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Geopolitics of Numerical Space and the Rule of Algorithms

Abstract

The numerical media can simulate all the details of other media by accumulating all the previous classical media functions (television, typewriter, etc.) and acting in this direction they captured so far unprecedented spaces of representation and expression. Due to such capacity for digital programming through modular structures of all the previous functions of the classical mass media, the numerical media succeed through the network reconfiguration and cultural transcoding in presenting a retrospective picture of the world and culture in the history of mankind. Inter-connectivity between the numerical media and internet networks implies a planetary virtual network that some compare with "the world's collective cortex". However, given the increasing density and complexity, the numerical media have become more hermetical and more complex in their deep functioning. The gradual autonomy and emancipation of its creators and operators opens the process of creating a mysterious artificial intelligence as an introduction to the new reign of algorithms. It is an introduction to the new virtual geopolitics of cyberspace where the strategies of conquest and the monopoly over information become the rival space of power between official government actors and other asymmetric actors.

Key words: numerical, the media, geopolitics, cables, attention, economy, totalitarianism, disruption.

By definition, digital geopolitics studies the cumulative and deep impact of information networks and new telecommunications on international relations and behaviour of the corporate sector and the individual. Modern digitalisation of the society is the result of a long process of successive technoscientific and economic revolutions. The first industrial revolution started in the 18th century with the invention of the steam engine and the transition from hand production methods to machines replacing humans. The second industrial revolution in the 19th century and the first half of the 20th century was marked by the use of different energy products and many scientific and technological inventions such as oil and electricity. The third industrial revolution of the present day is marked by computerisation and the use of information-communication systems often for the purpose of automation of work production and other processes. The fourth, numerical revolution, is characterised by networking instigated by the emergence of the internet, the network of networks, networking broad areas such as robotics, big data analysis and artificial intelligence. In that context, any contemplation of numerical geopolitics should be done by looking into the Structure of Scientific Revolutions, the most important work by the American physicist, philosopher and historian Thomas Samuel Kuhn (1922 – 1996)[1]. Kuhn introduced a completely new understanding of scientific development – the history of science, which, according to him, is not only about the accumulation of knowledge but about a line of paradigm shifts, "takes on the world" which define research traditions of individual scientific communities.

Main components of the global cyberspace

Cyberspace is a semantic contraction of the words cybernetics and space. It is a new virtual space deriving from the interconnection between different information and telecommunication networks. However, despite its being a result of different superimposed layers, the *hard-layer* (material layer) and the *soft layer* (artificial intelligence), it is often forgotten that that space has a layer composed of a group of internauts and internet users interacting through social network platforms. The interaction between these three layers reflects the vastness and strategic significance of the digitalised world. Namely, despite the myth of de-materialisation of the numerical economy and cyberspace network, one should always bear in mind the fact that on a global level submarine cables make up and provide for 99% of intercontinental telecommunications and account for USD 10 000 billion of day-to-day financial web-based operations. The hard layer of the cyberspace means the infrastructure and materials needed for the delivery and storage of information and internet functioning. The soft layer (artificial intelligence) of the cyberspace consists of a group of control and command protocols and information applications needed for the functioning of networks' "supra networks", exploitation systems (Windows, Linux, etc.), the semantic layer (cognitive) of the cyberspace as a group of users interacting through interfaces, networks, etc.

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1   Kuhn, Thomas Samuel, *The Structure of Scientific Revolutions,* Chicago, University of Chicago Press, 1962.

Material component of numerical geopolitics: submarine cable networks

Numerical routes have become a global issue. Land routes helped the Roman Empire to achieve supremacy. Sea routes were the backbone of the British Empire in the 18th and 19th centuries. Digital routes have a growing geopolitical significance, particularly because of strategic control over telecommunication internet routes and because of the military and security aspects of the potential risk of cyberterrorism and cyberattacks. The historical role of the telegraph cables of the 19th century as predecessors of numerical cables is evolving towards a gradual development and intertwining of a mega network of numerical submarine cables. The United States of America plays a dominant role in international numerical networks. Almost all transatlantic and particularly transpacific cables converge in the United States. With the exception of Canada and Brazil, almost all American countries of the Southern hemisphere indirectly depend on the United States for numerical cables and it is therefore not surprising that geopolitologists[2] speak of the survival of the Monroe doctrine in the area of numerical dependence. China, Japan and Singapore have the broadest node networks for transpacific communications. Australia is home to Oceania's digital network. Africa and the Middle East "depend" on India, Egypt, Spain and France for the transfer of digital data through submarine cables. In Europe, Great Britain is the key point for digital flows to the United States. Worth noting is Russia's small role in this geography of submarine cables, however, the country is an important digital land bridge, connecting Europe and Asia. There are currently no geopolitical tensions over the control of submarine cables and, with the exception of Europe and Asia, most major intercontinental routes are used in less than one third of their capacity (of which three quarters through the internet). It should be noted that in the case of conflict, some countries may find it easier than others to isolate its numerical opponent. The location of numerical cables and their transit significance are an issue of geopolitical power since they digitally supply users in a number of countries on the global level. Numerical cables are not a sufficient indicator of digital power although their routes often follow strategic maritime, land or energy routes. In addition to submarine numerical cables, worth noting is the geopolitical significance of satellite telecommunication capabilities and DNS locations, and the major role played by the United States in these areas.

The numerical space nevertheless depends on network cables, which are open to security threats, pose large geostrategic and economic challenges and security risks and threats and raise strategic issues associated with these actual pipelines of the digital economy. It is clear therefore that the paradigm of the virtualisation of the global and internet space notwithstanding, the internet does rely after all on material components in the form of submarine and land infrastructure. Information society requires the infrastructure, servers, computers, mobile phones, satellites, and particularly cables as key numerical arteries. Each year, TeleGeography, an American telecommunications market

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2   Carrie, Hugo, *Géopolitique des câbles sous-marins, illustration d'une mondialisation causée et causante*, 8 January 2018.

research firm, issues a new world map of submarine cables. In 2018, there were 428 submarine cables, of total length of over 1.1 million kilometres. As an actual material basis for the internet, submarine cables have become the main problem of information globalisation.
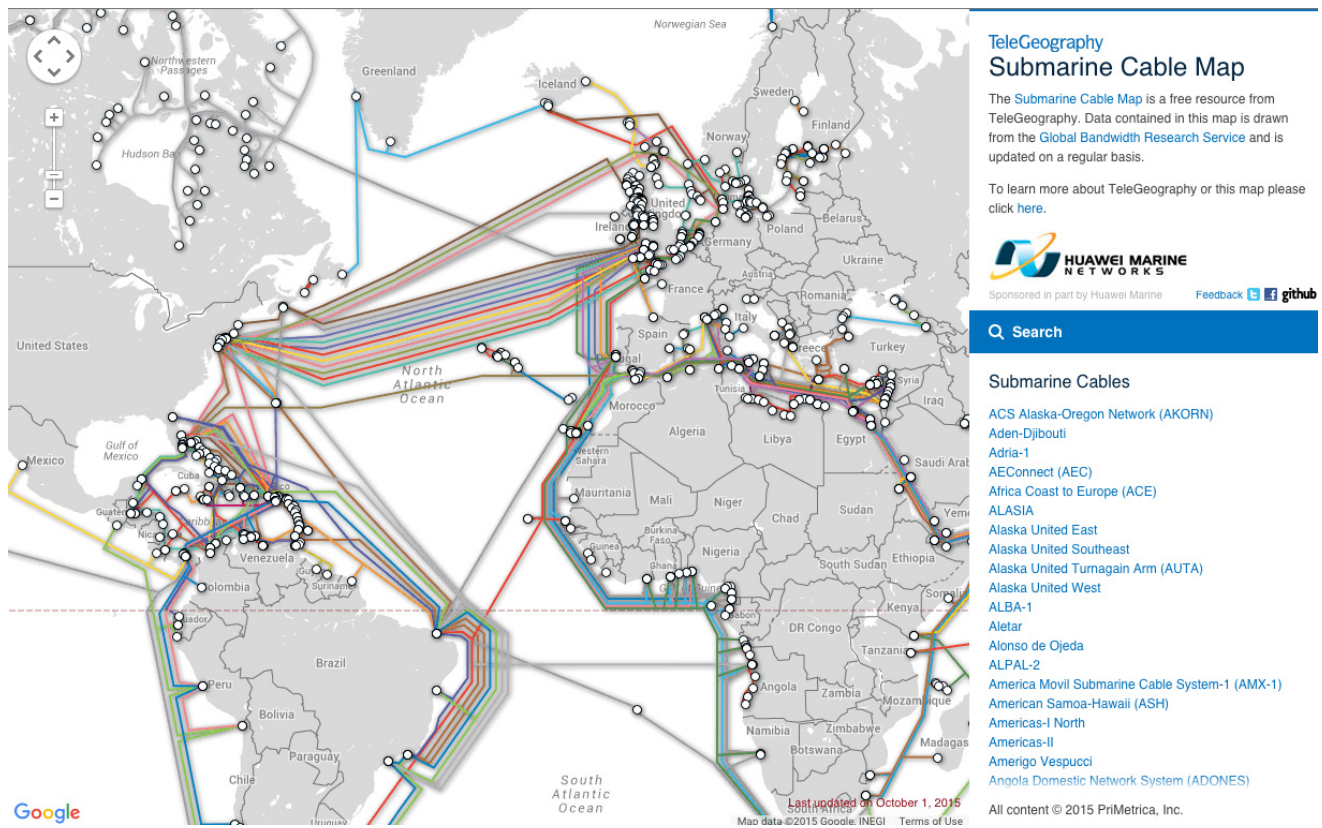

Figure: submarine cables Source: Submarine Cable Map, TeleGeography,
https://www.submarinecablemap.com/

The phenomenon of the numerical world should be viewed from three complementary and explicative aspects[3]: from a geohistorical aspect, fast development of communication networks in the past century: access to the globalisation of information has increased considerably owing to cross-ocean numerical networks; from a geoeconomic aspect: to identify economic and financial issues, particularly through a form of fierce competition as well as the necessary alliances between countries and operators; and from a geopolitical and security strategic aspect: relating to the vulnerability of the submarine cable system raising the issue of security risk, supervision and information cyberwarfare.

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3   Louchet, André, Observation, télécommunications et océans, in *La planète océane*, Armand Colin, 2014.

Submarine cables represent a geopolitical and security "critical infrastructure"[4] in every sense of the word. There is the issue of their fragility in a hostile sea environment (seabed instability, shark bites, etc.). They are at the mercy of ships' anchors, fishing nets, copper thieves, as was the case in Vietnam in 2007 where over 50 km of cable was stolen by fishermen. Damages to cables may paralyse communication for months. For instance, the restoration of the SeaMeWE 4 cable from Annaba in April 2017 following a damage caused by bad weather led to a virtual disruption of internet access and a temporary loss of 90% of Algeria's international connection capacity. The cables are usually buried beneath the seafloor to prevent them from being caught by ship anchors or fishing nets. However, some parts remain exposed and vulnerable particularly at landing points which are at risk of cyberattacks. Landing points may become the main targets of terrorist attacks. A large part of the geoeconomic functioning of countries and their economies is based on these cable flows, mostly commonly routed all-by-sea. Such web numerical highways are of strategic importance to countries and as such are subject to special oversight. The protection of submarine networks and cables are the key problem of cybersecurity. In an article published in the journal Hérodote in 2016, Camille Morel[5] showed multiple vulnerabilities of the global cable system and noted the absence of the legal status of "cable theft" at open sea. Thefts, cutting of submarine cables and piracy all require better security and protection. But this does not solve the delicate issue of the power of supervision or even interference by major numerical actors (digital giants, government or international agencies, criminal networks …) and their attempt to take over the data concentrated in this large information pipeline.

New numerical Leviathan

For centuries, technological and scientific advancement has made it possible for the Western civilisation to persistently push the boundaries. The discovery of nanotechnology and numerical revolution are not immune to totalitarian urges and projects. For instance, in parallel with scientific and pharmaceutical research concerning the extension of human life and transhumanist utopia, large corporations of the Silicon Valley are already thinking of eternity not as an ethical or existential issue but as a technological problem that has to be solved. On behalf of the Google Group, the futurist Ray Kurzweil conceives products and services for the future. He is known for his notion that immortality is near since we are entering into a new era in which machine intelligence and human intelligence merge, and people will become half-robot-half-humans, constantly connected to the internet. Our mind and spirit should be stocked on the web in the form of numerical data, such as a Word datafile or on a USB flash drive. This advancement is supposed to become a reality in 2045. In that regard, in this transhumanist view, the essayist Evgeny Morozov already sees a new form of modern totalitarianism which he terms "technological solutionism".

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4   Galand, Jean-Pierre, *Critique de la notion d'infrastructure critique*, Flux n°81, 2010.
5   Morel, Camille, *Menace sous les mers: les vulnérabilités du système câblier mondial*, N° spécial *Mers et océans*, Revue Hérodote, 2016.

Proto-totalitarianism or historical totalitarianism of the 20th century required a lot of human and material resources for the functioning, containing and controlling of the society. In addition to physical force and repression, it was necessary to devise and apply means of extortion, active and passive coercion by means of propaganda and cultural hegemony. Such totalitarianism was presented as a historical necessity in the name of the common collective good and as the only valid system able to prevent chaos and the destruction of the corpus of the society. In Mass Psychology of Fascism, Wilhelm Reich explores socio-psychological mechanisms of extortion behind the consent of the crowd which enable the "production of totalitarianism". The time of analogue production of totalitarianism based on crowd consent (acceptance of a totalitarian system based on a vertical control) is historically exhausted today. Other means of soft coercion and manipulation which are far more powerful and efficient for a total control of the society are based on numerical technologies. There is a principle that each social space in democracy represents a point of negotiation, discussion, contestation, exchange of ideas and polemics between different individuals and social groups confirming or negating the common will or consent to a political option or official politics. The system of political representation should apply in principle that which has been promised during the election campaign, align activity with a bigger or smaller consent or opposition. Within a totalitarian system based on numerical technologies, all the mentioned aspects of negotiation and exchange within a social space disappear as they are of no use and not necessary, and are excluded in favour of a new totalitarian numerical and virtual agreement reflecting a virtual illusion of preservation of democratic discussion and agreement. Numerical senders and servers simulate a democratic discussion focused on the obligation of efficacy and then prescribe laws with or without consent of the majority of the representatives. In that regard, in such a system the corpus of society has been introduced in the context of simulation of contestation or consent through the use of numerical information technology (social networks such as Facebook, Twitter). This is a dematerialised society which maintains the illusion-simulation and the possible "subversion", simulation which also enables the control of mind and will, by regulating urges and wishes and affecting emotional charge.

The original organisational system of control in "modern totalitarianism" depended on the pivotal element that underwent constant improvement, adaptation and testing and that was based on the model of Bentham's prototype of panopticum of circular control. However, in today's 21st century, the emergence of artificial intelligence in the form of specialised "smart" algorithms, based on the "deep neural network learning", "data mining" undermines the traditional system of control evolving from the circular, round form into an algorithm network, transversal and asymmetric form. The absolute observance of the norms and rules lies at the heart of totalitarianism. Since artificial intelligence is in essence a collection of rules used within an algorithm, the totalitarian performativity of such new system players is obvious. The system is upgraded constantly, with more efficient rules being adopted each year which necessarily limit the space of individual freedom, always in the name of general well-being and security. One could say that algorithms of artificial intelligence are invisible watchdogs of contemporary society. We all know they are all around us

and that we are watched by them all the time, selected through statistics on our profiles, behaviour, movements, but despite this awareness of totalitarian control, we passively submit to some sort of voluntary slavery. The Bentham's principle of a total panopticon space is possible today exactly owing to artificial intelligence and numerical technologies. It is an "algo political totalitarianism", which represents a simulation of an open prison on a state level, automating repression of the "breaches of rules" and imposing self-censorship. Constant growth ideology is closely linked to security control. With growing modernisation, the world becomes more dangerous as it generates an increasing number of risks of various nature. Modernisation and growing sophistication of the means of security develop in parallel with a rising sense of insecurity. The emergence of a techno-totalitarian society in the name of obligation of higher security for all might turn against its own architects and threaten the future of mankind.

The Angamben's thesis of *homo sacer* in modern society can be supported by numerical technology which dissects and profiles each individual in relation to his/her cognitive and social abilities, and exchange of such information between different high-tech Silicon Valley startups and different intelligence or para-intelligence state services are powerful means of control, far bigger and stronger than former totalitarian systems of the 20th century. In the name of "struggle against terrorist nihilism", the legitimation discourse is accompanied by the strengthening and expansion of the consumer society on a global level, which promotes "voluntary slavery" and such "soft totalitarianism" is perceived as a factor of peace and stability. However, behind the imperative of security there hides a strategy of submission and neutralisation of citizens who are to exist only in the form of passive and loyal consumers. The exchange and proliferation of information data captured and recuperated by GAFA (Google, Apple, Facebook, Amazon) and other networks, such as NATU (Netflix, Airbnb, Tesla and Uber), may jeopardise the functioning of democracies as they pave the way to misuse and manipulation. We are on the verge of the real "algorithmic government" that would replace a traditional state and the society as an apotheosis of a "total project".

Virtualisation of the world and the process of derealisation

In his work *Histoire de l'utopie planétaire: de la cité à la société globale*, Armand Mattelart[6] explains that the idea of a great utopia of a united world of brothers based on universal values lies at the core of development of the Western world. Such an idea is also in the centre of a debate on a modern revolution of the information society, termed by some researches "the third industrial revolution". This managerial discourse has become dominant in modern society. The whole discourse on globalisation, its ornamental version with the internet, provides a structure for a technicist and mercantile vision of the old utopia of the human community, which is based on a progressivist and global conception of the world and life. Various models and projects of global integration derive from

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6   Mattelart, Armand, *Histoire de l'utopie planétaire, de la cité prophétique à la société globale*, Paris, La Découverte. Poche, 2000.

this discourse. For some, such as the geographer Elisée Reclus, they should rely on social solidarity networks and for others on the necessity of interconnection of national markets subjected to a new division of labour and agreements on common security. Mattelart argues that the starting utopia which reflects the general will to achieve a better world, based on the respect of diversity, illustrated by the ideal of a "*cosmopolis*"[7], is recuperated and integrated in a globalisation discourse distancing itself from cultural relativism. Media colonisation and virtualisation of the "polis" by managerial prophecy, which deligitimises organised participants of public and political life, have gradually achieved a transition from a "cosmopolis" to a "technopolis". The "technopolis" glorifies and boosts media-managerial and mercantile society, striving to monopolise and appropriate the whole of history, free of any in-depth dimension and memory. In this society of technological achievement, the phenomena of virtual telepresence, which form a type of common global teleexistence and provide a technical basis for virtual reality, erase all visible borders, distances, markers and the very idea of relief in the name of artificial fixing of the present and the real instant that no one is a master of. According to Paul Virilo, the ancient "cosmopolis" gives way to "omnipolis", an autonomised, globalised, financial and stock exchange system, which exceeds the geopolitical telluric arrangement and continental extensibility in the name of the rule of planetary metropolitics as a system of interactive global telecommunications, extending across virtual networks of a new dematerialised "telecontinent". From the urbanisation of the actual space of the national geography to the urbanisation of the actual time of international telecommunications, the "space-world" of geopolitics is gradually giving strategic priority to the "time-world" of chronological proximity without delay and antipode. In his book *La mondialisation de la culture*, Jean-Pierre Warnier proposes a synthesis of the phenomenon of the globalisation of culture. His approach implies an analysis of the repercussions of the global culture, particularly Northern American and European, on local cultures. According to Warnier, the process of globalisation is a symbol of general depersonalisation and denationalisation used by globalisation to evacuate and marginalise social participants in favour of large financial and economic multinational units. Towards the end of the 1950s, Ronald Barthes, analysing the mythology of his time, labelled the bourgeois as an "anonymous society", the label used to describe the "world business class" of today. In this context, "technopolis" as an ideology is characteristic to that process of deculturalisation. In the previous century, colonisation was the product of a progressive vision of the world and history. In the 20th century, a new form of neocolonialism takes the form of a global organisation of the market attempting to integrate by force peripheral countries and generalise the standards of mercantile metropolis economy.

Beyond doubt, the new ideological trend of the global "technopolis" striving, in different geopolitical environments, to propel technological, political, military security and sociological changes in the whole world and particularly in the new peripheral countries, requires from these same countries maximum adjustment capacity and imperative of cooperation. Such sudden revolutionary changes cause, to use the physical terminology, a certain "stochastic noise", a concept derived from the

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7   Vujić, Jure, *Fragmenti geopolitičke misli*, ITG, Zagreb, 2004.

theory of activity of stochastic resonance in physical and neurobiological systems. In the processes of change, which shape the new reality in an environment such as the macrosystem (which contains subsystems), survival factors are developed, from sensors to symbiosis. The keys to survival in a too fast evolutionary dynamics of the system lie in sensory sensitivity and sufficient flexibility. However, it is clear that the process of globalisation and communication of kinetic changes, in the subsystems such as economic systems, states, cultural and interest groups, gives rise to the phenomena of internal noise, which is caused by perpetual shifts in value systems and sociocultural trends on a micro level. Amid fast technological and communication changes on a global level, the development of devices ill-suited to the new conditions or the late identification of signals pose a threat to a successful system adjustment. However, a weak below-detection threshold signal may be increased by means of an optimum level of stochastic noise, which means that modern techno-communication and information trends of development and changes are concealed by the phenomenon of "stochastic noise", through manipulation of signals by external and internal noise in "unadapted and more conservative" systems. Between ethnocentrism and hyperglobalism, Warnier suggests a third path of pragmatic nature, based on the idea that the Western culture is not automatically and magically accepted. Export culture is subject to a form of recontextualisation, which is based on three facts: uniformisation and globalisation are not unilateral phenomena; the pessimism of the theoreticians of the "centre" excludes from the analysis the phenomena characteristic of peripheral cultures and does not take into account the capacity for creation, innovation and imagination of the diverse subjects of the peripheral countries; the standardisation of mass production and consumer goods does not cause automatically a standardisation in thinking and social practices. Warnier argues that consumption has become the place of cultural production and he uses his thesis of recontextualisation to criticise the approaches by Benjamin Barber, Samuel Huntington and Ramonet. In an original contemporary analysis of the modern society, Christian Marazzi states how modern society experiences the "linguistic turn" of the economy because, according to him, the entry of communication and language into the sphere of production presents the transformation of the period, the "paradigm shift" and "transformation crisis", the transition from Fordism to post-Fordism, the transition from a system of mass production and consumption to the system of non-material production and flexible distribution (*flux tendus*). In his analyses of the birth of "cognitive labourers"; Marazzi points to a class of producers no longer "commanded," using Adam Smith's terminology, by machines external to live labour, but rather by technologies that are increasingly mental, symbolic, and communicative. In this cognitive context, a new fixed capital is born, becomes dominant and takes the form of a rigid disc, artificial intelligence that executes social programming. Gilbert Larochelle termed this phenomenon "technocratic imagination", which also touches upon the topics analysed by Viviane Forrester[8] and examined in studies on exclusion by the sociologist Bourdieu. In a modern social context with a repeating controlling discourse, characterised by the active role played by cybernetics, which manipulates "symbols, data, language, words" and

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8 Forrester, Viviane, *L'horreur économique*, Fayard, 1996.

communication elements, a new "immaterial society" emerges, bringing about the naturalisation and domestication of social relations. As Lucien Sfeza suggests in his work *La communication*, modern society is obsessed with the idea of communication at the moment when this society does not know anymore how to communicate with itself and when its values and cohesion are contested and symbols exhausted. The centrifugal society with no regulation in which communication attempts to connect specialised analyses and messages from the outmost "partitioned" circles. This phenomenon of "partitioning", the divide between the idea of communication and a fragmented society in its functioning and its symbolic function lies at the heart of Habermas' concept of the "refeudalistion" of public space. Habermas' diagnosis of the modern society rests on actuality, proving that modern society is based on wrong communication, which is influenced by perverted effects of power and profit as agents of fragmentation and destruction of symbolic links. Indeed, one of the most important scientific and research challenges of the global world are the questions of the source and nature of information and communication, its messages and metamessages and the virtual and speed dimension of the human being who in the future will not even intervene in the process of production of information and communication.

The word "virtual" derives from the Medieval Latin idiom "virtualis", deriving from "virtus", power, might. In scholastics, that which is virtual is that which exists in its power but not act. The virtual strives towards actualisation without ultimately achieving effective and formal concretisation. The virtual is not opposed to the real, but to the actual: virtuality and actuality are two different manners of existence. In *Différence et Répétition*, Gilles Deleuze presents a necessary distinction between the possible and the virtual. The "possible" is already constituted as the latent and phantom "real" and will be achieved without any changes in its determination and nature. The only thing missing is existence. Opposed to the "possible", which is statically constituted, the virtual is a problematic complex, a node of tendencies and powers which follow a situation, an event, an object, and which requires the process of resolution and actualisation. Virtualisation may be defined as a movement opposite to actualisation, which implies a transition from the actual to the virtual, an "elevation of power" of an entity. Virtualisation is not a process of derealisation, but a mutation of identity, a displacement of the ontological centre of gravity of an object. To virtualise an entity presupposes the discovery of a general question mark relating to that entity. In his book "Atlas"[9], Michel Serres provides a good illustration of the theme of virtual, viewed as an "outside-of-there (*hors-là*)". Imagination, memory, knowledge and faith are the vectors of virtualisation, which detach us and make us leave the "there" before the process of informatisation and numerical networks takes place. Virtualisation is transformed into an ontological exodus, which, in contrast with Heidegger's "*Dasein*", does not belong to a specific place or a specific location. Virtualisation invents a nomadic culture, not by returning to the Paleolithic era or ancient civilisations, but by enabling the emergence of social interactive relations reconfiguring with a minimum inertia. When a person, a collectivity, an act or a piece of information are virtualised, they are placed "outside-of-there" and become

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9   Serres, Michel, *Atlas*, Julliard, Paris, 1994.

deterritorialised, detached from the usual physical, geographic space and chronological time. Synchronisation replaces spatial unity, while interconnections substitute for temporal unity. The process of virtualisation is also facilitated by acceleration in modern communication and physical mobility. Virtualisation is not limited to acceleration of the known communication processes or the alienation of time and space as expounded by Paul Virilio[10]; it invents new qualitative speed, the mutant categories of time and space. In parallel with the phenomenon of deterritorialisation, virtualisation is marked by a transition from inside to outside and from outside to inside. The effect termed "*Moebius* effect" relates to different areas: private-public, subjective-objective, map-territory, etc.

Today, the general process of virtualisation through digitalisation covers the world of information and communication, but also the world of the body, the economy and the collective frameworks of sensibility and exercise of intelligence. Virtualisation affects different social groupings: virtual communities, virtual companies, virtual states and virtual democracies. The question is: should we be afraid of general derealisation? A form of universal disappearance, as suggested by Jean Baudrillard? Is the modern global world under threat from a cultural apocalypse or implosion of space-time, as forecasted by Paul Virilio? Pierre Lévy[11] answers with a different non-catastrophic hypothesis: that a continuation of hominisation is expressed through the ongoing cultural changes in the 21st century. This means that virtualisation, in its philosophical, anthropological (relationship of the process of hominisation and virtualisation) and socio-political aspects constitutes the essence of various ongoing mutations. In this sense, virtualisation is neither good nor bad nor neutral because it presents itself as the movement of heterogenesis of the human being.

Numerical disruption

Disruption denotes a disturbance in a market where positions have already been established through innovation and new strategies. This phenomenon has been theoretically developed by Clayton M. Christensen and Jean-Marie Dru [12]. Disruptive innovation means "the process of developing new products or services to substitute existing technologies and gain a competitive advantage". Namely, a disruptive product or service is directed towards the market they were earlier unable to satisfy (new market disruption) or represents a simpler, cheaper or more economical alternative to existing products (cheaper disruption). In practice, we can see how numerous markets have already been shaken by new companies offering new, surprising products or services or having innovative business models, or aggressive market strategies. Well-known new companies, such as Tesla, Uber,

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10 Virilio, Paul*, L'horizon négatif, la conduite intérieure*, Galillée, Paris, 1984.
11 Lévy, Pierre, *Les Technologies de l'intelligence, L'avenir de la pensée à l'ère informatique*, La découverte, Paris, 1990.
    Lévy, Pierre, *L'intelligence collective, Pour une anthropologie du cyberspave*, La découverte, Paris, 1994.
12 Alaphilippe, Laurent, and Nora, Dominique, *Le concept de "Disruption" expliqué par son créateur* [archive], at *nouvelobs.com*, 24 January 2016 (reference 20 January 2018).

Airbnb, SnappCar, Nextdoor, Waze, Spotify, Picnic, HelloFresh, Zalando, Booking.com, Virgin and Amazon have all made a disruption in their respective markets. However, disruption disturbs subtle mechanisms, the allies of socialisation and conviviality, of the joint life. Namely, the proliferation of technology in the name of ongoing progress causes the loss of markers, which Sedlmayr[13] calls the "loss of the centre". Disruption, etymologically derived from Latin *disrumpere* (to break into pieces), used in the jargon of new high-tech numerical companies that stress "disruptive innovation", which is an innovation of interruption because it disturbs acquired positions, in a way represents a short circuit in the current rules of the game. In addition to the economic and technological dimension, the phenomenon of disruption also deeply affects the collective and individual perception of the world, the so-called social representation and the construction of social reality. For the economist Bertrand Stiegler, disruption, an ongoing, accelerated innovation, represents a form of "soft barbarism", which interrupts long and subtitle processes of socialisation[14].

The disruption phenomenon, in the manner of Kuhn's scientific revolutions, introduces in an accelerated pace innovations that impose a change of paradigm in the society, collective and individual psychology, in the very perception of social reality. Namely, from Google through Uber, disruption destabilises our private and public spheres of life. Stiegeler quotes Michel Foucault[15] when he stresses that this is a case of "collective madness". This process and the escape towards the new and innovative have been going on for centuries, and what characterises the current temporality epoch is what Maurice Blanchot calls the *non-epoch*, the very epochal absence marked by the proliferation of "impersonal anonymous forces"[16]. The distinctive thing about the epoch are collective inheritance and shared common experiences, for instance, modernity, the counterculture of the 1960s, etc. Current projections of the future are predominantly negative: climate changes, the disappearance of the humankind, terrorism, war … What happens in disruption is what Nietzsche calls the realisation of nihilism and the "destruction of all values". The new disruptive economy is predatory and it is based on the elimination of singularity through performativity and hyperproductivity. The ongoing contemporary numerical revolution is eminently a disruptive phenomenon. Disruption opposes civilisation. As a phenomenon, the term "disruption" originated in 1993 with the reticular phenomenon of the "network numerical structuring" of generalised connectivity. Specifically, through the reticulation of algorithms we have witnessed an unprecedented acceleration of innovations. In this sense, reticular technology systematically disturbs what in the long run contributes to the creation and maintenance of civilisation. In this sense, disruption, due to the imposition of speedy technological innovations causes a permanent destabilisation of society. These innovations are ongoing and vary in form, but all lead to the generalised automation

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13 Sedlmayr, Hans, *Gubljenje središta: likovne umjetnosti 19. i 20. stoljeća kao simptom i simbol vremena*, published in the Croatian translation by Verbum, Split, 2001, from *Verlust der Mitte, Die bildende Kunst des 19. und 20. Jahrhunderts als Symptom und Symbol der Zeit*.

14 Stiegler, Bernard, *L'accélération de l'innovation court-circuite tout ce qui contribue à l'élaboration de la civilisation*, at *liberation.fr*, 1 July 2016 (reference 20 January 2018).

15 Foucault, Michel, *Folie et diraison: Histoire de la folie a l'dge classique*, Paris, 1961.

16 http://maisouvaleweb.fr/disruption-extension-du-domaine-de-linnovation/.

and robotisation of jobs and society. It is a case of multi-layered innovations: artificial intelligence, virtual reality, drones, blockchains, robots and internet objects (IoT), chatbots, Blockchain system (decentralised and transparent register of all transactions and exchanges), 3D printing, etc. The numerical revolution and the disruption phenomenon mark an important moment of technological interruption, which also causes an epistemological break, which interrupts what philosophers call *épokhè*: interruption, a suspension of everything that occurred under known, common modus. The technological *épokhè* generates another *épokhè*, related to mental structures, art, science, politics, law and all this creates the matrices of the new age of the epoch. However, in accordance with Kuhn's scheme of scientific revolution, the technological jumps of the breakdown, in principle, grow increasingly stronger and occur at increasingly closer intervals. With numerical reticulation we live in a dispositive in which change is a permanent category, in which nothing is stable any longer and, in this sense, the human being cannot follow and feed on such innovation so, in a way, it is faced with a process of disintegration (due to inability to "digest", synthetize and elaborate knowledge and experience).

The market of attention and capitalism of sublimation

Given the everyday presence and additive effect of numerical machines and actors such as Facebook, WhatsApp, Snapchat, Viber, Google, Amazon and Apple, the numerical virtual universe became the perfect mega machine to capture and channel individual and collective attention. The numerical media can simulate all the details of other media by accumulating all the previous classical media functions (television, typewriter, etc.) and, in this sense, have captured unprecedented space of representation and expression, but they also become a powerful tool for captivating and directing real time user attention. Namely, the labyrinth of social networks resembles everyday technological viruses that search us out, re-direct and attract attention in oftentimes cacophonic and synchronic order. Our attention is most times coerced and directed towards watching the offered pseudo-communicational, playful and consumeristic demands, all packed in a relational, interactive and so-called "creative language". This is the issue of the new economy of attention already presented by sociologist Gabriel Tarde at the beginning of the 20th century, which created a lack of attention. Indeed, the overproduction of the market requires advertising forms that may "halt and direct attention, repair it on the offered item". Of course, this phenomenon is not new and advertising strategies and marketing try to attract the consumer's attention to this or that product. However, the novelty today is that with the explosion of Internet applications and smartphones attention has become a rare commodity, a resource, a new currency that may be capitalised and stored. Deliberating economy in the sense of this new "economy of attention" means reducing attention to measurable economic problems. The everyday flood of information and inputs available on mobile and internet devices, most often without any selection of depth and meaning, commonly exceeds both users' cognitive and sensory capabilities, which leads to the bulimic consumption of visual

content and information in the digital world where the line between attention and distraction, concentration and dispersion, disappears. This is a phenomenon of "blind attention", which fits within media and numerical strategies of escapism and disinformation. The issue of the new "economy of attention" opens up the key question of the new "anthropology of attention", since the manipulation and orientation of human attention disrupt long-term anthropologic constants based on the diachronic understanding of time-space, respect of private internal spheres, personal integrity and the need for recognition within a society. The impact of this economy would also be catastrophic for culture, education and cognitive capabilities of new generations given that the capability of concentration and transfer of knowledge are significantly reduced and redirected. For the futurist Ray Kurzweil[17], immortality is at close reach because we are entering the period when "technology and human intelligence will merge". We lack free will and control of our attention and will soon became half-human and half-machines that constantly connect to the internet with our minds soon emitting digital data online. All this will allegedly be possible by 2045, according to the prophecies of transhumanism. We are witness to what the philosopher Eric Sadin calls the "world siliconization"[18], stressing the anthropological and political effect of what he calls the "algorithmic governance of life" or "digital soft totalitarianism", which ultimately strives to deprive us of our attention, our independent judgement and to direct the course of our lives. The economy of attention that fits into this "new industry of life" would be the latest "avatar" of technological liberalism.

New theogony: disruption technology, chaos or cosmos-oikos?

The invention of robotics and accelerated automatization of jobs, as well as constant digital innovations, are accompanied by a sort of soft-totalitarian official discourse of *"technologos"*, which in addition to the glorification of the emancipatory strength of "new technologies" promotes the social imperative of adapting and transforming, without having in mind how much actually such adaptation de-socialises and destabilises human communities. Therefore, it is necessary to view the numerical phenomenon within a framework of a wider critical interpretation of J. Ellul, who places technological innovations within technological progress and wider modernity, in which progress instead of emancipation becomes alienation. Such new technology illustrates well the words of Norbert Wiener, the father of cyber science, who, in his work *Cybernetics and Society* stresses that "a revolution is under way, which will enable machines not only to replace human muscles but possibly replace the human brain", alluding precisely to new digital innovations within the framework of the ongoing numerical revolution and the development of artificial intelligence. We may say that from the start of industrial capitalism in 1870 in Great Britain and the joining of the steam engine (invented by James Watt) and entrepreneurship (Matthew Boulton realised and commercialised Watt's inventions by introducing manufacturing engineering and machine tools) innovation turned

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17 https://futurism.com/kurzweil-claims-that-the-singularity-will-happen-by-2045
18 http://lab.cccb.org/en/world-siliconization/

into the new paradigm of permanent innovation in the service of constant progress. Later, Joseph Schumpeter would theorise about the characteristics of economic change. Innovation marks modern society, but also the change of the role and purpose of innovation in society, economy and technology. Namely, there are innovations without inventions, as well as inventions that do not create innovation. Innovations, in principle, try to socialise technological inventions that arise from scientific discoveries. However, this social dimension of innovation has been completely disregarded today because innovations, from the beginning of Fordism to libidinal capitalist economy and Edward Bernays' marketing (who differentiated needs from wants in Freudian terms), have been directed exclusively to serve consumerism and profit by manipulating and sublimating consumers' wants. In this context, constant disruptive innovation, especially in the area of numerical economy, has become the exclusive means of conquering the market and since the objects of lust and want are endless, we come to the civilisational and ontological question of the direction and purpose of such new disruptive "technogony". The words of Norbert Weiner well illustrate this new technogony. The father of cyber science, in his work *Cybernetics and Society* stresses that a revolution is underway that will enable machines not only to replace human muscles but open up the possibility of replacing the human brain, alluding precisely to new digital innovations within the framework of numerical revolution and the development of artificial intelligence.

Namely, let us remember Hannah Arendt when she stressed that a person should feel integrated in a "common world", which structures the universe in order to be able to mature gracefully and peacefully. Hesiod's poem *Theogony*[19] from the Greek mythology describes the creation, genesis of the world, but also a close connection with the gods, interpreting the fragility of the cosmologic unity and balance when Zeus conquers the Titans by preserving this balance and justice. Disruptive technogony may be giving birth to a new chaotic world, which interrupts this continuum and the subtle balance between the world understood as a common house (*Oikos*) and people because all values are reduced to their trade value. The same process of perversion is shown by Ovid in *Metamorphoses*[20], which shows human essence, how a man from the state of innocence can reach full decay and corruption. Is this not the start of nihilism? Is the numerical disruption as a means of divergence from cosmos as a common world precisely the main leverage in the desacralisation of the age of the Titans, as mentioned by Ernst Junger? Disruption crates nihilism in the fullest Nietzschean sense of the word: "destruction of all values" through the omnipresence and prevalence of a predatory economy, based on the elimination of singularity through calculation. Even animals have a sense of understanding the world, as proven by biologist Jakob von Uexküll in his work *Mondes animaux et monde humain*, and this capacity to think and understand the world is in the

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19   *Theogony*, a Hesiod's poem, is the oldest source of Greek mythology. The poem is a mythological synthesis discussing the origin of the world and genealogy of gods. It tries to affirm Zeus, who by winning against the Titans becomes the almighty protector of justice.

20   *Metamorphoses* by Publius Ovidius Naso is a mythical poem describing myths of metamorphoses of both humans and gods into plants, animals or other. The poem also describes the origin of the world and the metamorphoses into four ages: Golden, Silver, Bronze and Iron.

core of the Heideggerian notion of "*Dasein*" is what gives birth to the world (*Umwelt*), and for the first time ever the human kind is faced precisely with the absence of this understanding and the possibility of constituting the world as cosmos.

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Geopolitika numeričkog prostora i vladavina algoritama

Sažetak

Numerički mediji mogu simulirati sve detalje drugih medija, kumulirajući sve prethodne klasične medijske funkcije (televizija, pisaći stroj, itd..), i tom smjeru osvajaju do sada nedostižive prostore reprezentacije i izražaja. Takav kapacitet numeričkih medija za digitalno programiranje kroz modularnih struktura, svih prethodnih funkcija klasičinih mas-medija uspijevaju putem mrežne rekonfiguracije i kulturalnog transkodiranja, predočiti retrospektivnu sliku svijeta i kulture u povijesti čovječanstva. Inter-konektivnost između numeričkih medija i internetskih mreža predstavlja planetarnu virtualnu mrežu koji neki uspoređuju sa "svjetskim kolektivnim korteksom". Međutim, s obzirom na rastuću gustoću i kompleksnost, numerički mediji postaju sve hermetičniji i složeniji u njihovom dubokom funkcioniranju. Postupna autonomizacija i emancipacija od svojih kreatora i operatora, otvara proces u kojem se nastaje zagonetna umjetna inteligencija kao uvod u novu vladavinu algoritama. Riječ je o uvodu u novu virtualnu geopolitiku cyber-prostora u kojem su strategije osvajanja i monopola nad informacijama postali suparnički prostor igre moći između službenih državnih aktera i drugih asimetričnih aktera.

Ključne riječi: numerički, mediji, geopolitika, kablovi, pažnja, ekonomija, totalitarizam, poremećaj.