совершенство техники / Юнгер Ф. Г. – СПб : ВЛАДИМИР ДАЛЬ, 2002. – 553 с. **19.** Маркс К. Экономическо-философские рукописи 1844 года / Маркс К., Энгельс Ф. // Сочинения. – 2-е изд., – Т. 42. – С. 41-174. **20.** Затуливетер Ю. Компьютерная революция в социальной перспективе / Ю. Затуливетер // Альтернативы. – 1996/97. – № 4. – С. 84-100.

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## **ПРОБЛЕМИ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ В КОНТЕКСТІ ЛОГІКИ НАУКИ, НАУКИ ЛОГІКИ, ЛОГІКИ ТЕХНІКИ ТА ЛОГІКИ ІСТОРІЇ**

У статті розглядаються суперечності методологічного підходу до дослідження феномену інформаційної ери та його невідповідність змінам у характері виробничої та суспільної діяльності, а також у типі наукового мислення. Означений дисонанс методології та практики виводиться з протиріч фундаментальної основи світу та її сучасних трансформацій.

**Ключові слова:** логіка науки, наука логіки, логіка технологій, історія науки, наука історії.

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## **ПРОБЛЕМЫ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В**

## **КОНТЕКСТЕ ЛОГИКИ НАУКИ, НАУКИ ЛОГИКИ, ЛОГИКИ ТЕХНИКИ И ЛОГИКИ ИСТОРИИ**

**В статье рассматриваются противоречия методологического подхода к изучению феномена информационной эры и его несоответствие изменениям характера производственной и общественной деятельности, а также типа научного мышления. Обозначенный диссонанс методологии и практики выводится из противоречий фундаментального основания истории и его современных трансформаций.**

***Ключевые слова:* логика науки, наука логики, логика технологий, история науки, наука истории.**

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