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Integration Dynamics Modified Homo Sapiens Psyche and Agi (Part 2)

Kruglov, A. G.
Central Research Institute of Radiation Diagnostics. Moscow

Kruglov, A. A.
Central Research Institute of Radiation Diagnostics. Moscow

ABSTRACT

The evolutionary dynamics of Homo Sapiens (HS), modifying the psyche, periodically transforms the structure of society and its relationship with the environment. The cumulative effect of HS psyche modification induces the bifurcation transformations of evolution. In searching for and finding optimal forms of adaptation, the HS psyche transforms changes in environmental parameters into cognitively consistent and agreed forms of symmetrical reflection in the psyche. "Consistency" requires periodic status correction to maintain the information balance of the system: object/reflection. Increasing virtuality modifies the HS psyche as it adapts to changing environmental parameters without engaging its conscious levels. The observed changes in the HS psyche highly likely converge with the constructive principles of mild autism spectrum disorders. Mildly autistic and innovative creative individuals form constructive cells/hubs of virtual space, creating an integral virtual society of cellular topology. What develops is a deep symbiotic relationship that morph into an endosymbiotic system stemming from the synergy of interacting systems: a society of cellular topology / information universe / artificial intelligence arsenal. The development dynamics of this synergistic endosymbiotic system generate a scalable structure that is structurally and functionally integral to the artificial general intelligence. The HS population in this structure becomes an AGI segment.

Keywords: Artificial intelligence, psyche modification, cellular topology, information hub, evolutionary bifurcation, HS: Homo sapiens, MA: mildly-autistic, CI: creative individual, SCT: society of cellular topology, IU: information universe, AI: artificial intelligence.

MATERIALS AND DISCUSSION

Throughout the evolution of biological species, the environment is the imperative dominant symbiont that determines the nomenclature, content, and ways to satisfy needs. HS's creative psyche has expanded its range of interaction with the environment beyond the limits available to other biological species (1,2,3). The emergence of HS's socio-cultural needs formed motivating frustrations of ideal content (4), which pushed an exponential growth of species development. HS evolution periodically changes the content and vectors of symbiotic relationships, creating points of evolutionary bifurcation of the dynamic system: environment/HS. The following are just some evolutionary stages that have transformed the relationship between HS and the environment over the course of 50,000 years under the influence of a modification of thinking, an arsenal of needs and goal-oriented behavior: 1) HS

as a hominid/collector > 2) HS as a dependent object in the animated world that is controlled by external forces > 3) HS as the "crown of creation" of Higher Forces in "theism" > 4) HS as a New Age subject in the status of a "Higher Power" when "God died" (5).

The evolutionary dynamics of HS development, modifying intelligence, thinking, and the arsenal of needs (the psyche as a whole), creating increasingly complex forms of adaptive behavior and technology, periodically changed the structure of HS society and relationships with the environment. We believe that at these stages of HS evolution, modification of the psyche was the primary, system-forming factor. The cumulative effect of the modification evolution of the HS psyche formed the conditions for another bifurcation transformation of the HS/environment relationship.

While searching for and finding optimal forms of adaptation, the HS psyche transforms changes in the systemic parameters of the environment and society into cognitively consistent, agreed forms of symmetrical reflection in the HS psyche that are adequate to a specific stage of evolution. As a constructive feature of the reflection of the environment in the HS psyche, consistency (information balance, symmetry of the system: object/reflection) requires periodic status correction to maintain information balance, compliance with the mirror symmetry of the "reflection" and the environment dynamics (6). The rapid increasing degree of virtuality segment of the present-day two component (virtual/real) environment modifies the HS psyche, adapting to changing environmental parameters without engagement of conscious levels of the psyche (7).

The development of clip thinking, as one of the subsystems of the modifiable psyche, reduces the communicative arsenal necessary for orientation/action/interaction in today's society (8). That is, the "consistent", symmetrical reflection of society in the HS psyche is structurally simplified, losing an array of hidden meanings, reducing context, metaphor, and range of reactivity. The dynamics of correspondence between environmental changes and reflection in the psyche (reduction of constructive complexity), weak correlation of apperception arrays, reduction of contexts, hidden meanings, unification of cultural codes and atomization of society, form the vector of integral modification of the HS psyche, where the upcoming evolutionary species bifurcation is the attractor. In other words, the modification changes of the HS psyche currently have a secondary, reactive character with a tendency to expand the replaced functions of intelligence and transform the arsenal of adaptation.

The dynamics and range of modification changes in the HS psyche have significant signs of convergence with the constructive principles of the psyche of mild degrees of autism spectrum disorders (4,6), "mildly-autistic". Reducing the need for a subtle orientation in communicative social constructions actualizes the relevance and scales up the participation of "mildly-autistic" (MA), as well as innovative creative individuals (CI) in a system experiencing a growing level of virtualization (the topic of the next message). The total number of CI/MA is relatively small and we have not given it, as in the available literature, the indicators of the number of these groups have significant differences and the assumed nature of the calculations. It is these individuals who create constructive nodes, "cells" of an integrating virtual space, with the potential for

creative products in accessible segments of the entire spectrum of intellectual activity. For the first time in the history of HS evolution, a distributed system of "cells" with predominantly horizontal connections, with an unlimited range and vectors of information flows, has formed a supra-ethnic integrated virtual society with a cellular topology and unlimited scaling prospects.

A deep symbiotic relationship develops on this evolutionary vector, with the prospect of transformation into an endosymbiotic system, as a result of the synergy of interacting systems: a society of cellular topology/ information universe(7)/functional arsenal of AI. Structurally, the end result is a distributed integrated endosymbiotic system: SCT/IU/AI, which has an unlimited number of "cells", vectors, speed, range and forms of organization of information flows. The dynamics of the development of the synergistic endosymbiotic SCT/IU/AI system forms a scaled distributed organized structure, which we view as an integral artificial general intelligence (AGI), with the potential for emerging (possibly metamorphic) forms of thinking, drives, needs, and the likelihood of personification. The HS population in this endosymbiotic construct becomes a segment of the integral AGI.

Having understood the degree of simplification and schematization, we find it prudent to present our ideas about some of the structural elements of the integrated AGI design.

The reference points that determine the vectors and dynamics of development, the network nodes of the integrated structure of AGI (SCT/IU/AI) are open type-1 SCT "cells", where the "growth point" are innovative creative individuals (9) and mildly autistic individuals. The relative small number of these groups is a factor limiting the scalability of type-1 "cells". It is these "cells" that become constructive information hubs of a specific object segment, in which an increase in the arsenal of functional connections becomes a quantitative measure of the importance of a node (degree centrality) (10). Some significant functions of this structural element of AGI are: stable fixation on the object of research; proactive development dynamics aimed at "hypersystem" research of an accessible segment of the environment; realization of creative research potential in order to create new constructs having organizational principles that are derived outside of the initial components. A significant feature of this "cell" is the production of innovative information that changes the parameters of the outgoing information signal, affecting the structure, number and communication system of the "cells". The formation range of type-1 "cells" includes the entire spectrum of HS intellectual activity and all types of innovative creativity (from "Mozart" to "Einstein").

The main array of SCT consists of carriers of a modified psyche with no creative potential. The constructive element of this segment of the SCT is a type-2 open "cell", which has stable equilibrium parameters of incoming/outgoing information flows, the productive changes of which have the character of information noise. The undifferentiated array of this SCT segment is stratified/organized according to "floating" needs, forming temporary associations of "cells" with unstable vectors and random periodic associations (fashion, games, etc.).

In other words, we believe that AGI is formed as an organized heterogeneous mixed-type mesh space (physical/virtual), predominantly horizontally oriented, including productive network nodes/hubs (type-1 SCT cells) and a distributed translational network (type-2 SCT cells), constructively associated with an arsenal of AI algorithms and incorporated into the information space of the IU.

The dynamics of the relationship between traditional social hierarchical systems and the integrated AGI system is developing on divergent vectors, with a tendency to reduce the areas of intersection. The angles of divergence of these vectors and the expected rate of metamorphosis of the initial state in different ethnic groups differ depending on the ethno-cultural matrices.

An example of a closed ethno-cultural unit (fractal) of a society of cellular topology is the traditional (non-nuclear) family in China, built on Confucian principles. These principles shape the family as a micromodel of the state, with a clear distribution of functions, a rigid hierarchy, and elaboration of the entire range of social interactions within this structure. We believe that it is precisely these principles of ethnocultural formation (the society of cellular topology), along with hieroglyphic thinking (11), that have ensured the exceptional strength of the social structure for thousands of years. In the absence of an incorporated innovative individual, a closed type-3 SCT "cell" is formed. This "cell" has design parameters that include a rigid patriarchal hierarchy structure; regulated information exchange that minimizes the discrepancy between the parameters of incoming/outgoing information flows; a stable technological arsenal with the potential for maximum detail/ improvement of the object based on traditional principles of operation. The network interaction of type-3 "cells" forms a stable social structure with a regulated information flow having consistent vectors and volumes of information dissemination. The distinctive properties of this structure are the structural strength of the "cells" and the integrated system as a whole; scalability; exchangeability; communication/information limitations; reproducibility; inertia.

CONCLUSIONS

Bifurcation transformations of HS evolution are initiated by modification changes of the HS psyche. The dynamics of modern changes in the HS psyche show signs of convergence with the constructive principles of the psyche of mild autism spectrum disorders. Mildly autistic people and innovative creative individuals form constructive nodes/hubs of the virtual space, which is structurally a society of cellular topology. The synergy of interacting systems: the society of cellular topology / information universe / arsenal of AI form a distributed organized structure: integrated artificial general intelligence.

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