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Living Cognitive Society: A 'digital' World of Views

Viktoras Veitas *, David Weinbaum

The Global Brain Institute, Vrije Universiteit Brussel (VUB), Krijgskundestraat 33, B-1160 Brussels, Belgium

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ABSTRACT

The current social reality is characterized by all-encompassing change, which disrupts existing social structures at all levels. Yet the approach based on the ontological primacy of stable and often hierarchical structures is still prevalent in theoretical and, most importantly, practical thinking about social systems.

We propose a conceptual framework for thinking about a dynamically changing social system: the Living Cognitive Society. Importantly, we show how it follows from a much broader philosophical framework, guided by the theory of individuation, which emphasizes the importance of relationships and interactive processes in the evolution of a system.

The framework addresses society as a living cognitive system – an ecology of interacting social subsystems – each of which is also a living cognitive system. We argue that this approach can help us to conceive sustainable social systems that will thrive in the circumstances of accelerating change. The Living Cognitive Society is explained in terms of its fluid structure, dynamics and the mechanisms at work. We then discuss the disruptive effects of Information and Communication Technologies on the mechanisms at work.

We conclude by delineating a major topic for future research – distributed social governance – which focuses on processes of coordination rather than on stable structures within global society.

1. Introduction

Today's society and life in general is characterized by the all-encompassing fast change and movement. New technologies, new jobs, new opportunities, new dangers – i.e. new unknowns – seem to fall on us before we are able to figure out how to make sense of the current ones. Our psychological reactions vary among: (1) attempts to 'stabilize' the environment (social, political, technological, biological) by imposing more controls and checkpoints; (2) calls to embrace the change and ride its wave towards a 'new world order'; (3) ad-hoc proposals for dealing with challenges of our times (e.g. information overload); or — (4) a sense of helpless dis-attachment.

No matter what is the specific reaction to the socio-technological change we are experiencing, it is based on a way we make sense of ourselves, others and the world. Usually we base our sense-making on perceivable stable objects and their relationships in the world. A specific configuration of such objects and relationships within a system describes its state. The change of the system is then perceived as a chain of transitions between states. This is a well established mode of thinking which helped us tremendously in achieving most of what human civilization created since its beginning. But is it still valid in the era of the ever accelerating change?

This paper proposes the original conceptual framework for thinking about a changing social system and applies it to the contemporary situation of the global information society. The gist of the framework is the approach to a social system as a living cognitive system — an ecology of interacting social subsystems. We do this by developing the concept of *the Living Cognitive Society* — a distributed social system characterized by the interaction of multiplicity of heterogeneous agents and subsystems. First, we analyse the current situation of a global society, its underlying reasons and ask a question 'what kind of global system could sustain and thrive in these circumstances?' (Section 2). Then we provide a detailed tour to the theoretical concepts which form the basis of the framework (Section 3). The description of the main concepts is followed by the rationale of their integration (Section 4), which explicates the application of the theoretical basis of our framework to the situation of the global society. The locus of the paper is the detailed characterization of the Living Cognitive Society in terms of its structure, dynamics and the mechanisms at work (Section 5), building on notions and concepts introduced in the previous sections. Finally, we apply the concept and mechanisms of the framework to the thinking about the impact of information and communication technologies (ICT), particularly Internet, on the global society (Section 6). The issue of the governance of a Living Cognitive Society is intricately related to the mechanisms at work within the system, and also represents a distinct challenge and the field of research. We therefore dedicate the last section for introducing the paradigm of *distributed governance* (Section 7) as an avenue for future research.

* Corresponding author.
E-mail addresses: vveitas@gmail.com (V. Veitas), space9weaver@gmail.com (D. Weinbaum).

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We simultaneously aspire to several goals with this work. Most importantly, we aim to construe how the concept of the Living Cognitive Society, and our approach to the global information society, follows from a much broader philosophical and theoretical framework, guided by the theory of individuation. Therefore, while the theoretical framework alone has been developed elsewhere (Veitas and Weinbaum, 2015; Weinbaum and Veitas, 2016a; Weinbaum, 2012), this paper provides an integrated summary of the main concepts with references to appropriate sources.

Hence, the paper combines: the conceptual framework (Sections 3 and 4); the application of the framework to the social reality (Section 5); the role of ICT and Internet in the disruptive change of the global social system (Section 6); 'connective tissue' — the interpretation of the current situation of the society (Section 2) and consolidation of concepts with application (Section 4); the avenue for future research (Section 7). Above themes are not linearly presented, but rather intertwined in order to better convey the relation between philosophical framework and its application to the global social system. A number of cross-references is provided in the text for navigating its thematic structure.

2. The current situation of the global society

The current situation of the global society can be characterized by the overwhelming feeling that the world is changing too fast for a single human and society to comprehend (Heylighen, 2002a). This feeling furthermore extends to the inability of coping with the change, at least without a paradigmatic shift in how humans individually and humanity collectively relate to the world and themselves (Willke, 2007, p. 190). There are two aspects to the perception of disruptive change of our social reality, both playing an important role. The first is the actual acceleration of the life pace, which can be connected to the relative, yet increasing, separation of humans from nature. It is probably rooted in the dawn of the human civilization, but has 'become a fully fleshed out experiential concept only with Industrial Revolution' (Koselleck, 2009), and arguably is reaching its climax with the rise of the 'networked world' (Helbing, 2013; WEF, 2013). This separation has allowed humanity to dissociate its activities from the rhythms of natural phenomena (day and night, harvesting seasons, etc.) forcing the socio-technological acceleration on itself. Another aspect is the psychological reaction to uncertainty, mostly related to the 'information overload' and the 'future shock', inherent in our times (Heylighen et al., 1999). Both aspects contribute to increasing *social complexity* of our world.

2.1. Factors of social complexity

Three major factors of social complexity can be identified: accelerating change, hyper-connectivity and reflexivity:

Reflexivity is probably the most important characteristic of a social system which refers to the consideration that it is created by the collective behaviour of its participants and, at the same time, exerts an influence on the behaviour on its participants. Every participant (e.g. person, institution, nation state) of society both affects and is being affected by other participants, causing circular internal relationships among them, as well as mutual dependency between participants and the whole society. Most importantly, reflexivity refers to a feedback relationship between observer/participant of a social system (i.e. intelligent agent) and the observed (i.e. the 'environment' — the system as a whole).

Hyper-connectivity is a major symptom of progress, resulting in a world where every agent, event and process is connected to many other agents, events and processes therefore making all elements highly interdependent. The 'networked world' is therefore an example of a fragile system, where local events may spread to affect the whole global system (e.g. in case of stock market crashes).

Accelerating change is due to the explosive multiplication of information in the hyper-connected and reflexive system, which is our global information society. It is a source of uncertainty and confusion in almost all domains of social and human life, because participants of the system have limited capacity to process this information, let alone to match the speed of information multiplication.

The central question which this paper aims to answer is therefore: what kind of social system could sustain and, furthermore, grow and thrive in such circumstances?

2.2. Fluidity versus structure?

Due to increasing social complexity, the future of the global society does not resemble the past any more, therefore our mental and formal models lose their predictive power even in the short-run (Veitas and Weinbaum, 2015) resulting in an impression of a chaos, 'crisis' and 'the state of emergency'. While the accelerating change and information overload are the actual characteristics of the current situation, the 'state of emergency' is rather a subjective reaction rooted in many prevailing worldviews.[1]

They are derivatives of the *Newtonian* worldview — based on the concepts of reductionism, determinism and objective knowledge (Heylighen et al., 2006). Following this worldview we make sense of the social reality by looking for the existence of stable states in a social system. These states are usually manifested as hierarchical or control relations among the system's elements, participants or subsystems. Change is then conceptually understood as a series of transitions between stable states.

In other words, we are trying to mentally 'stabilize' the increasingly fluid and changing social system by finding more or less stable, and often hierarchical, structures within it and then reflexively enforcing them onto the system in the form of governance systems and institutions we create. This discrepancy creates an impression that there are no good models (or even worldviews) for understanding what is going on. In the situation of hyper-connectivity and accelerating change, the 'stabilization' operation becomes non-effective — leading not only to the impression of 'crisis' and ever growing uncertainty, but also increasing tensions within and fragility of the system.

Any structure, whether it is nested, control, tree hierarchy or 'heterarchy' implies that certain elements or parts of the system constrain other elements or parts. In real systems, these mutual constraints tend to by asymmetric, meaning that some components/parts of the system constrain others more than are constrained by them — which indicates a more or less 'fuzzy' control hierarchy, 'fuzziness' of which depends on the degree of asymmetries within the system. Fluidity does not mean the absence of asymmetries, inequalities and hierarchies, yet it does imply ever changing asymmetric relations among elements and parts of the social system.

Seeing the global society in terms of strict dichotomy of "disorder versus structure/control" is counter-productive for understanding and governing it. Both ends of this dichotomy are undesirable: disorder is simply not a viable solution for society, while stable structures are not sustainable and even harmful due to the increasing social complexity. We therefore propose to approach society in terms of a fine balance of ever adapting temporary structures in otherwise fluid whole — a "*viscous*" *system*.

2.3. A "viscous" society

We emphasize the view to the global society as a complex system consisting of interacting subsystems at multiple scales. Nations, states, religions, languages, local as well as international institutions and

[1] The concept of a worldview is instrumental for the conceptual framework of a social system which we are building in this paper and will be addressed in detail later (Section 3.4).

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governments, enterprises, philosophical schools and academic institutions, fishing and golf clubs, families, persons and pets are only a few examples of subsystems of the global society. While social systems are neither completely fluid nor completely hierarchically structured, we tend to see hierarchies in society, because: (a) temporary hierarchical organizations do emerge and exist in it and; (b) it is related to our 'wired' tendency to search and see stable 'coherent' patterns in a messy data.[2] But what seems to be de-emphasized is the fluid dynamics of a social system which, we argue, is more fundamental characteristic of the global society than any observable stable state, which is never permanent. Almost without exception however, contemporary governance structures are organized hierarchically which leads to the false impression that society can be described and, moreover, governed, based solely on a hierarchical model.

Certain social subsystems and units, such as linguistic dialects, communities or religious beliefs are fuzzy, overlapping and interacting among themselves in a largely non-hierarchical manner. Others, usually human-made systems, such as companies, armies and factories are organized predominantly hierarchically.

Moreover, each social subsystem is constituted of a number of smaller scale systems and each smaller scale system can be a member of more than one subsystem at the higher level (Section 5.2.2). For example, the same person can be a member of a fishing and golf club and speak several languages.[3] Furthermore, boundaries among certain subsystems, such as cultures or philosophical schools are far from being well defined or easily definable. The conceptually coherent image of the society is a '*viscous*' *system* — combining different degrees of stability and fluidity. Due to the accelerating change, the level of 'viscosity' of the society moves towards higher fluidity up to a point where the aspect of stability becomes hardly visible.

Therefore, we propose to approach any social system including the global society primarily as fluid while treating observable structures as temporary 'islands of stability' in otherwise ever changing social fabric. The next two sections introduce and discuss a rich array of concepts and theoretical approaches integrated into the framework of the Living Cognitive Society — a fluid ecology of the global society.

3. Conceptual background

The concept of the Living Cognitive Society integrates a number of propositions brought forward by complexity science, cognitive science, evolutionary theory, philosophy of individuation and becoming and theory of assemblages. In this section we shortly introduce each concept and emphasize its influence and inspiration for the conceptual framework of the Living Cognitive Society.

3.1. Self-organization in complex adaptive systems

The Living Cognitive Society in its most abstract definition is an instance of a complex adaptive system (CAS). CAS are characterized by complex patterns of behaviour which emerge from interactions among a large number of component systems (agents) at different levels of organization (Chan, 2001; Geli-Mann, 1994; Ahmed et al., 2005). The consequences of a huge number of interactions are most often unpredictable due to their non-linear character. Still, interactions are able to spontaneously coordinate among each other. Therefore, complex adaptive systems are said to *self-organize* instead of being organized or designed.

Self-organization is the *appearance of structure or pattern without an external agent imposing it* (Heylighen and others, 2001). Importantly, self-organization is caused by a certain amount of disorder and fluctuations in the system — formulated as principles of "order from noise" by Heinz von Foerster and "order from fluctuations" by Ilya Prigogine (Heylighen and others, 2001). These principles point to an important understanding that fluidity, disorder, fluctuations and uncertainty are not only 'undesirable side effects' which should be minimized in a complex adaptive system, but actually are *necessary* for it to evolve, adapt and thrive. Therefore, a social system that can thrive in uncertain environment, needs to reconcile a chaotic element in it — a crucial insight which we accommodate into the concept of the Living Cognitive Society.

3.2. Living and cognitive systems

We see the virtue of combining the concepts of living and cognitive systems to describe the global society due to their potency to account for emerging higher level coordination mechanisms within the system.

Therefore, we propose to analyse the global society as a living system (Miller, 1975) which is also an ecology for other living systems (Fig. 2). Examples of living systems can be complex multi-cellular organisms exhibiting high degree of internal coordination (e.g. vertebrates), but also loosely coordinated organisms (e.g. rhizomes and mycorrhizal networks). Clearly, the level of coordination in the living system is a defining characteristic that can bear disparate values.

Living and cognitive systems are categorized in the same equivalence class (Maturana and Varela, 1980, p. 13) or as closely related (Luhmann, 1986, p. 85). Also, Miller (1975) treats society as a living system based on the analysis of its properties.

In the context of the global society, we are therefore pose the question what is the nature and dynamics of coordination in the society as a living system. The understanding of the close relationship among living, cognitive and social is reflected in the name of the Living Cognitive Society — the central concept of this paper.

3.3. Enaction

We largely subscribe to the research programme of *enaction* (Stewart et al., 2010) for providing a conceptual framework of self-organization in a living cognitive system. The enactive approach treats cognition as an adaptive process of the interaction between an agent and its environment. Importantly, it considers that the boundary between an agent and its environment is constituted by these interactions and largely defines an agent's *identity*, whereas identity of a self-organizing system is "generated whenever a precarious network of dynamical processes becomes operationally closed" (Di Paolo, 2010, p. 38). Operationally closed networks of processes are *adaptively autopoietic* systems, i.e. capable of creating and sustaining themselves as well as continuously improving their own conditions (Di Paolo, 2010, p. 50) (Maturana and Varela, 1980, p. 78).

Simply put, living cognitive systems 'have a say' in shaping the tendencies that constrain and shape their own developmental dynamics and effectively constitute their own identity. The enactive approach gives us the understanding that these tendencies are not given from *outside* of the system, but are rather self-generated from the interaction of the components *within* the system.

3.4. The sense-making and a worldview

The essence of the sense-making process is already encoded in the word itself – it is an active 'making' of a 'sense' or 'meaning' by an observer – a cognitive agent. The concept does not overlook the fact that sense-making is based on extracting information about observable patterns in the system (the world, self and others) being perceived. But, at the same time, it emphasizes that it is the observer who decides what are the *significant* patterns to extract from the data about a system or

[2] Pattern recognition forms the basis for categorization and concept learning. Hierarchical organization is a particularly important way of organizing and relating concepts (Murphy, 2004), which is a necessary aspect of sense-making.

[3] See The "Five Graces Group" et al. (2009) for the perspective on language as a complex adaptive system with a fundamentally social function.

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phenomenon. Sense-making is rooted in the enactive approach to cognition (Section 3.3) which puts the concept in a larger context, first of all, entailing the individuation of the very agent which performs sense-making.[4,5]

The process of sense-making begets a *worldview*. Importantly, the relationship of the sense-making and a worldview is a reflexive one — a worldview of an observer determines significances which then influence the sense-making process of the same observer. The concept of a worldview is a rich and multi-dimensional one (see Vidal (2008); Vidal and Dick (2014) for an in-depth discussion and references). It can be understood as *a gestalt perception – unique and integrated cognitive structure – held individually or collectively in relation to self, others, society, and the cosmos at large* (Markley and Harman, 1981; Veitas and Weinbaum, 2015). With respect to the social system we are living in, each worldview includes our aspirations, the views on 'natural tendencies' and 'trends' of the system, related possibilities for the future as well as approaches to the appropriate modes of social governance. Each of this aspect is based on a combination of sense-making perspectives which may be overlapping, incompatible or even mutually exclusive. For example, individuals or collectives may prefer exploration, growth and development of persons, society and life in general, or, alternatively, stability, safety and preservation. Often such preferences cannot be accommodated within a single value system and represent different 'points of view' to the same phenomena.

The Living Cognitive Society is the multiplicity of interacting embodiments of worldviews, representing different value systems and points of view. In a 'viscous' society (Section 2.3), where no single value system or worldview can be considered dominant or 'objectively' better/best, the resilience and growth of the global system depends on the mode of interaction among many worldviews than properties of any one of them.

3.5. Synthetic cognitive development

The theory of cognitive development posits identifiable patterns of human cognitive development which are being described as developmental *stages* (Piaget, 1971) or *truces* (Kegan, 1982), usually ordered in predictable sequences. Cognitive development theories generally describe an 'evolution of meaning' (Kegan, 1982): the recursive subject and object relationships when the subject of previous stage becomes an object during the next stage. The process is not linear, but rather is manifested through sequences of integration and disintegration of cognitive structures (i.e. developmental truces).

In Weinbaum and Veitas (2016a) we generalize the process of cognitive development to all classes of living cognitive systems (i.e. humans, societies, artificial intelligences) and call it the *synthetic cognitive development*. We define the synthetic cognitive development in terms of the variability of the level of internal coordination (Fig. 1) within a complex adaptive system — leading to the higher cognitive complexity of a living cognitive system. We apply these general principles of cognitive systems' development for understanding the global society. It allows us to start describing the interaction of processes of integration (i.e. leading to more order) and processes of disintegration (i.e. leading to more fluidity) and their primary role in the self-organizing dynamics of the Living Cognitive Society.

3.6. Theory of individuation

The philosophy of individuation by Gilbert Simondon[6] is the ontological foundation of the conceptual background described in this section. The theory of assemblages and the notion of transduction – central concepts required for understanding the workings of the Living Cognitive Society – are direct descendants of the theory of individuation. Simondon opposes the hylomorphic schema which posits the dichotomy of form and matter: he sees the form, the matter, the objects and the relations among them individuating together without any primary principle defined prior to this individuation. In the context of the present paper we see this principle particularly useful for conceptualizing the social reality, largely made of relations among social actors. The theory of individuation allows us to approach social structures and social processes without positing ontological primacy of the former:

> The relation is not an accidental feature that emerges after the fact to give the substance a new determination. On the contrary: no substance can exist or acquire determinate properties without relations to other substances and to a specific milieu. To exist is to be connected. This philosophical proposition allows Simondon to establish the scope of his project: to reconcile being (*l'être*) and becoming (*le devenir*) (Pascal Chabot, 2013, p. 77).

Most importantly, Simondon's theory of individuation, while being an abstract ontological framework, at the same time promotes what can be called "concretization" – the explanation of the emergence of observable and graspable objects and relations in the social or socio-technological reality, as well as the relationships among them. In other words, "concretization" allows us to approach the emergence of order from noise in an abstract way, as well as apply the concept to the specific system – the Living Cognitive Society.

3.7. Theory of assemblages

The theory of assemblages was introduced by Deleuze and Guattari (1987) and further modified and developed by DeLanda (2006). Our usage of the theory and its concepts is motivated by a few reasons:

- At its original level of abstraction, the theory provides a direction towards formulating mechanisms of the process of *individuation* and *becoming*, i.e. emergence of objects, systems and subsystems and their relations from initial noise and disorder.
- It has been developed as a philosophical framework explaining the emergence of scalable social entities such as personal networks, social organizations, markets, cities, nation states, etc. General premises and concepts offered by it are broadly applicable to the study of coalitions of cognitive agents and living systems, as well as in cases of heterogeneous and hybrid populations of human and non-human agents (Weinbaum, 2012). The latter is of special interest considering recent advances in autonomous robotics, artificial intelligence and their future developments (Veitas and Weinbaum, 2015).

Furthermore, assemblage theory builds on the distinction between relations of interiority and exteriority which explains relations between scales in a scalable system — a multiplicity of recursively nested populations of heterogeneous assemblages which themselves consist of populations of yet lower level elements (see Section 5.2.2). It also develops the concepts of territorialization and deterritorialization which we reformulate as processes of integration and disintegration within our framework.

The relation of the theory of assemblages and the framework of synthetic cognitive development primarily lies in the conceptual

[4] We employ the simplification of a well defined observer — observed distinction (i.e. agent–environment) at this point mostly for didactic purposes. Actually, the distinction between observer and observed itself individuates during the process of synthetic cognitive development (Section 3.5). For the in-depth analysis of the individuation of agent-environment boundary, please refer to http://arxiv.org/pdf/1505.06366.pdf#section.2Section 2 of Weinbaum and Veitas (2016a).

[5] For an in-depth definition of sense-making concept, please refer to http://arxiv.org/pdf/1411.0159v2.pdf#subsection.1.3Section 1.3 of Weinbaum and Veitas (2016a).

[6] Refer to http://arxiv.org/pdf/1411.0159v2.pdf#subsection.2.1Section 2.1 in (Weinbaum and Veitas, 2016a p. 13), for a brief philosophical introduction.

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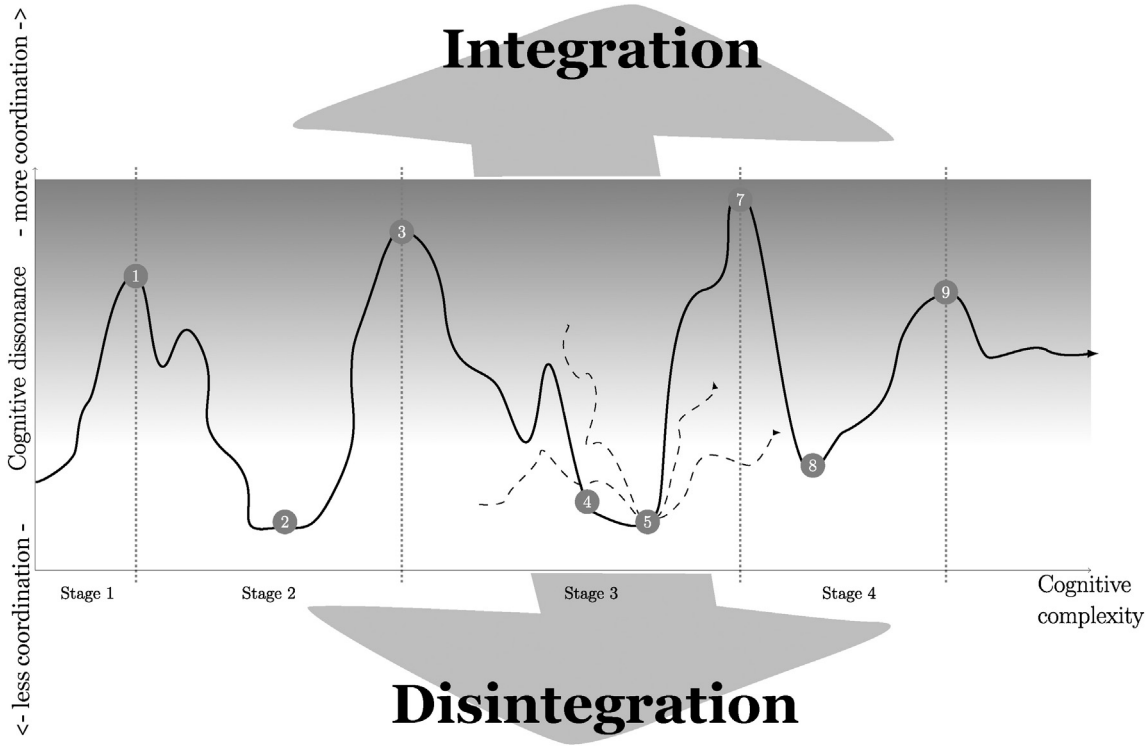

Fig. 1. A general scheme of synthetic cognitive development qualitatively visualizing the process of increasing cognitive complexity as a variation of internal coordination levels within the cognitive system. The bold curve represents a possible development trajectory; circles with numbers represent states of development, arbitrarily chosen for illustration. States (1), (3), (7) and (9) mark high cognitive dissonance states where the system has the highest possibility of 'choice' between alternative developmental trajectories. Dashed lines are drawn at stage (7) to illustrate multiple possible trajectories that are actually present at every point along the developmental trajectory. States (2), (4), (5) and (8) mark stable periods when the operation of a cognitive system is constrained. Stages 1, 2, 3 and 4 on the horizontal axis illustrate cognitive development stages as described by the developmental psychology representing punctuated manner of increase in cognitive complexity. The process is reinforced by the interacting/alternating forces of integration and disintegration.

understanding of individuation and becoming as the interaction among processes of integration and disintegration mediated by temporary structures emerging within a cognitive system. The actual mechanism of this interaction is unveiled by the concept of transduction which is introduced next.

3.8. Transduction

One of the most significant innovations in Simondon's theory of individuation is the concept of *transduction* — the abstract mechanism of individuation. Transduction lies at the basis of the process of interaction between structure and dynamics of the Living Cognitive Society. For the purposes of this paper we single out two important aspects of the concept — *metastability* and *progressive determination*.[7]

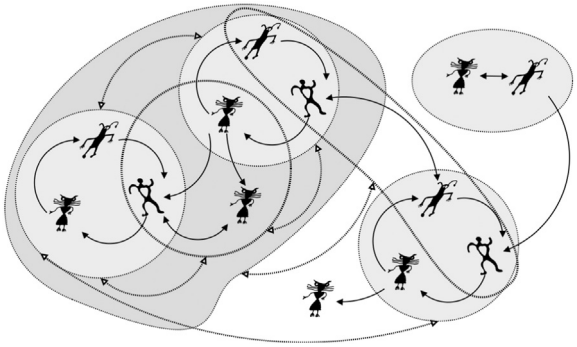

Fig. 2. The structure of the global society.

3.8.1. Metastability

The concept of metastability is mostly used to describe a far from equilibrium complex system in terms of its movement in a stable state-space.[8] Such system can be easily perturbed, in which case it moves from one semi-stable state (attractor) to another. What we add to the common understanding of the metastability is the fluidity of the state-space itself, meaning that its very topography can adapt or get perturbed otherwise. The concept of metastability within a fluid state-space provides a concrete notion of what in the theory of individuation is referred to as the *pre-individual* — a seemingly disordered state from which an identifiable and observable system may emerge.

This "extended" concept of metastability offers a possibility to describe the dynamics of a social system (as well as living and cognitive one) where fluid state space is more influenced by movements and interactions of its participants (human or non-human agents) than any 'objective' principles defined a priori to this interaction. The temporary state space configuration reflexively influences the behaviour of

[7] For in-depth introduction to the concept of transduction please refer to http://arxiv.org/pdf/1411.0159v2.pdf#subsection.2.4Section 2.4 in Weinbaum and Veitas (2016a), p. 11, and http://arxiv.org/pdf/1505.06366v2.pdf#subsection.3.4Section 3.4 in Weinbaum and Veitas (2016b), p. 11.

[8] "The state space of a system is the set of all possible states in which the system can find itself. This is a generalization of our intuitive concept of the concrete, three-dimensional space in which we can move around freely to the abstract set of states between which a system can 'move' when its properties vary" (Heylighen, 2015, p. 69). No matter how large or even infinite, the state space is usually considered stable/invariable.

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participants as well as overall dynamics, forming a recursive loop of progressive determination, which is introduced next.

3.8.2. Progressive determination

Perhaps the most important aspect revealed in transduction is the progressive co-determination of structure and operation. Progressive determination can be seen as a chain of transformations where an operation transforms a structure and a structure in turn transforms an operation (Weinbaum and Veitas, 2016a, p. 11):

$$\ldots S_1 \rightarrow O_1 \rightarrow S_2 \rightarrow O_2 \rightarrow S_3 \rightarrow \ldots \rightarrow O_n \rightarrow S_{n+1} \ldots$$

- operation O_i is a function which transforms one structure to another: $S_2 = O_i(S_1)$;
- likewise, structure S_i is a function which transforms one operation to another: $O_2 = S_i(O_1)$;
- note that $S_1 \neq S_2$ and $O_1 \neq O_2$ — they are *different* functions;
- also note that → denotes the *relations of dependency between* the transformations, so that every transformation depends on the full history of previous transformations.[9]

4. Connecting the dots

Let us now summarize our train of thought so far. First, in Section 2 we asked a question whether our current social structures and, even more importantly, the modes of thinking and making sense of the social reality which guides the creation of these structures, are still valid in the era of the ever accelerating change. Our clear answer is 'no'. We then ask a question *what kind* of social systems could thrive in these circumstances. We argue that in order to conceive such a system we first of all have to give up our prevailing modes of thinking about social reality, specifically — the assumption of supremacy of stability and stable structures in it. The concept of the Living Cognitive Society – the social system which we argue is able to stay resilient and thrive in the circumstances of hyper-connectivity, accelerating change and reflexivity – combines the influences from theories and conceptual approaches discussed in Section 3.

Drawing from the complexity science and the concept of Complex Adaptive Systems (Section 3.1) we argue that in order to be resilient, the Living Cognitive Society has to accommodate an element of disorder — a necessary component of ecology of interactions among heterogeneous social subsystems. This does not mean that there should be no coordination, but rather emphasizes the emergent nature of it. A clear example of such self-organized coordination is to be found in living and cognitive systems (Section 3.2). Processes driving emergence of higher scale systems from the coordinated interaction of heterogeneous elements of a population at a lower scale is the subject of the theory of assemblages (Section 3.7). Most importantly, the theory offers a concept of competing integrative and dis-integrative processes leading to the emergence of higher order dynamics in a social system. We further observe that the non-linear development of cognitive systems happens via stages of integration and disintegration. Therefore, cognitive development can be understood as a special case of formation of assemblages driven by these processes. The concept of Synthetic Cognitive Development generalizes insights from domains of cognitive science and human cognitive development and applies them for the development of social systems (Section 3.5). Assemblages which are being formed in the process of bottom-up self-organization are nothing else but 'structures' which we observe in a social system. These observable, yet often fuzzy, structures influence further dynamics of self-organization in a system. The philosophical concept of transduction (Section 3.8) provides an avenue for exploring and understanding the mutual dependency between structure and dynamics in the Living Cognitive Society.

Philosophy of individuation by Gilbert Simondon (Section 3.6) serves us as the conceptual glue for integration of aforementioned disciplines and concepts via a carefully constructed ontology where objects, their relationships, structures and processes do not enjoy ontological primacy over one another but *individuate* via mutual interaction. In order for the individuation of objects, their relationships and structures to take place, the formation of boundaries between agents and environment has to be explained, which is the emphasis of the enactive approach (Section 3.3). Enactive approach treats cognition as the adaptive process of agent-environment interaction. Both the theory of individuation and enactive approach deal with the abstract question of how observable phenomena get determined from indeterminate "fabric of reality".

These introductions to rich interdisciplinary sources inspiring our thinking barely scratch their surface due to limitations of space and scope of the paper. Yet our goal is not to fully describe these theories, but rather provide the substantiation of characteristics of the Living Cognitive Society concept which we elaborate in the next section.

5. The Living Cognitive Society

The Living Cognitive Society is an ecology of emerging, interacting, integrating and disintegrating cognitive systems at multiple scales (Section 5.1). This vision addresses challenges of the current situation of the global social system (Section 2) and incorporates a novel line of conceptual thinking (Section 3). Namely, it is a conceptual framework for conceiving the integration of social institutions into the flexible, fluid and adaptable global society operating in the circumstances of uncertainty and change.

The Living Cognitive Society is described: (1) in terms of its scalable structure —*A World of Views* (Section 5.1); (2) in terms of its dynamics — the process of *Synthetic Cognitive Development* (Section 5.2); (3) the coupling and interaction of structure and dynamics (Section 5.3).

5.1. Structure: A World of Views

Society is the vast ecology of interactions and communications among agents — more or less fuzzy integrated social assemblages and institutions: nations, states, religions, cultures, companies and governments, factories, academic institutions and families. If we abstract from these concrete examples of social subsystems we can start regarding the *scalable structure* of the social system where interacting generic cognitive agents (i.e. individuals) assemble into cognitive agents at higher scales (i.e. organizations, cities) interactions among which create ecosystems (i.e. markets, communities, nations) which shape the global society. In a scalable system, every subsystem can be approached as an element of a heterogeneous population which forms assemblages at a higher scale or, alternatively, itself as an assemblage of a population of elements at a lower scale. The adjacent scales of the system are interacting among each other.

Abstracting further we observe that each social subsystem can be understood as an embodiment of a certain worldview embedded in its own unique social context. A *worldview* is the integral system of sense-making, incorporating cognitive and behavioural patterns which govern social interactions of a system, embodying the worldview (Section 3.4). For example, individuals have value systems, organizations and companies – by-laws, cities – regulations, states – laws, etc., all of which are expressions of their worldviews.

Social subsystems – embodiments of worldwiews – operate as *cognitive agents* with their own knowledge, competence, values, goals and styles of behaviour. In a social context, a worldview can be embodied as a person, a family, an organization or a company. But actually any social subsystem with diverse level of technological involvement can be accommodated within this framework (Section 6.2.2). By taking this

[9] I.e. it should *not* be understood as a piping of inputs and outputs through the chain of immutable transformations.

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perspective we enable ourselves to: (1) approach the impact of technological developments to the social systems' dynamics within the unified conceptual framework; (2) start describing not only interactions at one scale (e.g. persons with persons) but also interactions between scales (e.g. persons with nation states).[10]

A social system whose subsystems are abstracted from their specific embodiments, i.e. understood purely in terms of worldviews, is *A World of Views* — a conceptual construct depicting society as a multiplicity of interacting embodiments of unique, modular and open-ended co-evolving worldviews. The construct of *A World of Views* was developed as a philosophical framework and first used for describing a futuristic socio-technological system Veitas and Weinbaum (2015). It emphasizes an *ecological* view to the global society as a superorganism (Heylighen, 2002b), albeit having no single locus of control. Here we apply the construct for the contemporary global society and its near future — related definitions are therefore adapted for this context. For broader conceptual formulations we refer the reader to the original article.

We started this paper by challenging the prevailing approach of looking at social systems in particular and dynamic systems in general as series of transitions between their identifiable stable states. The alternative approach, named a 'viscous society' (Section 2.3) approaches stable structures only as 'islands of stability' in ever changing social fabric. We can look at the viscous society via the metaphor of photography: A picture is "stable" only because it captures the otherwise moving objects with the help of the short exposure time. Yet it is possible to set a very long exposure and by that make a picture where all fast moving objects (cars, people, sun, stars, etc.) are unseen. In principle it is possible to set long enough exposure for the picture to be blank — i.e. not to capture *any* stable objects on it. The metaphor of photography illustrates how much context dependent is the property of stability of any given phenomena we observe. It also provides an intuition why in certain situations (e.g. when a photographer wants to capture trajectories of planets in the sky instead of planets themselves) the preposition of stable objects does not allow to see the whole picture. We therefore now turn to analyse the dynamics of the social systems without this presumption.

5.2. Dynamics: synthetic cognitive development

5.2.1. Processes of integration and disintegration

Dynamics within the ecology of A World of Views, which structurally describes the Living Cognitive Society, is based on interacting processes of *integration* and *disintegration*. These processes are the application of the theory of assemblages and generic processes of territorialization and deterritorialization (Section 3.7) to social systems. Here we define these processes in the context of a scalable system, i.e. a system consisting of subsystems which themselves consist of populations of yet another lower scale of 'sub-sub systems' in a recursive manner.

Integration is a process which can happen locally or globally in a system and leads to the higher levels of coordination among some elements of its population at any scale. Clusters of elements which coordinate stronger among themselves than with the rest of the population start forming an assemblage which, after reaching certain level of internal coordination and resilience, can be identified as a newly formed subsystems with unique characteristics.[11]

Disintegration is obviously the process of the opposite direction from integration: it leads to a lower level of coordination among elements of a given subsystem, ultimately reaching a level when a boundary between elements within the subsystem and elements outside dissipates — i.e. the subsystem disintegrates.

Despite being always present, processes of integration and disintegration are never symmetric: at every given moment either one is stronger, giving rise to the complex dynamics of the living system in an ecology of other living systems. The interplay between the processes of integration and disintegration of variable strength and the importance of this interaction the growth of the cognitive system is captured by the concept of the synthetic cognitive development (Section 3.5). Therefore, the maintenance of the interaction of the processes of integration and disintegration in the Living Cognitive System is instrumental for the sustaining its resilience and enabling open-ended development.

The lesson of complex adaptive systems is that processes of disintegration (towards fluidity) are as important for the self-organization of the system as processes of integration (towards order). The awareness of such balance is clearly missing from the current approaches to the social governance. As we have seen, elements of the social system are its subsystems — institutions, organizations, companies, businesses, governments, states. Therefore, trying to enforce stability of social institutions – something that we argue is the prevailing paradigm of social governance– makes the global system less 'alive' and therefore less adaptable and resilient, especially due to the accelerating change which requires ever increasing elasticity.

5.2.2. Relations between scales

In a scalable system, every subsystem can be positioned at a *focal* scale s between higher $s+1$ and lower $s-1$ scales (Fig. 3). A lower scale consists of a population of elements which integrate to a subsystem at a focal scale; a higher scale consists of a population of subsystems of the focal scale.

The processes of integration and disintegration at a focal scale are driven by interactions at both higher and lower scales. Relations between the focal scale and the higher scale are referred to as *relations of exteriority*; relations between the focal scale and the lower scale — as *relations of interiority*. The above extends and elaborates on a well known scheme of "upward" and "downward" causation, which argues that "the whole is to some degree constrained by the parts (upward causation), but at the same time the parts are to some degree constrained by the whole (downward causation)" (Heylighen et al., 1995; Campbell, 2013). Our extension considers fluid boundaries between scales (i.e. what is considered a 'whole' and 'parts' in any specific situation) and the influence of the processes of integration and disintegration on them. What it actually means is that the distinction between interiority and exteriority, while of utmost important for the operation of a cognitive agent as an assemblage, itself gets individuated via the process of synthetic cognitive development.

In the context of the global society, the scheme depicted in Fig. 3 offers a conceptual outlook at how communities, nations and institutions emerge from interactions and relationships of the population of heterogeneous elements and further influence these interactions. It relates to the notion of synthetic cognitive development by referring to the processes which underlay integration and disintegration.

5.3. Interaction between structure and dynamics

In order to arrive at the complete picture of the ecology of the Living Cognitive Society, we have to see how structure (Section 5.1) and dynamics (Section 5.2) interoperate in a metastable system. We propose to explain this interaction and, most importantly, evolution of the structure-dynamics relations as a special case of progressive determination (Section 3.8.2). Recall, that a metastable system is a system which is permanently in a configuration other than the state of least energy and having a fluid state space. Progressive determination cannot

[10] This aspect is central for discussion of a scalable system's dynamics and the concept of metastability in Section 3.8.1.

[11] For the formal measures of coordination see also Weinbaum and Veitas (2015), Appendixes A, B.

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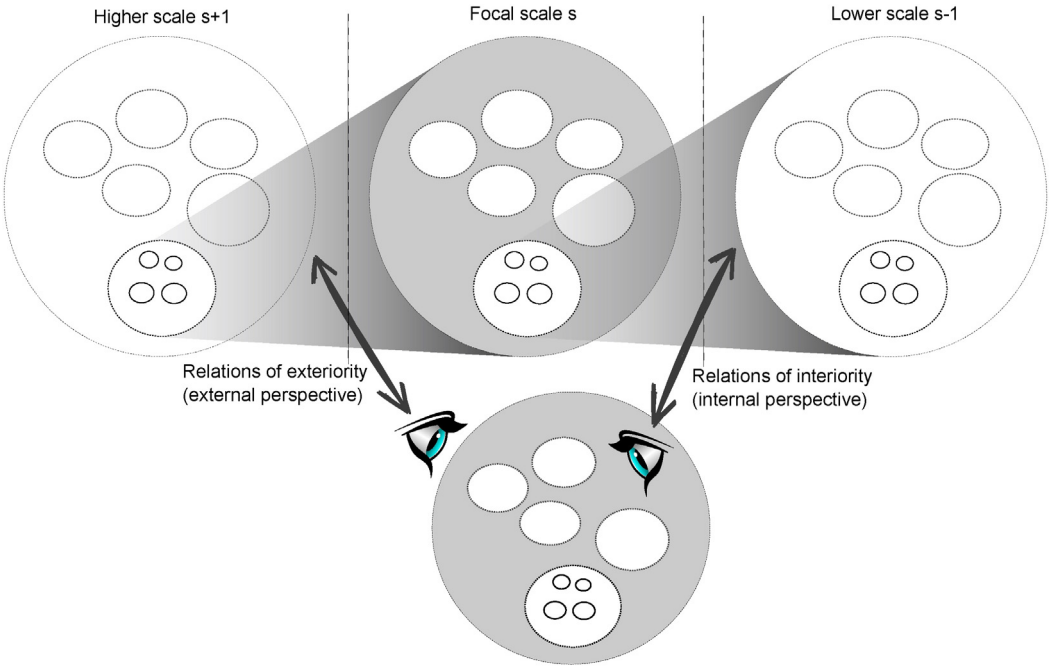

Fig. 3. Relations between scales: Lower scale $s-1$ is the population of heterogeneous elements from which a subsystem at focal scale s integrates; higher scale $s+1$ is the heterogeneous population made of subsystems of scale s. From the perspective of the scale s subsystem, the relation $S_{s+1} \rightarrow S_s$ is the relation of exteriority (i.e. external to the subsystem), the relation $S_s \leftarrow S_{s-1}$ is the relation of interiority (i.e. internal to the subsystem).

be understood without the concept of metastability as it describes the very mechanism of fluid transformations of a metastable state space (Section 3.8). Progressive determination of a metastable system is the answer to the question which we asked at the beginning of the article: "what kind of social system could sustain and, furthermore, thrive and develop in the circumstances of reflexivity, hyper-connectivity and accelerating change?". That is, the concept of transduction (Section 3.8) is applicable for describing the mechanism of the operation of such a social system:

- First, it delineates how in a chain of transformations, every social structure is related to the momentum of immediate change happening in the system. Likewise, every attempt to change the social system should be related to the current configuration of the social fabric of it.
- Second, it points at the deeply rooted unpredictability of the process, which can lead to an either more or less integrated system.
- The mechanism therefore implies a variety of possible configurations of a system.

The important message is that we cannot expect the global society to be resilient and growing by trying to stabilize its structures in the circumstances of all-pervasive accelerating change.

The structure of the Living Cognitive Society is a description of a metastable system applied to a social context and taking into account the mechanisms of interaction among its internal subsystems. Every observable structure in the Living Cognitive Society (nations, institutions, families, communities, persons and their relationships) should be understood as a specific state-space configuration of a metastable system. As such, this observable structure (a) is temporary and unstable, yet nevertheless (b) influences further transformation and evolution of the global society. Furthermore, social institutions, observable in the process of change, can have different and varying level of internal coordination — i.e. can be more or less integrated depending on their level of cognitive dissonance (Section 1).

Armed with this conceptual model of the Living Cognitive Society we can now set to describe how the Information and Communication Technologies (ICT) change the global society in terms of their influence on the process of progressive determination.

6. The disruptive impact of information and communication technologies

6.1. ICT and distributed computing

Let us first define the two central concepts used in this section — information communication technology and distributed computing.

Information and Communication Technology (*ICT*) is as "an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and application associated with them". A complementary yet somewhat more modern term is *cyberspace* — a communication medium over computer networks, created by ICT. Both terms refer to the same phenomena, but with clear difference on the emphasis of technical (ICT) and visionary (cyberspace) aspects.

Distributed computing "arises when one has to solve a problem in terms of distributed entities such that each entity has only a partial knowledge of the many parameters involved in the problem that has to be solved" (Raynal, 2013, p. v). Distributed computing entails not only the multiplicity of distributed interacting processes but also the fact that there is no single overarching process which can centrally integrate/control the outcomes of these processes. Therefore, distributed computation embraces uncertainty and non-determinism and offers a computational perspective to complex adaptive systems.

We find the above computational perspective instrumental for describing the processes within the Living Cognitive Society, especially with relation to Information and Communication Technologies. The Living Cognitive Society is a distributed system consisting of the multiplicity of processes of progressive determination. Interaction among these processes can therefore be modelled following the principles of distributed computing. Note, that while we borrow some terms and concepts from the computer science domain, we do not use them

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in a strict computer-theoretical or formal sense. We rather use the concept of distributed computation as a 'lens for looking to the world' (Moore and Mertens, 2011, p. xv) in order to show how seemingly simple technical processes enabled by ICT can influence and disrupt the dynamics of the ecology of the global society in terms of the impact on its structures (Section 6.2.2) and communication processes (Section 6.2.1).

6.2. The mechanisms of disruption

The disruptive impact of ICT on the global society happens via the cumulative effect of three mechanisms: (1) accelerating interaction among the embodiments of worldviews in a Living Cognitive Society, (2) multiplication and diversification of the worldviews and their embodiments and (3) empowerment — the increasing social power of individual humans and technological artefacts. Furthermore, these mechanisms are interrelated in a circular manner: accelerating interaction furthers the development of social subsystems and begets their higher diversity; diversity of embodiments within the same medium brings about more communication and interaction. Empowerment of individuals is positively influenced by the increasing fluidity of the global social system and at the same time contributes to it. Every mechanism – interaction, diversity or empowerment – taken separately, characterizes a long-standing tendency of socio-technological development of human society which is not directly related to the information and communication technologies as we usually understand them. Yet, ICT contributes to the strengthening of all three mechanisms. Most importantly, it greatly facilitates the positive feedback among interaction, diversity and empowerment — the actual determinant of the disruption. Let us now look more closely to each mechanism considering the cyclical relation among them.

6.2.1. Interactivity

Dynamic interactions among the social subsystems are being triggered by the factors of social complexity – reflexivity, hyperconnectivity and accelerating change (Section 2.1) – which cause the explosion of the amount of information flows within the system. ICT enables, facilitates and supports this explosive multiplication of information flow being exchanged among participants of the system. Yet while the total amount of information in the system grows, the ability of a single subsystem to process even a fraction of this flow (note, that processing of information most importantly includes selection for relevance) decreases. This phenomenon is called *information overload*.[12] Due to it, *any* subsystem (individual, family, company and/or country) is able to select for relevance and process increasingly minuscule fraction of the information available about the events happening within the whole society. Therefore, the global system becomes increasingly less graspable and predictable from the perspective of *any* subsystem. In order to successfully operate in such environment, participants – social subsystems – have to rely increasingly on the immediate external information. ICT offers exactly that.[13]

Therefore, the nature of interaction and communication of subsystems becomes relatively more important for the dynamics of the global social system than individual properties, behavioural patterns of any single participant of it, as well as the feasibility, predictive power or accuracy of any model of the system. In the framework of the Living Cognitive Society, the interactions among subsystems are grasped by the concept of the relations of exteriority (Fig. 3), which, together with relations of interiority, drive the speed and nature of the cognitive development of the system. In terms of the scheme of synthetic cognitive development (Fig. 1) this means that ICT facilitate both integration and disintegration processes (Section 3.5). More dynamic interaction between integration and disintegration processes leads to the accelerating change in observable stable structures of the global society via the emergence of new subsystems and dissolution of the old ones up to a point where it makes sense to say that all hierarchical structures dissipate in favour of ever increasing fluidity of the system (Section 2.3).

Earlier we saw that social subsystems are embodiments of the worldviews which guide the subjective sense-making process of each of them. Therefore *the dynamics of the Living Cognitive Society is driven by interaction of diverse worldviews via their social embodiments*. This is the central corollary of our conceptual framework which we will most importantly apply when introducing the governance of the Living Cognitive Society (Section 7.2).

6.2.2. Diversity

As we have seen, the accelerating interaction via processes of integration and disintegration brings about the emergence of more diverse embodiments of the worldviews in the ecology of the Living Cognitive Society. Apart from facilitating the communication, ICT also enables social subsystems – the embodiments of the worldviews – to interact within the same ecology. There is virtually no limit to the number of social identities that can be created by the same individuals or collectives. We already discussed that families, companies, institutions and states can be approached as social subsystems of various scales. The following examples illustrate different forms of social subsystems starting with the pre-Internet era, where ICT had little importance, and finishing with the ones for which cyberspace is the basis of existence:

Dame Agatha Marie Clarissa Christie was known by two 'social identities': (1) Agatha Cristie, which wrote 66 detective novels and 14 short story collection and (2) Mary Westmacott which produced six romances;

Nicolas Bourbaki – sometimes called 'the greatest mathematician who never existed' – was a group of 20th century mathematicians which published a series of highly influential books under the collective pseudonym.

Corporations are treated as legal personalities — non-human entities which are created by law with their own rights and responsibilities, not reducible to persons who are part of them.

Wikipedia is a famous example of how a trusted source of information can be created without trusted individuals involved in producing it, therefore, can be approached as having distinct 'social individuality'.

Satoshi Nakamoto is a person or group of people who created the Bitcoin protocol and reference software which started the 'blockchain boom' with potentially wide disruptive results for the whole Internet ecosystem (Swan, 2015). The "actual" identity of Satoshi Nakamoto is unknown — therefore it is a nice example of social identity completely decoupled from the physical embodiment.

Decentralized Autonomous Organization (*DAO*) is a futuristic concept of an organization operating at the intersection of cyberspace and social reality.[14] It is defined as a decentralized network of narrow-AI-type autonomous agents which perform an output-maximizing production function and which divides its labour into (a) computationally intractable tasks (which it can motivate humans to do) and (b) tasks which it performs itself (Babbitt, 2014). DAOs may play the role of business entities as well as non-governmental organizations without human management or even human involvement.

[12] It usually refers to human limits of information processing (Heylighen, 2002a), but can be extended to any generic cognitive agent — i.e. every system has certain limits of information processing. We therefore can apply the concept also for understanding the dynamics of hybrid populations of humans and technological artefacts.

[13] Consider an example of smart-phone usage for travelling in a city. Before the technology behind Google-, Apple- and OpenStreet-maps applications, people were memorizing their journey trajectories, means and used printed maps. This technology made the navigation task much more efficient by allowing to rely on external communication via a smart-phone on on-demand basis rather than preparing the journey in advance and memorizing it. It allows to quickly change plans, transportation means and trajectories depending on the context – e.g. changed time of the meeting or delayed flight – which is essential aspect of operation in an increasingly fluid environment.

[14] The name of the concept has not yet stabilized, therefore it is also sometimes called *fully automated business entity* or *distributed autonomous corporation/company*.

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All above are single and integrated social identities which in the framework of the Living Cognitive Society are subsystems of the same ontological status, i.e. they are all embodiments of unique worldviews.

Cyberspace, as a digital medium, enables the easy creation of joint or multiple identities not unlike in the examples given above. We therefore increasingly start to see social subsystems with the variable ratio of human/technology involvement. Along these lines, the radical dissipation of the difference between sociological and technological and the birth of socio-technological can be best illustrated by the emerging concept and technology of a decentralized autonomous organization. Therefore, individuals or groups of people operating under pseudonyms, legal corporations, croudsourcing projects, synthetic identities and DAOs can be approached within the same framework of Living Cognitive Society as social subsystems embodying diverse worldviews. ICT, being an enabler, allows the embodiment and multiplication of the worldviews, which would be impossible without it.

Whether or not the dissipation of the difference between sociological and technological reaches its radical levels, the influence of information and communication technologies on the global social system is profound in terms of increasing the number of subsystems within it and fostering the meaningful communications among them. These effects will continue to accelerate the process of Synthetic Cognitive Development – the increasing "birth" and "death" rate of institutions, companies, states, communities, families, individual social identities, etc., facilitating faster and larger data flows, communication and interaction, guiding to the higher fluidity of the global sociotechnological system – towards the *fluid* Living Cognitive Society.

6.2.3. Empowerment

Technology in general and information and communication technology in particular, despite the immense possibilities it brings, is "only" an enabler of different embodiments of the worldviews and an amplifier of their interactions. Therefore, while the developments of a World of Views and the way it will affect social life will be greatly enhanced and enabled by ICT, the direction of the disruption will be determined by the 'modes of the social inscription' of these technologies (Zizek, 2013).[15]

A 'real life' example of such possibilities could best be seen in the 'case' of National Security Agency vs. E. Snowden (Poitras, 2015) which illustrates a collision of two modes of social inscription of the same technology: first seeking total surveillance and control; another — freedom and diversity of expression. In the vocabulary of the Living Cognitive System, this is an example of opposite worldviews embodied in the similar technology. While particularities of embodiment are important, the direction of interaction is very much determined by the worldviews themselves. The case of 'Snowden vs. NSA', as well as 'U.S. vs. WikiLeaks', illustrates another important aspect of the future global society — the greatly increased capacities of individuals. A few years ago it would be unimaginable that one person or a small group of them could 'throw down the gauntlet' to a powerful state agency. Empowerment of individuals have profound systemic effects adding to the factors of social complexity — by enabling persons or small groups to engage into activities which can disrupt the whole global system.

7. The governance of fluid society

7.1. Fluid society – A 'digital' World of Views

The Living Cognitive Society will have a *fluid identity* (or rather it will be a *fluid process*) emerged from the ecology of interacting diverse embodiments of multiple worldviews. This fluid identity will reflexively shape the underlying worldviews of its constituting elements and subsystems.

We draw a clear parallel between Living Cognitive Society and the perspective to the cognitive system as an ecology of interacting parts, components, agents or thoughts (Bateson, 2002; Minsky, 1988; Dennett, 1993). The same perspective can be applied to society, individual human, or any social subsystem as a cognitive agent. No matter which social subsystem we consider, it embodies certain perspectives to the environment that surrounds it — in other words, it 'has' a worldview. As ICT enables embodiment of images and worldviews of humans and their groups with different degree of technology participation, we may see an explosion of diversity of interacting identities – digital, physical, 'natural', 'artificial' and otherwise – within the ecology of the global society. This ecology and its dynamics, rather than command-control hierarchies which will increasingly become temporary and ad-hoc, will determine and accelerate the fluidity of the identity of the Living Cognitive Society.

With the concept of the Living Cognitive Society we have provided our answer to the central question of this paper: "what kind of social system could sustain and, furthermore, grow and thrive in the circumstances of accelerating change?" Yet the framework of the Living Cognitive Society raises further question — is it possible to govern such a system and what governance approaches it will require? The elaborate answer to this question is beyond the scope of this work, yet the governance of the Living Cognitive Society is essential to the concept and the paper would be incomplete without touching major aspects of such governance system.

7.2. Distributed social governance

The current hierarchical order of the global society is often referred to as 'global governance' (Beauchamp, 2015) or 'post-World War II' structures of governance. At the core, this order amounts to the complicated, yet highly hierarchically ordered network of governance institutions at local, national and supranational levels. The ideal system of the global governance, following the prevailing perspective, is the command and control hierarchy with a supranational institution (e.g. United Nations, or a "World Government") at its top. Yet there is a clear perception that the 'post-World War II' structures are failing. The response to the perceived risk of 'fraying global governance structures' usually amounts to 'building better structures' or 'strengthening democratic institutions' (U.S. Department of State and U.S. Agency for International Development, 2015), following the same paradigm of global governance in terms of building a command and control hierarchy.

What we propose with the image of A World of Views and the Living Cognitive Society is the shift of emphasis from the structures and institutions to the very process of creation, adaptation and dissolution of social subsystems at all scales of the global society. Furthermore, the naturally distributed nature of the process – meaning the absence of central body or 'trusted party' governing it – should be embraced, rather than fought with establishing global institutions or 'world governments' as, we maintain, no stable structure would be able to outweigh the factors of social complexity driving the society towards increasing fluidity. It is difficult to imagine such a system, which we call a 'distributed social governance', but the latest developments in the ICT, especially Internet technologies, may provide important insights and examples of technological feasibility of this concept.

No matter what kind of technologies will be enablers of the distributed social governance, it will be based *not* on the design of optimal institutions, but rather on the *processes* which allow for better 'strategic exploration"[16] and experimentation — the fast emergence and dissolution of institutions, organizations, temporary hierarchies and other social subsystems within the Living Cognitive Society.

[15] For the philosophical/psychoanalytical speculations of the possible modes of social inscription, see Zizek (2004).

[16] For the concept of "strategic exploration", refer to Section 9.4 in Veitas and Weinbaum (2015).

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