Mental Dimension in Social Causalities: Past and Future

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Following an old tradition, the political analysts tend to exaggerate the role of economic and resource factors, which entail prognostication errors. This paper shows that in most historical cases, mental contents, conditions and fluctuation in mass moods, ambitions, talents of authoritative leaders and other "subjective' factors of the kind determine social events more substantially than any outside factors. Economic and political spheres intersect during quiet phases and far diverge as crisis phases approach. In addition, the specific weight of mental phenomena in system dependencies has been growing throughout human history, so that in the 21st century, it is the evolution in worldviews, values and meanings that ultimately determines the viability of our planetary civilization.

Key Words: psychology, policy, economy, interests, ambitions, moods, forecasting, war, revolution, technologies, violence, culture, balance, history, global future, Singularity, scenarios.

Psychology is a most cunning lady. She laughs up her sleeve as you go back to the past so far as you like having left her alone and roars with laughter as you take a step forward ignoring her.

Yakiv Osvitleni

Psychology vs. Economy in the World Wars

All that threatens by death
Hides unexpressed pleasures
For the heart of a mortal.

Alexander Pushkin

In 1909, future Nobel Prize winner Norman Angell first published his bestseller [Angell, 1911] in which he conclusively proved that wars would never more occur in Europe, as far as they did not make economic sense any longer. The national economies were so closely intertwined, he argued, that the destruction of one would entail the destruction of all.

The book was translated into twenty-five languages and published in millions of copies. The author's arguments could not fail to persuade any "materialistically" minded analyst who strongly believed in the economic substratum of political events. Friedrich Engels's old dream about a world war that would destroy bourgeois society and set the stage for the worldwide proletarian revolution was now losing its ground, which caused great anxiety among the new generation Marxists. In January 1913, Vladimir Lenin wrote disappointedly: "A war between Austria and Russia might be very useful for the revolution… but it is hardly probable that Franz Josef and Nikolai will afford us this pleasure" [Lenin 1970: 155].

After the war began, Lenin diligently argued that it had been inevitable because of the immanent economic contradictions inside the exploiter classes and the only thing that could stop wars forever was the dictatorship of the proletariat.

Meanwhile, as we consider the following developments attentively, we find that in fact, the world war had neither real economic background nor even a reasonable ideological pretext. The German ideologists declared the defense of *culture* while their French colleagues called to fight for *civilization*; this art-less leitmotif arranged with patriotic march melodies convinced tens of millions of enlightened Europeans to march into the line of fire.

It is worth mentioning that after the murderous Thirty-Year War (1618–1648) was over and the "Westphalian Sovereignty" political system had been conceived, Europe became a relatively conflict-free oasis on the Earth. The 18-19th century European wars differed from the ones outside Europe by their "humanism" and reduced body counts. For instance, over the entire 19th century, about 5.5 million Europeans perished in the 19th wars (roughly a hundred thousand of them in the colonies) [Urlanis, 1994], while the Chinese Opium Wars and Tàipíng Insurrection alone clamed 60 to 100 million victims [Wang Yumin, 1993; Cao Shuji, 2001].

Since 1871, inter-state relations inside Europe had been almost irreproachable, which made highly plausible any suggestions about the end of war story in the "civilized" part of the world. Very few saw a militarist perspective in the fact that the accumulated boredom of monotonous being, deficit of meanings and of acute sensations had given rise to all sorts of fashionable exaltations up to the collective suicides in the first decade of the 20th century [Mogilner, 1994; Rafalyuk, 2012].

Soon, however, it became clear that the relative tranquility in Europe had been ensured by the spacious outside reservoir for rechanneling aggression from the dynamically developing "center of the world" to its "peripheral" regions, and as soon as the relieving space was exhausted, aggression was reoriented inside the leading region. Since 1911, the general psychological atmosphere there had been undergoing radical change: the public was seized by an irrational longing for "small victorious wars": Peter Sloterdijk [1983] called this state of mind *a mass catastrophophilia complex*. Political leaders encouraged by the masses were not always consciously but still methodically forcing the situation and pushing Europe toward great bloodshed.

Contemporaries unanimously recalled the "marvelous first days of the August" (1914) and the *festal spirit* in the capitals. Those memories are corroborated by the photos of the rapturous crowds in the streets of Berlin, Paris, Vienne and St. Petersburg — Petrograd. German intellectuals enthusiastically wrote that at last, authentic life was starting instead of the meaningless existence of previous decades [Sloterdijk, 1983]. A social-democrat acquaintance said to Leon Trotsky: "In three to four months, we will give Europe a firm peace" having sorted things out with France and Russia. Meanwhile, French and English ambassadors in Petrograd bet 5 pounds on whether the military campaign would reach its victorious conclusion by Christmas or Easter [Trotsky, 2001: 232-237].

After the end of the Great War, shell-shocked Europeans expected new fits of aggression from Germany [Magadeev, 2011]. Yet, by the late 1920s, fear had dissipated regarding the "humiliated and embittered" and political analytics turned back to the economic logic. Relevant argument implied that so far as England and the US were struggling for European markets, these two countries would be the leading figures in the next war. Trotsky, who had been expelled from the USSR and was living in England, wrote in 1929: "Anglo-American antagonism has burst open seriously at last. Even Stalin and Bukharin begin to understand the matter… The affair is rapidly approaching its bloody outcome" [Trotsky, 2001: 536].

Many analysts expected military development of the contradictions between the two leading economic powers. Still in July 1940, to argue the priority of the Eastern vector of military expansion Adolf Hitler stated that only the fear of Communist Russia was bringing together England and the US; thus, as soon as Russia was defeated, their coalition would break. Innumerous intrigues, miscalculations, mutual deceptions and self-delusions transformed repeatedly the configuration of alliances in a potential war. After all, England and the US found themselves on the same side of the battlefield and, what is more, in coalition with the country of the "victorious proletariat" against the one which had so recently been a bulwark of free-market democracy. Despite their best efforts, Marxist ideologists failed to explain this economic nonsense from the point of view of "class interests"…

Careful analysis of 20th century wars and their premises leaves an impression that the economic rational has been attaching to them mostly *post factum*. This is true about previous époques as well.

"Medieval wars can hardly be explained by socio-economic reasons", the well-known Soviet historian Igor Dyakonov wrote. "Almost all of them (like the ones from both earlier and later times) may be explained very simply from the social-psychological point of view, as a result of the inherent human aggression" [Dyakonov, 1994: 70]. The French historian Philippe Contamine classified medieval armed conflicts by typical motives. Of the seven positions, only the last one relates to "the economic wars waged for spoils, taking over natural resources or trade routes and centers of merchant control" [Contamine, 2003: 479].

Here is yet another telling quotation from a history book: "The Mongolian conquerors led by Genghis Khan and Batu Khan were dragging with them enormous combat trophies which were absolutely useless. Those trophies impeded troops' free movement and were thrown away to more surely fill up the endless riches in the newly conquered towns. Very few of the treasures came to the Central Asian 'metropolitan country'. In the late 14th — the 15th centuries, people were roaming Mongolia with the same poor goods and chattels as on the eve of the world conquests" [Chernykh, 1988: 265].

The avoidance of avarice in war is even more inherent to primitive tribes. Their animistic thinking in fact rejects robbery and enrichment: booty can bring revenge on the offender for its killed owner. Not appropriation but rather destruction and defilement of the defeated enemies' property are typical for the hunter-gatherers, and the best trophies are in many cases severed human heads. Nevertheless, armed conflicts occur both in lean years (competition for the hunting lands) and in abundant ones [Pershits et al., 1994]. Geographic comparisons show that the armed conflict before the Neolithic is frequency proportional to the ecological comfort of the territories [Kazankov, 2002]. In total, the level of mortal violence in the Paleolithic is one and a half orders of magnitude more than even in the 20th century Europe with its world and civil wars [Keeley, 1996].

Further on, we will show that the role of the economic determinants is largely exaggerated or even at times profaned not only in the case of wars but regarding other social tensions as well.

Interest as a factor in policy. Niccolo Machiavelli

Policy is the concentrated representation of economy.
Vladimir Lenin

The idea of mercantile interests as the determinant in political activities dates back to the 16th century. It was revolutionary and highly productive in-sight in its time, a leap out of the

outdated and self-destructive mystical worldview that predominated. To understand it fully, it is worth reviewing the ideological context of the age.

The medieval ideologists used to substantiate all political actions by purely moral arguments; the more repulsive those actions look in the humanistic view, the more zealously they were substantiated by religious and moral reasoning. Any wars, butchery of the infidels or witch-hunts were carried out to the will of God.

This universal and almost invulnerable picture embraced both social and physical Cosmos. The scholastics in the Late Middle Ages, having newly (after the centuries of ignoring the Antique culture by the Christians) mastered the Aristotelian category of *telic causality*; saw the analogy of their feudal relations everywhere. The stone falls down because it, like a serf, strives for the earth. The leaf, like a burgher doesn't strive so strongly, while even nobler substances like smoke strive for the sky as they are similar to the aristocrats. The celestial bodies belong to the Royal family and therefore, they move in the upper spheres following perfect circular orbits. The Divine universe was once and forever constructed in terms of rites and ranks discrimination and it favored human lives till all followed the established law; otherwise, calamities like thunder and lightning, inundations, hunger and epidemics punished people [Spektorsky, 1910]. The God's wrath was drawn upon the Christians because the Holy Sepulchre remained in the infidels' hands and because they tolerated Antichrist settlements (like Jews, Muslims or the Huguenots) near them or at-tractive women who distracted males from their grand thoughts…

Meanwhile, a most severe agricultural crisis was gaining momentum in Europe. Forests were being cut down, lakes and rivers were extremely contaminated, drought and mortal epidemics terrorized people both in rural areas and overcrowded towns and wars became even bloodier than they had been before; all those circumstances put the region on the verge of survival. According to a demographer's estimates, "urban European population of that period may have been among the nutritionally most impoverished, the most disease-ridden, and the shortest-lived populations in human history" [Cohen, 1989: 141].

The Europeans' self-preservation required new dominant worldviews and value orientations. Thus, the ideas and images which had been rejected by former époques became demanded in the new situation: the time for the *great cynics* came. The heliocentric model inherited from the Pythagoreans devaluated the concepts of "top" and "bottom". Nicholas Copernicus's theoretical construction was not much more verified than the judgments by Aristarchus of Samos (the 3rd century BC) about the Earth revolving around the Sun: till the planet orbits were considered perfectly round (i.e. before Kepler laws), the Ptolemaic system's forecasts about celestial body movements were more precise, and till the concept of gravitation was unknown, both everyday experience, logic and normal intuition were on the geocentric view's side. However, Aristarchus had been a laughingstock for his contemporaries, while the great Polish turned the world over. His spirited follower Giordano Bruno, shortly before he perished at the stake of the Inquisition fire, declared that by discovering a new star on the sky named the Earth Copernicus had shown the truth to the mankind: "We are already living on the sky and we don't need the clericals' Heaven any longer" (quoted in [Sheler, 1991: 135]).

The new astronomy desacralized the unshakeable feudal society's hierarchy. To construct the naturalist world picture, Galileo and Francis Bacon splintered the Aristotelian *telic causalities* concept and excluded any actor-oriented or telic assumptions as scholastic vestiges: "Truthful knowledge is the knowledge of causes!" Later on, with the Newtonian celestial mechanics, the former anthropomorphous cosmic hierarchy was substituted by a kind of worldwide anarchy, which later on developed into democracy: total cosmic homogeneity

and submission of all of the objects and movements to a single mechanism.

Since then, all and any inequalities were taken as prejudices and the intellectual mainstream in Western Europe was to actively disavow them: these were conceptual premises of the coming era of bourgeois revolutions. Rene Descartes extrapolated the idea of Galilean mechanics to the science of life by representing the animals as "reflex automates." Thomas Hobbes developed the conception of "social physics" by joining "natural and political laws." Benedict Spinoza objected to the Cartesian dualism by defining human being as a "spiritual automat" and psychology as the "physics of human soul" [Bagdasarian et al., 2015].

The brilliant thinker Niccolo Machiavelli was Copernicus's contemporary, whose judgments of policy to some extent anticipated both Galileo's naturalist attitudes and the subsequent "physicalization" of the humanities. It was Machiavelli who resolutely debunked the moral demagogy and put the category of *interest* in the background of political analytics. If we generalize the essence of his argumentation and translate it into our contemporary language, it looks as follows.

The appeals to God's will are not the true motives of political decisions and actions but rather the means for their rationalization. In fact, the Crusades are organized for the sake of robbery in the rich Middle East lands. Huguenots and Jews are attacked in order to take possession of their properties. An at-tractive woman is burned on the square not for being a "witch" or a "sorceress" but for having refused to serve to the aged pope gratuitously, and so on.

From there, there was only one step to recognizing that the interests which entail relevant political decisions, are in their essence *economic*; as far as this axiom was consonant to the "reductionist" intellectual spirit, it soon be-came prevalent. The allegory of the "invisible hand" of the market (Adam Smith) which led economic and political processes was widespread in the 18th century; in the 19th century, the idea of economic determination was developed by the philosophy of *historical materialism*. In spite of many Marxists' declared refusal to accept Paul Lafarge's term "economic determinism", the postulate of policy as concentrated economy remains the ABC of the Marxist social thinking.

It is not only Marx's adherents, however, who persistently follow this same postulate. In the beginning of the paper, we cited examples to demonstrate how political forecasts following the game of economic interests produced tragicomically deceptive results. We may easily observe similar situation today. The commentators find far going commercial plans beyond any clumsiness in politicians' activities, although their conjectures look like detective stories rather than operative patterns. Nevertheless, this kind of reasoning is usually taken for depth of thought by both editors and the enlightened public.

Interests, ambitions and emotions. From Alexis de Tocqueville to political psychology

A politician needs the ability to foretell what is going to happen tomorrow, next week, next month, and next year... and afterwards to explain why it did not happen.

Winston Churchill

The French sociologist Alexis de Tocqueville is famous for his surprisingly refined judgments and adequate long-term historical forecasts which radically differed from his contemporaries' beliefs. Thus, in 1835, 14 years before Engels [1959] predicted the total extermination of the "barbarian" Slavic peoples and while most of the Europeans saw in the transatlantic cowboys some-thing like aboriginal savages, de Tocqueville reasoned that the US and Russia would be the leading agents in the 20th century political life. He even gleaned

how their cultural and psychological traditions would influence their international policy [Tocqueville, 2000].

One of Tocqueville's discoveries deals with the mechanism of revolutionary outburst. Even before Karl Marx and his adherents started to assure their readers that the immediate reason for revolutions was the "relative and absolute impoverishment of the masses", Tocqueville found a quite opposite causality. He paid attention to the fact that by 1789, the French peasants' and craftsmen's standard of living had been the highest in Europe, and North America had been the richest and the most flourishing colony in the world on the eve of the anticolonial revolution. So, mass disorders, in his conclusion, do not usually occur when people are really disadvantaged but on the contrary, they are preceded by growing welfare.

Subsequent generalization of the 20th and the early 21st centuries' experiences confirm that revolutions are foregone by the growth in economic opportunities and/or vertical mobility, information availability and so on. In some cases, this is accompanied by lowering child mortality and increasing portion of youth in the population (the first phase of demographic transition). The growing life standards entail advance growth of aspirations and expectancies, and through these lens, social dynamic looks perversely. In practice, we often register the intensifying dissatisfactions by focus group procedure: everyday appraisals are contrary to the optimistic diagrams in the administrative offices; we have called this paradoxical effect *retrospective aberration*. If the objective situation has been improving for long time, this may be supplemented by euphoria, a sense of omnipotence and irrational thirst for new and new "victories", i.e. the *catastrophophilia* complex mentioned above. Sooner or later, relative abatement follows (in some cases, it is due to the war which turns out to be neither "small" nor "victorious" as it was expected) and in contrast to the growing expectancies, it gives birth to frustration. The latter, in its turn, provokes either depression or a splash of aggression, which soon finds its victims. These can be strangers, adherents of a different faith or ruling elites: here, the "subjective factors" like parties' activities or agitators' talents are determinant.

By now, the pattern of social disorders, their mechanisms and premises has been developed in many details [Davis, 1969; Goldstone, 2002; Nazaretyan, 2005; Nazaretyan, 2017; Korotayev et al., 2011; Shultz, 2014] and it is one more of many reasons to reconsider the outdated belief in the economic determination. As we analyze significant events before and after they happen, we may note that both policy and economy are spheres of implementation of mental contents (value orientations, norms and wavy rippling in mass moods and attitudes etc.) and have various areas of intersection in social dynamics. Economic considerations can to certain extent help us adequately forecast political decisions during the tranquil periods but retreat as soon as crisis phase is approaching. True, till arguments of the kind are popular, naïve quasi-economic myths often rise to support violent motivation, like the Communist revolutionaries' reasoning that after the exploited classes expropriate the exploiters' properties, the "poor" workers will become rich and prosperous. In fact, the real motives in such moments are personal, party, national and other ambitions, mass moods and influential leaders' impulses.

As we have seen above, economic factors in the inter-state armed conflicts are even more mythologized, as well as the old-fashioned ideological stereotype of the *national interests* as a factor in the international policy. I pro-pose that the reader repeats my simple experiment. Just ask a "patriotic" political scientist to indicate the countries in which the governments act for the sake of their "national interests", and you will see that one does not clearly understand what he or she is talking about and who the agent and the holder of those interests is.

Did bombing of Yugoslavia in 1999 respond to the "American nation's" interest? Which of the European nations was interested in crushing the authoritarian regimes in the Middle East and North Africa and thus provoking the new migration wave?

Then, perhaps, the matter is that statesmen are bribed by weapon manufacturers who want to increase their profits? Is it true that "all is bought and sold" in policy?

As a psychologist, I have consulted politicians of various countries, levels and ideological orientations for more than forty years; referring to my long experience, I dare to argue: this common prejudice is mostly a "projection" of the theorists' own attitudes. Based on my observations, a proportion of those who are ready to "sell" their services for money is lower among the professional politicians than among most of other professional groups. In many cases, these are individuals with a highest level of pretentions, ambitious, psychologically accentuated (if not maniacal) and dreaming about their posthumous glory. Monuments on the squares and texts in the manuals appear in their night dreams much more frequently than in the ones of "normal" individuals. Moreover, the monuments may fall down, wrinkle or bend, and the lines may blur into a black stain: such is the requital for the humiliating compromise.

One should not take this just for a lyricism. It is more problematic to "buy" a man or woman who is anxious about his/her image in future history than a one who is concerned mostly by his/her current problems. The matter is not so much the sum of money but the fanciful arguments to bring into play the psychological defense mechanisms of the person "to be bought".

The economic causality patterns well describe the past, as far as it is "non-falsifiable" and defenseless against any speculations; yet, their forecasting validity is dubious. Psychologists are those who have to explain why the real events radically diverge from the well-composed prescriptions by the economists as far as the latter hardly distinguish between the concepts like *interests, ambitions or impulses*.

Besides, the specific weight of mental factors in the complex of causalities has been raising throughout history, so the growing role of psychology matters even more for the faraway perspective. So far, most of the global scientists use to follow the familiar methodology stressing economic, demographic, ecologic or energetic calculations and underestimating the fact that all re-source bases radically depend on the creative mind development. In fact, the developments in mental reality are the key determinant of our planet's viability in future.

Order out of chaos

If only you could know out of what garbage
The verses grow…

Anna Akhmatova

Although the chaotic game of ambitions, moods, impulses and interests looks like the Brownian movement, the long-term retrospective analysis dis-covers a bundle of interrelated end-to-end vectors in history. Especially remarkable one is that throughout millennia, in spite of the growing up destructive power of technologies and demographic densities (thus, mutual killing made easier) the level of physical violence has been nonlinearly but progressively falling down.

This paradoxical fact is demonstrated by special calculations of the *Bloodshed Ratio* (BR, the relation of the average number of killings per time unit to the population number) [Nazaretyan, 2010; Nazaretyan, 2017; Pinker, 2011]. To explain it, we resort to the pattern of *techno-humanitarian balance*, which finds system links among three parameters:

technological potential, cultural regulation quality and society's inner sustainability. It claims that *the higher the power of production and war technologies, the more advanced behavior-restraint is required to enable self-preservation of the society*.

The humans were not getting "less aggressive" with time and their moral or other restrictions were not descending from the sky either: these were conditions for social sustainability. The matter is that to overcome new and new anthropogenic crises and catastrophes culture has been perfecting its aggression-sublimation to transfer violence from the physical to the virtual sphere [Nazaretyan, 2010; Nazaretyan, 2017; Balashova, 2012]. Our investigations show that misbalanced societies have been successively discarded by destroying their social and/or natural environment and thus fallen victim to their own decompensated power. The history was at each crucial episode continued by the ones that managed to adjust their cultural and psychological self-regulation to the grown instrumental might in proper time. So we see one of the selective mechanisms by which the vectors of social development have been lined up out of the chaos of ambitions, emotional impulses and ill-conceived activities. Thanks to the historical selection, the *Homo* genus has not so far definitively destroyed itself and its environment in spite of the destructive technologies' growing power throughout millions of years.

Recent scientific data have completed this picture with some additional details. The vectors in social history and prehistory continue the ones observed in the evolution of biosphere and before that in cosmic evolution: complicating structures and formation of sustainable systems more and more removed from the equilibrium with their environment. Besides, the dynamics of the vector transformations seems to have followed its own logic. Namely, evolutionary slowdown in the first billions of years after the Big Bang was followed by the acceleration after the heavy elements had been synthesized in the bowels of the first generation stars and thrown out into the cosmic space. Thereafter, a new self-organization mechanism was originated by the competition for free energy [Panov, 2006]. Near 4 billion years ago, the process was localized on the Earth and probably in some other points of the Universe.

One more surprising discovery was made by correlating the geological timetable with the phases in the evolution of anthroposphere. This procedure made clear that the acceleration of evolutionary processes on the Earth (the reduction of time intervals between global phase transitions) has followed a simple logarithmic formula. So, during the billions of years, while continents were drifting, powerful volcanoes were erupting, big meteorites were falling down and climate repeatedly changed, then the humans with their "free will" and continual extravagancies appeared — in spite of all that, the global phase transitions followed each other as if there were a schedule!

Surely, none of the researchers abstained from the temptation to extrapolate the drawn hyperbole to the future and there we face an even more unexpected deduction. A series of independent calculations carried out by scientists from various countries and fields who used different sources and even mathematic procedures coincided in the conclusive point. To wit, near the mid-21st century, the planetary evolution acceleration hyperbole turns into a vertical, i.e. the speed of transformations tends to infinity and the intervals between phase transitions vanish [Snooks, 1996; Panov, 2005a,b; Panov, 2008; Kurzweil, 2005; Eden et al., 2012]. This mathematical conclusion was called *Snooks — Panov's Vertical*, or *Kurzweil's Singularity*. In 2008, the University of Singularity was set up in NASA, and in 2010, the Centre of Mega-history and System Fore-casting appeared at the Institute of East Research, the Russian Academy of Sciences. Branches of the two organizations are being formed in various countries.

What kind of objective reality might be there beyond such an exotic mathematical inference? Probably, the Earth civilization is facing a dramatic phase transition which is comparable by its global (or cosmic?) importance with the emergence of life and the intrigue of the four-billion-year-long evolution on the Earth is to be solved in the observable future. We will not consider simple and strange attractors and scenarios which are discernible beyond the planetary evolution horizon here (for details see [Nazaretyan, 2016; Nazaretyan, 2017], noting that its continuations are related to the conditions of mental growth.

Psychological nucleus of the 21st century global problems

In fact, the people living today are the most important ever to walk the surface of the planet, since they will deter-mine whether we attain this goal or descend into chaos.

Mitio Kaku

In the second half of the 20th century, professional astrophysicists almost unanimously believed that life, culture and mind were nothing but side products of the spontaneous transformations in the cosmic matter. Those products could not play any active role in the cosmic evolution and, therefore, all of the creations of human intelligence were doomed to dissolve with time in the ruthless universal entropy. Books on cosmology were full of reflections on this subject; moreover, the texts with strict arguments and mathematical formulas were interrupted by artistic metaphors as soon as the inevitable cosmic death in the long run was mentioned. Very typical is the remark by the Nobel Prize winner Steven Weinberg [1993] that only the understanding of the inevitable end gives the "farce" of human existence a tint of a "high tragedy".

Only some of the Soviet physicists (or descendants from the USSR) who had been influenced by the Russian Cosmic philosophy ventured to express an alternative view: "We belong to the uncommon extreme optimists who believe that humanity with its growing knowledge may become a godlike actor who will boldly turn the steering wheel of our Universe's evolution" [Novikov, 1988: 168]. Remarks like this one remained exotic in scientific literature, till the considerations about intellectual activities' growing influence on the natural processes were limited to the planet scale.

Meanwhile, following relevant publications from the late 1990s on, we can see how those "naturalist" scenarios have been losing their popularity. Assertions about consciousness as a "cosmologically fundamental fact", the conclusive influence of the developing intelligence on subsequent evolution of the Metagalaxy, the perspectives of "living cosmos" and even more ones that are unorthodox are widespread among the professional physicists of high authority. In the new intellectual mainstream, no "physical laws" impose absolute bans on creative engineering (see [Deutsch, 1997; Rees, 1997; Davies, 2004; Smolin, 2006; Kaku, 2014] and others).

This conforms to the classical studies in Gestalt psychology and heuristics, which have demonstrated that those parameters of a problem that are un-controllable constants inside certain model, become manageable variables with-in a more complex meta-model [Dunker, 1935]. Thereby, both creative psychology and modern cosmology agree in the assumption that any outside boundaries are surmountable by changes in the cognitive meta-system and the potentialities of intellectual control in the matter-energy world may be unlimited in principle.

However, unfortunately, this does not guarantee cosmic future for the humanity or any "post-human" intelligence. Thus, modern astronomy registers a couple of new exoplanets (the ones outside the Solar System) a week in average, among them there are a small number of ones

rather similar to the Earth [Kaku, 2014], nevertheless, the efforts to register a slightest testimony of mind's activities in cosmos for more than half a century remain fruitless. Since the classical theory implies that there must have formed far advanced civilizations in the Metagalaxy the absence of their available signs is known as the *Fermi Paradox*: "Where are they?"

To simply explain the paradox, the astronomers referred to the weakness of the research procedures and insufficient overview of the sky; some even suggested that extraterrestrial civilizations were deliberately "escaping" from contacts with the aggressive Earthly humans. However, new arguments have been accumulated lately for alternative versions of the "silent Cosmos". The analysis of the crucial episodes in the evolution of bio- and anthroposphere shows that each one could have ended with the crush of the whole system or its "hung-up", so that the planetary evolution would have interrupted at previous stages.

Following the General System Theory's *Implementation Principle* (*all* of possible events *do* occur) we should suggest that after living matter emerged, biological evolution was localized on various planets, so that all of the dead-end scenarios came into being[2]. We are living on the Earth thanks to the fact that so far, each of the global bifurcation phases has resolved by a new step towards *the vertical strange attractor*, i.e. the global system's sustainability was every time reestablished on a higher level of outside non-equilibrium by means of inner structure's complication and perfection of the anti-entropy mechanisms. Particularly, both our remote and recent ancestors have managed to progressively adjust their cultural and psychological regulators to the growing technological might at pre-social and social stages of global evolution.

So, in one of the alternative versions, the Cosmic Silence is due to the inevitable attenuation of most of the evolution hotbeds. It also makes us suggest that the emergence of a *cosmically relevant intelligence* is either impossible (as any intellectual subject sooner or later loses his capacity to cope with his own growing technological power and thus destroys himself before cosmic potential is achieved) or highly improbable — much more improbable than even the spontaneous emergence of a living cell. If it is so, the approaching Singularity looks like just the peak which has not been able (and will not be able?) to overcome any of the evolving planetary civilizations because of some basic common qualities of the mind and even perhaps of the brain[3].

We are accustomed to considering ourselves the total owners in our inner world which is boundlessness is restricted only by the "laws of nature"; where-as, what can play a fatal role in the planetary civilization's destiny is that "psychological laws" will prove to be more rigid than the ones of the physical world. If the range of control over humans' proper impulses and irrational motivations proves to be disproportioned with the range of control over mass and energy, the techno-humanitarian imbalance will definitely wipe out our civilization. The techno-humanitarian balance pattern implies that any intelligence since the beginning carries

[2] Some of the latest empirical findings indirectly confirm this assumption. Researchers at the Paleontology Institute in Moscow have found the signs of the most primitive life on the Earth before the formation of the ocean; the director of the Institute Alexey Rozanov [2009] considers this as an argument for its extra-terrestrial origin. On their part, the biologists have found the bacteria, which are able to bear highest doses of radiation and live very long without water; those organisms are good for long cosmic travels [Mazur, 2010].

[3] We have functional need for experiencing *all* of the emotions, including the so called *negative* ones like fear, hatred and so on programmed in our brain's limbic structure. Moreover, prolonged excitement deprivation lowers relevant neurons' excitability threshold [Lorenz, 1981; Baringa, 1992], while up to date, culture has been able to develop the mechanisms of only temporary aggression-sublimation into the virtual sphere.

a self-destruction program, so that the issue is about how long it can be blocked and whether or not it can be consciously dismounted after all.

From there, we consider two possible hypotheses. 1. The humanitarian component sooner or later ceases to balance the growth in the technological intelligence and thus, any evolving actor exterminates himself. 2. The universal natural selection by discarding imbalanced planetary civilizations leaves a cosmic perspective for very few (perhaps, a single one) in which consciousness with non-confrontational attitudes is developed.

Here, we see the intrigue, which is forced by the coming Singularity. Will the intelligence developed on the Earth manage to step on to the cosmically relevant stage or will the evolution on our planet remain the universal evolution's active storage and one of its deadlock lines? How far is humanitarian self-control able in principle to advance and will in fact advance to compensate for the accelerating growth in technological power without losing active motivation? Will human (or post-human) mind manage to appropriate the strategic life meanings free from religious or quasi-religious ideologies which are consistently reproducing the "them-us" mental matrix and base any group solidarity on the image of common enemy? Otherwise, will the peak of history be followed by the "descending branch" which many European philosophers mentioned in the 18th–19th centuries, although they used to put this transition off thousands, millions and hundreds of millions years in future?

On the historical turning-point

We have created a Star Wars civilization, with Stone Age emotions, medieval institutions, and godlike technology.

Edward Wilson

In 2003, the Royal astronomer of Great Britain Sir Martin Rees [2003] appraised the Earth civilization's chances to survive the 21st century as 50:50, which corresponded to our own scenarios at that time. Actually, we must recognize that further developments have not been following the optimal scripts.

Indeed, the historical record of nonviolence marked the first decade. In the UN and the WHO data, near half a million people a year died overall in international, everyday conflicts and political repressions during the 2000s, which was less than the number of suicides (over 800 thousand a year) [Krug et al., 2002; Global…, 2011]. Since the Earth population was approaching 7 billion, the *BR* coefficient was unprecedentedly low; this gave reason for a cautious optimism.

Yet, since 2011, the dynamics have been worsening; the situation literally repeats the European history course of events a hundred years ago, with a slight specification: instead of the continental scale, we now see its worldwide analogue. The global geopolitical system looks more and more imbalanced, the international law is becoming a nostalgic reminiscence of itself, and the intellectual quality of the political leaders and their decisions is falling down. The first signs of this trend were registered in the late 1990s and became definite after 2011. Simultaneously, the lines between the conditions of peace and war and between combat and any other technologies are blurring: this reminds the Stone Age situation charged by modern destructive power.

The author of this paper wrote in 2003 about the dangerously increasing thirst for the "small victorious wars", which had no reason except the politicians' desire to please the voters who felt bored after the Cold War was over and the euphoria of victory demanded new demonstrations (I referred to the Yugoslavian and the Iraqi adventures) [Nazaretyan, 2003].

Before that, the American historian, specialist in the Late Ancient Rome Susan Mattern had found sinister similarities between the new US leaders' international activities and the ones of the Roman authorities on the eve of the Empire's crush [Mattern, 1999]. In the next years, the *catastrophophilia* symptoms have been spreading from the two hotbeds — the USA and the Middle East covering new regions (Russia has been lately among those infected by this mental epidemic too).

Lowered mental immunity is usually conditioned by the *value gap* and the *deficit of meanings*, a hard plague of the "consumption society" [Baumeister, 1991]. *Searching for the enemy* remains the simplest and the most archaic mechanism to gain strategic meanings, so that the ideologists of market economy disconnected from its Protestant background try to reanimate its motiva-tion resource by means of creating new and new demons. Other ideologies, which agitated the 20th century, have lost their emotional attractiveness, so that the opponents of the market "globalization" draw meanings from the well of religious and national fundamentalism. Consequently, the bipolar matrix in the geopolitical mentality ("them-us") is conserved and instead of the multipolar or poleless world — the dream of many in the late 1980s and the early 1990s — we actually find the *pathology of poles* in the global geopolitics [Nazaretyan, 2015].

On one pole, we see the Western and especially the American elite, still infected by the euphoria of "Cold War" victory who have forgotten their predecessors' (in the 1960-1980s) habit to estimate several moves forward and are facing one boomerang effect after another on the international area. The other pole which has been emptied after the USSR defeat, is filled by the terrorist groups and gangs, the ones that were cherished by the opposing military blocks in their time and then left alone by their bosses and thus grew wild. This system mechanism is familiar in ecology: for instance, after wolfs are shoot out, their niche is usually occupied by the feral dogs which are more dangerous in this function both for the nature and for the humans, so that they can be expelled only by returning new wolfs.

The deductive analogy makes us suggest that if a responsible actor equipped with an effective meaning-producing worldview and able to reestablish the lost balance in the global geopolitical system does not arise on the international scene, our civilization's perspective may be sad. A mind that identifies itself by national, confessional, testament or other indications of this kind can never be planetary or even less cosmic and thus, cannot continue the progressive evolution. Only by freeing ourselves form macro-group identities, humanity gets a chance to form a valuable network world community, which might overcome the "them-us" discrimination. Therefore, we turn back to the strategic life meanings purified from hostile images as the nucleus of the 21st century global problems.

We have been studying this problem together with physicists, cosmologists, biologists, anthropologists, historians and psychologists. Our group has tracked the experience of meaning formation in a context free from ideological confrontations since the early Axial time (2.5 thousand years ago) [Nazaretyan, 2017]. The instructive experience has been kept mostly as "redundant variety" in the spiritual culture's outlying spheres, although demanded repeatedly to help technologically advanced societies overcome the imbalances fraught with catastrophe. Particularly, the fateful solutions in the 20th century world policy based on the non-confrontation solidarity (the non-use of nuclear weapon, the ban on nuclear tests in atmosphere, hydrosphere and cosmos and global ecological measures) are among the highest achievements of human spirit and the argument for the leading politicians' ability to rapidly "grow sober" at the history's sharp turns.

It is also shown in [Nazaretyan, 2017] that modern (post-classic) science, unlike its classic version, is not indifferent to human aims, values and meanings: it is creating a deep background for the long-term life orientations. The ability to assimilate the new life strategies might be supported by the development of symbiotic forms of mind and its substrate. Yet, this does not remove from the agenda either the question of the top limits in the development of self-control potential or the one of the comparative dynamic in the development of the technological and the humanitarian sides of human mind…

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