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Geopolitics of Cyberspace and Virtual Power

Svetlana Lobastova
The University of Economics
Prague (VŠE), Czech Republic
E-mail: lobs00@vse.cz

Abstract

Virtual environment unites individuals and IR actors into one international community. The global cyberspace extends across nation boundaries and enables political and economic structures exist in a virtual form. Online virtual spaces inhere integral part of global information infrastructure and serve international platforms for the promotion of individual actors` interests. Otherwise, the virtuality construction adopted to the prevailing technical equipment in a certain geographical region has not been considered a social power force and the constituent part of the geopolitical strategy yet. The article proposes the concept of Geopolitics of Cyberspace in the context of virtual international environment. To attain this objective, I consider the concept of cyberspace and cybercartography. This is followed by representation of Transformed Wallerstein`s Theory as the alternative perspective of a world-system structure division. It is followed by consideration of Institutional Matrix Theory as a socio-cultural basis for Geopolitics of Cyberspace strategy implementation. There is presented the concept of hegemony in a global information infrastructure. The article finishes with consideration on virtual power concept as a means of Geopolitics of Cyberspace.

Keywords: Geopolitics of Cyberspace; Transformed Wallerstein`s Theory; Institutional Matrix; Virtual Power; International Relations

1 Introduction

The world is being involved in a new digital information age. The worldwide digital economy is fundamentally relied on cryptographic processes. Virtuality phenomenon gains on the popularity currently (Chang, 2017; North & North, 2016; Lau & Lee, 2015; Nardi, 2015; Bombari, 2015). Advanced technological equipment that is able to project virtual reality spaces within global international cyberspace is widely distributed on the world markets. Information infrastructures unite individual actors on the global international stage. International political, economic and socio-cultural structures exist in a virtual mode (Baylis, 2011). Governance mechanisms in the system are regional and based on hybridity (Acharya, 2017). . International politics are rather socially constructed than constituting by objective reality space (Wendt, 1999; Katzenstein, 1996). The dissemination of representational meaning system via mass media resources influences public preferences and serves for individual actors` interests (Constantinou, 2018).

Visual representations with their dissemination also serve as a means of shaping the global system via diverse type of technical equipment that is capable to produce virtual reality expanse (Constantinou, 2018) within a certain geographic region. Artificial worlds presented in simulated virtual realm affect digital marketing strategies (Zanni & Rios, 2018; Lin & Rauschnabel, 2015) in global social context consolidate representatives of international cyber society into discrete interest groups. Popular mass media online platforms persistently growing in prominence among young people (Goodyear, Armour & Wood, 2018; Swist, et al., 2015). In domestic policies, such platforms become a feasible mediator between government or interest groups and the groups of individuals who are supposed to be the object of social power (Leavey, 2013; Margetts, 2009).

In this connection, it makes sense to argue, that global information infrastructure serves a global platform for a social power distribution and can be a means of hegemony implementation by individual interest groups or influential actors. Ideological centers in decentralized global international system may influence the system shape by managing distributed information flows and networking data transfers according to technological landscape in a certain geographical area of the Earth.

However, the certain construction of virtuality content transmitted via global cyberspace and adopted to a technical environment in a certain geographical area has not been considered the constituent part the Geopolitics of Cyberspace strategy yet.

This paper considers the global virtual environment a platform for Geopolitics of Cyberspace implementation via distribution of virtuality construction as a virtual form of social power. To substantiate the objective, I focus on cyberspace and cybercartography concepts. This is followed by the proposition of transformed Wallerstein`s theory as a contemporary world-system structure. There is also considered the Institutional Matrix sector concept as a discrete socio-cultural basis for Geopolitics of Cyberspace strategy. Then a concept of virtual hegemony is presented, and a virtual construction is considered a means of social power. Finally, the Geopolitics of Cyberspace strategy concept is introduced.

2 Cyberspace as Global Virtual Environment

Globally spread networking systems have influenced the essential processes of humanity existence on micro and macro levels. They also synchronize basic human life processes across geographical boundaries, time zones and cultural prejudices. Social relations have already been hybridized into offline and online environments both (Serrano-Puche, 2016). Global cyberspace integrates people all over the world into one common cyberspace community that is comprised of information infrastructures. Interest communities are internationally interconnected within online spaces and virtual platforms.

The IR structure is affected not only by the power of global politics but also is formed and constructed by social ideas (Baylis, 2011). The essential structure of global international politics can be considered rather as socially constructed system than a material world. Contemporary international system corresponds to Foucault`s Cyber-Panopticon concept (Boyle, 1997). The concept may be interpreted as digital libertarianism as an essential characteristic of postmodern society. An individual is rather an actor on the international stage than a nation state. Most individuals spend a significant part of their conscious day in virtual reality spaces. Naím (2005) argues that essential communicative transactions today proceed among individuals in the global networking virtual space, so that an individual is considered an actor on the international stage. The Actor-Network theory focuses the exploratory consideration of social relations and various interaction modalities in global networking world. The Actor-Network theory has become increasingly prominent within the IR discipline and political sciences (Lezaun, 2017; Bencherki, 2017). In this connection, the global cyberspace serves a strategic platform for social power distribution on the international stage.

The definition of cyberspace initially refers to a multichannel widespread, interconnected digital technology system that creates a notional global environment in which communication over computer networks occurs. Subsequently, the virtual environment in which communication over computer networks is implemented can be understood as concept of cyberspace. Cyberspace can also be defined as a notional environment in which communication over computer networks occurs. The cyberspace term also refers to a virtualized computer world and electronic medium (Kneale, 1999). Cyberspace is created by a global computer networking system and serves the facilitation of interaction and transaction processes. The term is currently used by technology strategists, industrial security representatives, in formal speeches of political leaders and entrepreneurs to describe the domain of the global technology environment.

The term cyberspace is related to the notion of cybernetics. The notion is traditionally understood as the science of the general laws of information change within complex control systems. Wiener has defined cybernetics as the science of control and communication, based on human-computed interaction studies (Wiener, 1948). Cybernetic studies in this connection are associated with general laws of networking processes that occur within complex dynamic transformation systems of social nature (Wiener, 1948). Cybernetics and networking information infrastructures generate global virtual cyberspace that is a virtual field of action where struggle for people's minds take place. A number of contemporary cyberpschycological studies are devoted to the exploration of computer-mediated communication (Parker, 2007; Huber, 2006; Muhlberger, et al., 2005; Galimberti & Belloni, 2003).

Currently, the international system that is partially constructed and deeply influenced by a global virtual cyberspace. It makes sense to argue that in such a system data visualization and digital technological equipment remain the components of information infrastructure and cyberspace existence. In this connection, these two constituents of information infrastructure can be considered the two main strategic resources for dissemination of a social power on a regional and global levels both.

Via interests distributing virtual representations through a multichannel expanse of cyberspace an individual actor may promote it`s individual interest and ideological attitude internationally. To distribute a virtuality construction of an appropriate type within a global international system efficiently the discrete actor should dispose cybercartography atlases of digital ethnography that display digital logistical infrastructure and material properties of communicational environment in a certain geographic area. The cybercartography atlases are intentionally designed to display the global networking structures and evidences users` interactivity within the virtual spaces. They also reflect and indicate the discrete types of networking operations and online cartography of cyberspace (Grubesic & Murray, 2005a; Grubesic & Murray, 2005b). Geographic maps of a global cyberspace are created through the spatialization prism of non-geographic information structures. These maps are developed to indicate and produce the visual map-like interfaces into online virtual spaces (Grubesic & Murray, 2005a; Grubesic & Murray, 2005b).

The increasingly significant place in the international relations discourse currently take the debates on Geocybernetics (Phillips, 2016; Paras, 2007; Reyes, Taylor & Martinez, 2006). Cybersecurity is currently the top of international agenda (Kuranda, 2018). The geocybernetics term refers to scientific perspective of the general laws of information change within a global complex networking control systems (Stangu, 2010). Geocybernetics is a scientific discipline that focuses the exploratory regulation principles of global interconnected action systems on the basis of general mathematical laws and governing management regulations (Stangu, 2010). Physical geography of cyberspace or geo cybercartography (Taylor & Caquard, 2006; Reyes & Martinez, 2005; Jiang & Ormeling, 2000) deals with biometrics for multitouch devices (Koong, et al., 2014) physical location of technological equipment of all types enables distribution of hyperreality constructions with appropriate message from local intra state level to global international.

Visualization of cybercartography (Hecht, et al., 2011) and geographical hypermedia (Crampton, 2009) can be considered the epistemology of science. Batty (1977) and Goodchild (1990) argue that virtual geography is a field of new media convergence and networking of GIS-computation of geo-data. There were already developed some projects on geocybernetics. CentroGeo's Scientific Project with its cybernetic character was developed to focus the Scientific Management Model (SMM) (Jeong, & Barabasi, 1999). The model can be considered an innovative mode of knowledge production with a cybernetic character based on the science of geocybernetics. The main focus of the developed model is on communication and cognition processes of user`s interaction strategies within the global networking system in accordance with second order cybernetics (Reyes & Paras, 1999). The SMM as a scientific strategy that constitutes of four blocks: human networking, heterarchical groups, a method to approach knowledge production and the international level (Reyes & Paras, 1999). There was produced the three-dimensional hyperbolic visualization of Internet topologies by Young Hyun (CAIDA). The three-dimensional visualization was designed by the means of custom-written hyperbolic graph viewer Walrus. Hyperbolic visualization of Internet topologies was developed for the purpose of resolving the interactive screening browse huge graphs to researchers.

For political purposes there were invented some maps in cartographic mode that display information infrastructures in their global scale, separate infrastructures of nation states such as the US and UK, and infrastructures in certain geographic areas (the Helsinki metropolitan area, the west London-M4 corridor, Silicon Valley). TeleGeography: A Division of PriMetrica, Inc. focus on development of telecommunications maps with traffic flows and international Internet bandwidth. The Public Internet Project focuses on development of maps that indicate open/closed Wi-Fi nodes within geographic territories. There was announced the launching of Project Safeguarding Elections (PSE) by The Public Internet Project. Lumeta Corporation Bell Labs have been developing Internet Mapping Project (The Internet Mapping Project) that focuses on Internet topological data. The U.S. federal government in its attempt to prevent future cyber-attacks maintains The National Infrastructure Simulation and Analysis Center (NISAC) develops the complex diagram displaying links of the Internet infrastructure (Fessenden, 2015).

In addition, the globalized networking cyberspace does not have anarchical configuration. The international cyberspace may be represented as intersubjective virtual unit constructed with certain informational matrix zones and information infrastructures that are interconnected among one another. The global cyberspace as the land surface of the Earth is divided into discrete zones. In this connection, the world-system structure of a current international system may be developed and re-defined.

Cyber security and cyberattacks are the also the great challenge of the 21st century that a number of nation states and governments faces (Saravanan & Bama, 2019; Abomhara & Køien, 2015; Minnaar, 2014). According to 2019 Security Report, in 2018 year around 76% of organizations have faced phishing attacks (2019 Security Report). There was registered the large-scale data breach on Facebook, which was organized by a political data firm named Cambridge Analytica. There were collected the personal data of over 50 million users (2019 Security Report).

There was also registered an incident with DDoS attacks with the campaigns of at least two US Democrat candidates in July 2018 during the 2018 primary's season (2019 Security Report). The attack was implemented in order to disrupt campaign websites for a certain period of time. The potential voters had no access to the informational resources of active fundraising. There was also the data breach with Ukraine's energy ministry offline website (2019 Security Report).

The cryptocurrency attacks also pose a significant threat to governments and private corporations. There is a weak regulation and a lack of security of the global cryptocurrency markets. There was registered a major cyber-attack on the South Korean cryptocurrency exchange *Coinrail*. The cryptocurrency exchange was hacked. Due to the caused attack there was registered the loss of around $35 million USD (2019 Security Report). The Japan's *CoinCheck* company of virtual coin exchange was hacked. As a result of a cyber-attack, the total amount of company`s loss caused over $500 million USD in coin value (2019 Security Report).

3 Transformed Wallerstein`s Theory

There had been held several debates on world-system structure theories based on division of the global system on center-periphery relation paradigms (Mathias, Buzan & Zürn, 2013). The fundamental perspectives of a world-system division on center-periphery relation paradigms in the traditional IR theories were presented by Onuf (2017), Galtung (1971) and Wallerstein (1974). Onuf (2017) argues that currently existing global imperialist system is characterized by hierarchical coercion. According to Onuf, such a structure is regulated by functionally segmented hegemony.

The general idea of center-periphery relations as the peace research theory was presented by Galtung (1971). He presented the fundamental perspective of an international system modality as an imperialist structure. Galtung (1971) considers such a dominance system as a machinery that is regulated by structural violence principles. From Galtung`s perspective, the governing principles of cultural and structural violence make the mechanism of society function and maintain the high level of inequality in the system. Galtung (1969) argues that the essential structural violence is encoded into dominated elitist hierarchical orders, it`s latent and indirect. Galtung considered dominance center-periphery relations on the global level as international imperialism. Such system is dominated by a center nation that articulates the persistence regime for the whole system (Galtung, 1969).

Wallerstein (2004) presented an inter-regional world-system theory which is based on categorization of nation states as power units. The division is based on the analysis of various economic areas division. He contributes three main world categories of Core, Semi-Periphery and Periphery, according to the nation state`s relative position within the world economy. According to Wallerstein (2004) core nations are represented with more complex state institutions that provide infrastructures with economic diversification, central government and specialise on information industry improvement. The distinctive feature of core nation states is their financial and military dominance in the international system. Wallerstein defines The United States, Canada, Australia, England, France, Netherlands as the category of core states. The peripheral nations are presented with Latin America and sub-Saharan Africa. The distinctive feature of this category is defined as weakly functioning governing and institutional system, high level of social inequality and poor economic diversification.

The category of Semi-peripheral nation states can be represented by nation states that cannot be classified neither as core, nor as periphery. Currently, the status of semi peripheral nation states have BRICS countries, Israel, and South Korea. Otherwise, there was not proposed the theoretical perspective with a consideration of a contemporary world-system structure division with due regard for the availability of digital technologies, media technologies and technical equipment as the technical basis for the virtual environment expansion. The alternative perspective should take into consideration the availability of technical equipment within a certain geographical area as a resource of virtual reality production that may influence individuals` behavior strategy within objective reality space.

Information infrastructure that constructs the essential basis for global cyberspace existence as any kind of social structure is hierarchically organized. If we consider the globalized international relations system existing in virtualized form, then it's obvious, that information flows can`t be distributed equitably within the global international system. Inasmuch as means of information disseminating could be possible only on condition the availability of technical equipment in geographical area. Moreover, there is not equal availability of technological equipment in each geographical area on the Earth. So, by an analogical principle as the presented Wallerstein`s theory of world structure division, there may be presented the global structure with its division on the categories of core, semi-periphery and periphery.

Core can be considered as a geographic institutional matrix sector with developed technological equipment systems disseminated and spread on its whole territory. The individuals and actors that operate on the institutional matrix territory referring to the core dispose various digital technologies, have the access to the global international cyberspace and are actively involved into multiple cyber operations. Core, Semi-Periphery and Periphery territories are dominated by ideological centers. The dominating ideological center may exist in a latent form.

The ideological center is presented by decentralized collaborating autonomous organizations, multinational corporations, governmental institution or transnational diaspora communities. It is able to operate on the cyberspace territories and influence the individual actors on the core territories. It also may be presented by or an influential non-state actor that articulates the global cultural discourse and holds monopoly on cultural agenda-setting internationally. The ideological center may cooperate with international media agencies and collaborate with producents of digital technologies, producers of virtuality content on the international markets. It manages the informational stream flows on the Core and Semi-Periphery territories. The ideological center should dispose the information about the utilized type of technical equipment socio-cultural basis of a discrete institutional matrix sector that is supposed to be the object of hegemony implementation. Ideological center acts via transmitting visual content through online platforms in cyberspace.

Periphery should be understood as geographical regions on the surface of the Earth that were not, or almost not, absorbed by globalization processes. Periphery regions are marginalized and geographically distanced from Core and Semi-Periphery regions. On the Periphery territories there is lack of communication resources and digital technologies. Alternatively, there may be a small percentage of technological equipment occurrence that is not sufficient for cyberspace occurrence. Individuals that are constantly located within the Periphery territories have no access to mass-media resources and to the global networking cyberspace. So, the actors who remain to the Periphery territories do not operate in the cyberspace. Ideological center is not able to implement acculturating strategy at the territories of Periphery. The inhabitants of Periphery regions do not present any king of risks for dominating center and holders of intellectual monopolies.

While considering regions of Periphery it's important to take into consideration the lack of electrical power accessibility in those regions. The absence of electrical power enables the expanse of networking communications, the Internet within geographical area. This aspect also influences the type of technical equipment in the regional location. For instance, according to *The Harvard Forum I Research ICT* due to the lack of electrical power in African regions, 75% of mobile-phone users spend around 11%-27% of their household income on mobile communications (Ishkanian, 2011). Insurrectional movements in north Africa region and middle east raise up considerations on new communication technologies as sustainable development source and potential governmental force in democratic world (Ishkanian, 2011). These aspects allow to categorize Africa to the region of periphery.

Each geographic area on the world map, where advanced technological equipment is spread enough to create the virtual cyberspace corresponds to the term of Semi-Periphery. Otherwise, the transactions and activities of Semi-Periphery actors in a cyberspace are not so extensive as on Core territories. To the Semi-Periphery territories may refer institutional matrixes of industrializing and developing world regions. On these territories individuals dispose information technologies and technical equipment, although, the intense of their transactions and operations in a cyberspace is not such intensive as on the Core territories. The ideological centre may distribute virtuality content on the markets of Semi-Periphery territories. The vehicle of virtuality may also be deliberately distributed via network architectures in the regions of Semi-Periphery. Otherwise, to affect individuals` preferences of these territories more efficiently, the ideological centre should operate distributing virtual content via markets. The leading actors of Semi-Periphery regions do not dispose the intellectual monopolies.

On the Periphery and Semi-Periphery territories there may be held armed conflicts. The military confrontations may be held as armed conflicts with ethno-national, inter-state, economic, territorial or cultural basis. The military conflict held on these territories may function as a part of ideological center strategy or serve the maneuver or a functioning mechanism to divert the international community's attention. On the territories of Semi-Periphery there also may be held information warfare, as these regions are involved into global networking interactions, although, there is a lack of security of local cyber systems on the territories of Semi-Periphery. Otherwise, these institutional matrix institutions do not constituent a significant threat to the ideological center and for intellectual monopoly holders.

5 Intersubjectivity intra Cyberspace

The basic social constructivism assumption stipulates intersubjectivity of social meaning. The notion stipulates a common system of social meanings that is shared among the members of a certain social group (Rogoff, 1990). The intersubjectivity, as a social constructivism concept, represented by the common system of social meanings and shared knowledge with a common social context (Prawat & Floden, 1994). Every system of common shared meanings is created by a virtue of social interactions and communications among individuals of one intersubjective reality space or a discrete institutional matrix sector.

As a result of social interactions and communications among the group members there occur the understanding of basic principles of a discrete social reality space (Ernest, 1999). Intersubjectivity serves a prism for new information interpretation in a particular society (Rogoff, 1990). The intersubjective virtual space is a vehicle for social interaction processes and information transmission among the group members in post-modern societies. So that, each information matrix zone has an individual socio-cultural context of contributors and refers to one particular zone of cyberspace. The intersubjectivity of social meaning of a discrete online community may be influenced from the outside via information infrastructure of a global cyberspace.

The intersubjectivity of each discrete information infrastructure zone that refers to a certain institutional matrix develops its own virtual environments by the actors of this particular geographic location. And, alternatively, the virtuality of a discrete cyberspace zone influences the actors behavior strategies. In this connection, the virtual environment faces the IR constructivist Agent-Structure problem (Wendt, 1987), although it occurs in a cyber mode.

4 Institutional Matrix as a Socio-Cultural Platform

As well as geopolitical regions on the land surface of the Earth, the cyberspace infrastructure can also be divided into zones that correspond to separate sectors. Each cyberspace sector in this connection can correspond to one discrete institutional matrix sector. Institutional Matrices theory considers the human society as multiple interconnected social system (Kirdina, 2014). It may refer to the defined territory of a nation state and reflects the mentality type of actors that inhabit and operate in a definite geographical area. The theoretical approach explains the main development principles of modern and post-modern societies. It also attempts to predict the evolution discourse. The Institutional Matrices theory is a social constructivism approach that proposes two general types of synopsis that correspond to X and Y types. Each discrete matrix model represents the institutional infrastructure of society.

The division of post-modern society to the institutional matrix type is based on the characteristics of its basic constituents such as economic, political and ideological institutions, that articulate the institutional matrix structure working principles. The institutional matrix of X type is formed by the interconnected institutions intra a discrete society with communitarian ideology, unitary political order and redistributive economy. The institutional matrix of X type is characteristic by predominantly collective type of thinking. This matrix type is constructed by federative political order, market economy and subsidiarity ideology principles. The X type of institutional matrix structure dominates in societies of nation states in Russia, Asia and Latin America (Kirdina, 2014).

The prevalent distinctive features of the Y institutional matrix type are market economy, federative political structure and individualistic ideology. The Y institutional matrix type represents a model of inter-institutional type of intra social structure that dominates in the United States, western European countries and Australia (Kirdina, 2014).

The collaboration possibility of X and Y institutional matrices types should be also took into account. So, the institutional matrix structure of one discrete society can be contributed by X and Y matrices both within one social community. In this case, one of them will be constantly inevitably dominant. According to the Institutional Matrix theory, the X institutional matrix type takes precedence in contemporary IR system (Kirdina, 2014). The mechanisms of social system working according to the Institutional Matrix theory to a large extent are devolved on mentality type within each society, where mentality should be understood as predominant way of thinking generated on the basis of common language and cultural code shared by members of community.

As the Institutional Matrix theory is a social constructivism approach that is based on the analysis and reflective maintenance of Marx, Durkheim and Comte ideas (Kirdina, 2014). The discrete institutional matrix as one socio-cultural unit can be considered a complex structure treated like a homogenous sector. Each institutional matrix sector as a socio-cultural aspect of social structure is based on the actors` mentality type that reflects their predominant way of their thinking. It also defines mental and spiritual appropriation of the actors who operate within the institutional matrix intersubjective social reality space. Independent matrices are intimately interconnected on macro levels both.

Each discrete institutional matrix has its unique socio-cultural context based on mentality type (Kirdina, 2014). The mentality type reflects the dominant way of thinking of individuals who appertain to the intersubjective reality space of a discrete institutional matrix territory. The mentality type also should be understood as the spiritual universum with distinct latent mental and psychic attitudes that characterize the mindset (manner) of individuals` thinking. The mentality type also reflects the emotional and rational standards and stereotypes of reality perception (Kirdina, 2014). The socio-cultural context among others is formed by the essence of historical events of a particular social group. It`s rather hard to deny the role of media resources in shaping the performance of historical events in a postmodern societies. Social media serve an instrument of historical events construction with their interpretation. The reconstruction of historic events can frequently be adopted according individual actors' interests and disseminated via virtual environment.

The discrete socio-cultural system may be associated with a cultural mentality or cultural codification (Hyatt & Symons, 1999) that is considered a unique system of value orientations, socio-normative establishments (such as routines, rituals, heroes, symbols), fundamental features of characteristics specific to a social group. Cultural codification is associated with unconscious associations. It may also be associated with a specific system of social meanings and symbols that have a peculiar relevance for actors within one intersubjective reality space. The cultural mentality refers to one group society within one institutional matrix. There is shared one discrete language codification among the members of the institutional matrix sector. So, the institutional matrices may be also associated with mentality type and the prevalent language system used in a particular geographic region for realization of communicative purposes.

Continue cultivating the idea, that the global cyberspace as the land surface of the Earth can be divided into certain zones, then each institutional matrix sector may correspond to one information infrastructure zone and serve the constituent part of global cyberspace. So, the information infrastructure zone that exists as a part of global cyberspace has its unique socio-intercultural basis.

This corresponds to the Agent-Structure problem in the IR theories (Wendt, 1987). Considerably, the socio-cultural basis that takes place in objective reality influences the virtual environment of a discrete institutional matrix sector. Alternatively, the social interactions, operational activities that take place iv a virtual environment and within an information infrastructure pole influence the socio-cultural dimension of each institutional matrix space.

In this connection, it can be considered that the whole contemporary international structure can be described as constructed by separate regional sectors, which are divided according to institutional matrices types. The existence of international information infrastructure as a complex cyber-physical system makes the international relation system decentralized and interdependent. The whole interconnected structure of cyberspace can be described as united structure that is constructed by separate regional sectors. It can be also assumed, that the virtulaity space zone, projected by technological equipment within each separate institutional matrix has distinct characteristics, and, concomitantly, could be influenced in different ways.

Implementation of ideological hegemony in the intersubjective virtualized simulated reality of global cyberspace may influence moral values and socio-cultural dimension of actors who operate within a discrete institutional matrix territory. Disseminated virtuality construction also may influence the prevalent algorithm of thinking as a mentality type. Respectively, the virtuality dissemination may affect actors` behavior in objective reality space in a certain way.

Each cultural mentality has its own unique emotional codification based on its culture codification. Discrete emotion becomes encoded through interchange of particular political or intellectual message in the concrete socio-cultural context. In this case, the key to governing dominance and successful virtual hegemony implementation within each institutional matrix is unlocking emotional codification of a certain cultural code in conjunction with language code utilization. To implement hegemony strategy within international relations system the actor should dispose the information on cultural code, which from the perspective of socio-emotional dimension contains the information on collective emotional experiences, in combination with language code utilized within a certain social group. Such a combination may be considered the key for virtual hegemony implementation in a certain institutional matrix respectively political entity, because the combination constitutes the foundation for matrix existence.

6 Hegemony in Cyberspace

Traditionally, the concept of hegemonic force in social sciences refers to a corpus of modalities that function as a machinery for social classes` conviction (Purvis & Hunt, 1993). Hegemonic force of social power can also be understood as a complex system of prevalent norms and social values that function as a mechanism of individuals` persuasion to certain kind of social structure maintenance which they exist in (Laclau & Chantal, 1985). Debord (1994) argues that every construction of social hierarchy is mediated through imagery representations. He claims that centers and media platforms may construct representations of global humanity menaces globally and on the national level for each separate political entity purposefully. The significant attention is payed to the role of mass media resources in hegemony implementation strategies (Altheide, 1984). Straubhaar (1991) determinates the concept of hegemony in the IR context as asymmetrical interdependence relationship among nation-state units, each of them has its own political, economic, and socio-cultural structure and basis.

The notion of hegemony takes its roots in Gramsci's differentiating between concurrence as a mode of social power force and forcible enforcement, predominately in industrial capitalist societies (Gramsci, 1992). Similarly, like for quintessence of Marxism and Gramscianism that social hierarchy is built on ideas and intellectual support and consideration that idea itself in conjunction with intellectual support serves the basis for political struggle of class formation (Marx, 2000). According to Gramsci, cultural hegemony concept is based on the ability of governing elites to control information flows that are distributed via mass-media resources and manipulate people`s preferences, their way of thinking and behavior strategy. Gramsci argues that mass-media resources manipulate people`s way of thinking, their political, economic and cultural preferences, which subsequently influences their behavior strategy (Lears, 1985). He argues that cultural hegemony is based on the ability of governing elites to control information flows that are distributed via mass-media resources and manipulate people`s preferences, their way of thinking and behavior strategy.

According to Gramsci, governing elites in modern society implement power not only through use of physical force, but also by means of information flows supervision (Lears, 1985). Information flows that are inequitably distributed within international system via mass-media resources. Gramsci also proposes the cultural hegemony concept and argues, that mass-media resources manipulate people`s way of thinking, their political, economic and cultural preferences, which subsequently influences their behavior strategy. Lears (1985) argues that the concept of cultural hegemony can aid to understand how ideas reinforce or undermine existing social structures.

Foucault (1980) considers the Internet to be utilized in order of power implementation on global level. If we consider the globalized international relations system existing in virtualised form, then infrastructure of cyberspace is a field for hegemony implementation. Then it's obvious, that as every kind of structure, information infrastructure, which serves a construction basis for international global cyberspace, is hierarchically organized and has its own infrastructure. Information flows are not distributed equitably within the international system, inasmuch as means of information disseminating cannot be possible on condition of the availability of technical equipment in a geographical region.

Otherwise, currently the distribution of technological equipment on the surface of the Earth is not equal. In this connection, the concept of power for decentralized confronting international sovereigns and ideological centers may lie in their ability to distribute the appropriate type of information and implement ideological hegemony within the international system. Although, the technological equipment that makes the existence of cyberspace possible is not spread on the world map equitably. The availability of technical equipment in a certain geographical region is also important, as the possibility of information distribution in the international system is a key for ideological hegemony implementation. The absence of digital equipment within geographical territory signals the impossibility to distribute the information.

Consequently, the global cyberspace could serve a platform for hegemony extension of the governing elites. Ideological center can be represented not only by national government departments, but also by nonstate actors that have a political significance on the international stage. It makes sense to consider, whether in the international system the individual is considered the main actor on the international relations stage, the ideological hegemony is suggested to be the ultimate power. In this regard, it can be argued that the idea of social power in the international system with cyberspace can be associated with individual actor`s ability to distribute its influence within discrete informational matrix zones and in the global cyberspace internationally and obtain the influence on most possible number of individuals` minds.

At this stage virtual hegemony concept may be pertinently introduced. The concept of hegemony for decentralized international sovereigns and ideological centers lies in their ability to distribute the appropriate type of virtuality constructions within the virtual environment space. Virtual hegemony concept should be understood as redefined concept of Gramsci`s cultural hegemony (Gramsci, 1971) configured by virtual power utilization. According to Gramsci (1971), governing elites in modern society implement power not only through use of physical force, but also by means of information flows supervision. Virtual hegemony is intentionally implemented intra a certain cyberspace sector or within a particular institutional matrix networking platform. This kind of hegemony can be transmitted within the international cyberspace in order to influence the behavior strategies of individuals within a discrete institutional matrix zone or to acculturate the greatest possible number of individuals internationally.

So, the cyberspace structure, as well as geopolitical zones and on the land surface of the earth, is divided into certain zones that can be classified by separate sectors. Governance in a current international system may be implemented via regulating the course of selected virtual spaces, according to the socio-cultural basis of each platform. Each sector in this connection would correspond the institutional matrix (Kirdina, 2001) sector in a definite geographical area, it also may refer to nation state borders. In this connection, the substantive component of virtual hegemony implementation is the ability of ideological center to distribute virtuality content within a particular institutional matrix sector. Technical equipment and digital technologies are considered a strategic resource essential for virtual hegemony implementation.

Consequently, the cyberspace as virtual environment can serve a global platform for ideological hegemony extension. In this regard, a virtuality construction as a power instrument should be adopted to an institutional matrix mentality type. It may be purposefully transmitted within an information infrastructure zone or in a cyberspace internationally. The virtuality construction may incorporates a certain political message and is purposefully transmitted within particular cyberspace matrix zone via technical equipment capable to produce virtual extent. A discrete area of cyberspace matrix zone may correspond to a political entity`s global networking infrastructure. Successful virtuality effectuation that is transmitted via infrastructure of cyberspace is supposed to be a virtual hegemony implementation. Hegemony may be efficiently distributed via popular online platforms, alternatively, gaming platforms. Virtual hegemony strategy may be utilized in purpose to influence the institutional matrix structure internally. In this connection, the strategy may be considered an external metropolitan core set outside that acculturates semi-periphery and periphery.

In addition, in the international system that exists in a cyberspace mode the greatest power can be obtained by means of virtual hegemony implementation within a certain institutional matrix sector or internationally. The virtuality construction as a power instrument should be disseminated via available technological equipment in an institutional matrix region. Such a strategy can be utilized by an individual actor or an interest group. The sovereigns of ideological hegemony may utilize this strategy to implement their political goals and foreign policy strategies. It makes sense to argue, that in the current international world system the greatest power can be obtained by means of distribution of ideological hegemony within the information infrastructures of a global cyber space via technological equipment use according to the prevalent cultural and language codification in a certain zone of cyberspace. The type of available technical equipment within a certain geographical territory also matters. The absence of digital equipment within geographical territory signals the impossibility to distribute information. That's the reason for the mechanism of ideological hegemony retention in decentralized multichannel international cyberspace.

7 Virtual Power as a National Security Threat

Currently gaming industry rapidly gains the popularity (Baltezarevic, Baltezarevic & Baltezarevic, 2018). Virtual games are not only a solid product that reflects a solid understanding of entertainment business, but also a significant part of modern pop-culture (Shaw, 2017; Wolf, 2017). Moreover, games are currently considered a constituent part of a hybrid culture (Consalvo, 2006). The state`s ability to produce quality computer games is considered one of the key criteria of a nation state`s economic and political success (Cornford, Naylor & Driver, 2000). Such advanced democratic capitalist countries: North America, Japan and Western European countries are nowadays considered the most successful game producers and eSprorts supporters on the international market (Merwin et. al, 2018).

United States of America hegemonically for a considerable time are regarded to be the ideological center of global culture (Allison, 2008). Hollywood in cooperation with Ministry of Foreign Affairs of The United States of America and some public institutions have been implementing the global promotion of American culture by psychological means, as a system of national cultural and social means that was produced and spread as a part of US foreign policy strategy via TV channels in foreign countries (Rowley & Weldes, 2015).

Each virtual game is an algorithmically designed system constructed by infographic data objects and contextual blocks (Diakopoulos, Kivran-Swaine & Naaman, 2011). The psychology of control and video games is a subject of current researchings (Toprac, 2013). Virtual reality spaces are systematically organized in compliance with a gameplay and levels. Gaming virtual reality that simulates objective reality world may contain either representations of social norms and cultural values (Bylieva & Nam, 2018). Gaming virtual reality or online gaming community may reflect social structure in a particular geographic region or nation state. Alternatively, it may serve a social platform basis for new social norms formation (Martey & Stromer-Galley, 2007).

Race, sexuality and cultural identity in gaming communities are also a topic of recent studies (Shaw, 2012). In this sense, it may be argued that gaming virtual environment has an impact on the formation of individual identities, their attitude to the intersectionality of race, class and gender. Gaming virtual environment with violent content invokes aggression thoughts and social behavior (Hollingdale & Greitemeyer, 2014).

The various research works are devoted to implications of gender differences in video game design (Veltri, et al., 2014; Huang, et. Al., 2013; Kinzie & Joseph, 2008). There were registered some tragic incidents caused by gaming experience (Eskasasnanda, 2017).

Barry Buzan considers identity and culture as a societal security and significant constituent of a national security (Buzan, 2008; Buzan, 1998; Buzan, 1991). Buzan's concept of national security is a constructivist IR approach. From this perspective, gaming virtuality may be a catalyst for real conflict and dissemination of gaming virtual spaces within a cyberspace of a certain cultural environment may serve a national security threat. In this case, gaming virtual environment is a significant constituent of a new pattern of global security relation in the international system.

Gaming platforms in this connection may serve as a means of dissemination of purposefully designed virtual reality construction. Such strategy may be utilized in order to promote individual actor`s or national image internationally via distribution of appropriate construction of gaming virtual reality that would contain national cultural ideas, political and social values. Collaborative and virtual environmental spaces constantly replace objective reality spaces and may influence social behavior strategies (Harrison & Dourish, 1996). So, as a communicative virtual environmental space online gaming virtuality may also serve a social platform for new social norms formation and distribution of appropriate information. Gaming virtual reality or online gaming community may also serve a social platform basis for a discrete institutional matrix mode modification, promotion of social norms and formation of cultural values.

A purposefully designed virtual gaming structure distributed across several domains within a certain institutional matrix in obedience to instigate the reflexive behavior of its actors can be considered an efficacious social power instrument. Raster images performed by miscellaneous techniques of symbolization that represent computer graphics may be intentionally designed as visual organization system of signs and symbols in a certain manner and distributed within a geographical area or on the international level.

Gaming virtuality may also be adopted to the certain type of digital technologies and digital devices disseminated within an objective reality in a particular geographic area. They also may be distributed on the national market or via popular online-platforms on global multichannel cyberspace in accordance with platforms` policies. To make the gaming virtual reality mechanism function in the most efficient way, an ideological center should dispose the information on the relevant system of cultural values with prevalently utilized semiotic codification within an institutional matrix sector. It also should dispose the comprehensive view on utilized technical equipment on the geographical territories of a certain institutional matrix area.

8 Geopolitics of Cyberspace

The international cyberspace as virtual intersubjective platform unit is constructed by certain information infrastructure zones that are interconnected among one another. Interactions among individual actors in a global cyberspace create a fundamental stipulation for international security. In this connection, it can be claimed that all technical equipment that produce the simulated illusory projection of intersubjective virtual online spaces can be considered as hard power component for smart virtual power. The virtuality construction as a product may be distributed via technological equipment within a particular geographic area or an institutional matrix zone and influence individuals` behavior strategies, their economic preferences and cultural values.

Consequently, a discrete information infrastructure within an international virtual cyberspace is considered a social platform for hegemony extension by the governing elites or ideological centers. Via distributing virtuality construction ideological center can influence individuals` moral discourse, their ethic values, and behavior strategy intra objective reality of a discrete institutional matrix sector. Such hegemony may be distributed in order to influence political, cultural or economic preferences of individual actors on the international stage or, alternatively, in a certain geographic territory. Such hegemony modality is suggested to be an ultimate power that is supposed to be distributed via available technological equipment.

It`s important to take into consideration the power of a nation state in cyberspace. There have been developed the networking policies by governments. Influential actors on the international stage aspire to

establish the complex material regulatory over the communications environments. Clinton administration has put forward a proposal for Internet copyright regulations apart from the Communications Decency Act (CDA, Communications Decency Act of 1996). Furthermore, Clinton`s administration produced National Information Infrastructure (NII) Copyright Protection Act (US House of Representatives/104th Congress, 1st Session, 1995), which is the strategy that aims at national communication environment establishment. Another attempt to implement net politics is The Program on Liberation Technology at Stanford's Center on Democracy, Development, and the Rule of Law 2009 (Diamond & Plattner, 2012), which is aimed to identify the information technologies facilitation to governance improvement (Diamond & Plattner, 2012). ICT development also supports the distribution of digital technologies (Bonn & Akkermans, 2015). According to AT&T advertisements, White House political issues focus on preparing the US for a new area of existence into cyber real world that takes place on the surface of computer screens (Nunes & College, 1995). Moreover, the number of personal computers that are able to support connection to the worldwide network of the Internet during 1994 increased to 3,217,000 of machines (InterNIC) (Nunes & College, 1995).

The US is one of the leading nation states that pursues to promulgate freedom of the Internet. At the period of 2008-2010 there were invested about 20 million USD to the digital activities support by the United States. Moreover, there was proceeded the diplomatic initiative *21st Century Statecraft*. The main purpose of the initiative is the revitalization and convergence of traditional foreign-policy tools with innovative digital technologies (Ishkanian, 2011). Each initiative that supports net politics engagement, supports the idea zero polarity functioning. Otherwise, a nation state power is little to influence or dominate digital libertarianism in global cyberspace. Net politics cannot be implemented in each geographical world region, as there is not equal distribution of technological equipment and access to the information.

The ideological center or an individual actor should take into consideration the type of mentality, congruent cultural codification and dominant language code among the representatives of communication group of an individual institutional matrix sector. The type of mentality in an individual institutional matrix is considered a socio-cultural basis platform. The availability of technological equipment that makes possible the existence of global cyberspace should be take into account. The disposition of cybercartography atlases with cyberspace law acknowledgement will enable the distribution of virtual reality construction most efficiently in order to influence the international audience. The actor`s aspiration to influence actors` social behavior by means of such a strategy utilization can be defined as the Geopolitics of Cyberspace. The ideological center can be represented by national government departments and influential non-state actors that retain political significance within international hierarchy.

In addition, gaming virtuality with monopolization of online gaming platforms in the global cyberspace may serve a powerful tool for hegemony implementation in a contemporary international system. Virtual game that may serve a warfare instrument or a means of interest conflicts of ideological centers the same way, as it serves a construct of social norms and cultural values. While distributing gaming virtuality construction within an information infrastructure of global cyberspace and intellectually acculturating semi-periphery and periphery world regions, ideological center may implement the Geopolitics of Cyberspace for the same principle as Biopolitics of McDonald`s.

9 Conclusion

The global cyberspace serves an international global platform for individual actors' communication. Technological equipment and digital technologies that produce virtual spaces are a strategic hard power tool in the international context. Dissemination of visual representations through the global cyberspace serves the essential means of social power and influences the international relations shape. Virtuality construction that is designed in a certain way is a soft power tool. Artificial worlds presented in simulated virtual realm affect individuals` behavior strategies within objective reality world. The efficient combination of these dimensions of social power may serve an innovative power modality in the international relation context. Distributing an intentionally designed virtuality construction via information infrastructures in global cyberspace an individual actor is able to implement an influential governing mechanism and Geopolitics of Cyberspace strategy. The paper considers the global virtual environment a social platform for hegemony implementation with via distribution of virtuality construction as a virtual form of social power. To elaborate the objective, I revealed the cyberspace and cybercartography concepts.

This was followed by the proposition of transformed Wallerstein`s theory. The redefined alternative theoretical perspective represents a world-system structure of a current international relations system. Then, the article focuses the Institutional Matrix theory as a socio-cultural basis for Geopolitics of Cyberspace strategy implementation. The combination of these two theoretical approaches serves a foundation for a virtual hegemony concept as a means of social power in a current international relations system. The final part of this paper represents the Geopolitics of Cyberspace strategy concept.

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