DIGITAL POSTCOLONIALISM

Petar Jandrić. *University of Applied Sciences. Vrbik 8, Zagreb, Croatia.*

Ana Kuzmanić. *University of Split. Matice hrvatske 15, Split, Croatia.*

ABSTRACT

This paper explores theoretical and practical opportunities for describing human expansion into the digital worlds – the so-called 'information revolution' – using the wide body of theories and approaches under the common name of postcolonial science and technology studies (PSTC). In order to employ digital postcolonialism as a feasible research methodology, it explores three dialectically related themes: opportunities for creating a new geography of the digital and creating conceptual bridges between geospatial migrations of the past and digital migrations of the present, the relationships between the digital territories and the digital settlers, and situating the current stage of (post)colonialist developments into a wider historical context. On that basis, it shows that digital postcolonialism might provide a fresh insight into human relationships with information and communication technologies, and explores the main methodological challenges. Finally, it warns that the material base of digital postcolonialism is much more elusive than material base of geographical migration, and points towards further research directions.

KEYWORDS

Postcolonial science and technology studies, digital postcolonialism, critical geography, technology as ideology.

1. INTRODUCTION

Social impacts of information and communication technologies are often discussed using familiar postcolonial discourse. 'Founding fathers' such as Bill Gates and late Steve Jobs have created brave new 'virtual worlds' populated by 'digital immigrants' – few decades after, the logic of historical development has created the new 'digital natives' (Prensky, 2001; Bayne and Ross, 2011). Users of information and communication technologies are fenced from the rest of population by the complex conglomerate of mental, material, skill and usage barriers known under the umbrella term the 'digital divide' (van Dijk and Hacker, 2003). According to Haywood, "with the introduction of all new technologies we enter an initial period when the missionaries declare the new scriptures" (1998: 19). Speaking of domain names, Laric says

that "most of the prestigious virtual land has been colonized. There are some areas that have been overlooked and new territory is generated through current events and developments" (Laric, 2010). In a recent keynote talk in Sun City, Watters said:

> The content and the form of "connectivity" perpetuate imperialism, and not only in Africa but in all of our lives. Imperialism at the level of infrastructure – not just cultural imperialism but technological imperialism. And as always, imperialism as ideology. Empire is not simply an endeavor of the nation-state – we have empire through technology (that's not new) and now, the technology industry as empire.

(Post)colonial thinking, in its diverse forms, permeates the word of information technologies. Inspired by this observation, this paper explores opportunities for describing human expansion into the digital worlds – the so-called 'information revolution' – using the wide body of theories and approaches under the common name of postcolonial science and technology studies.

Admittedly, this research is not based on discourse analysis – although an in-depth critical discourse analysis may reveal more about (post)colonial dynamics of the digital. The research is also not based on informational economics – although, any exploration of (post)colonialism must be related to material exchanges. Instead, this research merely develops the main concepts of postcolonial theory within the context of digital technologies, and provides this effort with the tentative name: digital postcolonialism. This research explores three dialectically intertwined themes. The first theme inquires opportunities for creating a new geography of the digital and creates conceptual bridges between geospatial migrations of the past and digital migrations of the present. The second theme moves on to examine the complex relationships between the digital territories and the digital settlers. Finally, based on recognition that historical periods of active colonization vastly differ from those that occur after the departure of colonial masters, the third theme places the developed theories into an appropriate historical context and develops the notion of digital postcolonialism.

2. THEORETICAL BACKGROUND

Technology and colonialism are dialectically intertwined – one cannot be thought of without the other. In *The Postcolonial Science and Technology Studies Reader*, Harding has cherry-picked several powerful quotes which illustrate that relationship: Mignolo says that "modernity and coloniality are two sides of the same coin", and McClellan refines the metaphor by saying that "one of its aspects concerns how science and the scientific enterprise formed part of and facilitated colonial development. The other deals with how the colonial experience affected science and the contemporary scientific enterprise" (in Harding, 2011: 33). More recently, Seth had shown that "the relationship between technoscientific knowledge and *post*-colonial orders has been the subject of increasing – if, until recently, rather sporadic – discussion in science and technology studies (STS) in the last two decades" (Seth, 2009: 376). On that basis, the following analysis links origins of postcolonial science and technology studies (PSTS) (Harding, 2011) to contemporary information and communication technologies.

First, PSTS are based in "historians' and geographers' questions about causal relationships between European expansion ("The Voyages of Discovery") and the emergence of modern sciences in Europe at about the same time" (2008: 131-132). Nowadays, as various human activities from shopping to sex inevitably migrate into the digital worlds powered by information and communication technologies, we are witnessing the new colonial expansion – from reality to virtuality. Many aspects of this colonial expansion, such as the rise of new high classes – 'old' sea merchants and 'new' Silicon Valley entrepreneurs – are very similar. Yet, in (at least) one important aspect, the nature of migration into the digital is unprecedented in human history – apparently, it seems immaterial and disembodied. Today's couples do not need to meet in order to flirt, and today's scientists do not need to travel in order to research – bits and bytes move much faster than human bodies. Certainly, the described detachment from materiality exists only on surface. 'Deep down', the Internet consists of often surprisingly clunky physical infrastructure – rooters, cables, wires… Yet, the Internet does introduce a new dynamics between the physical and the logical existence (Rheingold, 1991 and 1995). Taking this dynamics into account, digital postcolonialism needs to inquire the relationships between our migration into the digital and 'its' science.

The second origin of PSTS is the "anti-Eurocentric lens to re-examine scientific and technological traditions of non-European countries" (Harding, 2008: 131-132). As can clearly be seen in examples such as da Costa Marques's case study of microcomputer production in Brazil – the so-called *Unitron Case* (2005) – the anti-Eurocentric lens provides a sound basis for understanding mechanisms of global oppression and grass-root anti-hegemonic local practices. More broadly, complex role(s) of digital technologies in various social movements (including, but not limited to, the Arab Spring movement) (Aouragh and Alexander, 2011) clearly indicate that the Internet provides people with the historically unprecedented opportunity to raise their individual and collective voices both locally and globally, and to provide resistance to dominant colonial practices. While recent outcomes of recent social movements indicate that it is fairly easy to over-estimate the role of the Internet (McLaren & Jandrić, 2015) digital networks cannot be divorced from the contemporary society. In order to open up emancipatory potentials, however, technologies need to be divorced from their ideological baggage known as 'the Californian ideology' (Barbrook and Cameron, 1996), and used as technologies for freedom.

The third input in PSTS is "in anthropologists' recognition, beginning in the late 1950s, that they could use "reflexively" their distinct research methodologies which had been developed to understand the ways of life of other cultures" (Harding, 2008: 132). Nowadays, anthropological method brings important insights in various areas of Internet research including, but not limited to the digital divide (Van Dijk and Hacker, 2003), digital learning (Jandrić and Boras, 2012), cyborg anthropology (Haraway, 1991), hacktivism and social networking (Assange, Appelbaum, Müller-Maguhn and Zimmermann, 2012), and others. In the context of digital postcolonialism, the third pillar of PSTS refers to the relationships between the digital territories and the digital settlers, and to their wider position within the historical context.

Finally, concludes Harding, "a fourth origin produced criticisms of the imperial and neo-colonial character of the Northern development policies for the Third World" (2008: 133). In the context of digital postcolonialism, this origin is directly related to the inherently global nature of information and communication technologies and the ideology which is built into them (Barbrook and Cameron, 1996). In an oft-quoted introduction to *The Empire*, Hardt and Negri assert that

the spatial divisions of the three Worlds (First, Second, and Third) have been scrambled so that we continually find the First World in the Third, the Third in the First, and the Second almost nowhere at all. Capital seems to be faced with a smooth world — or really, a world defined by new and complex regimes of differentiation and homogenization, deterritorialization and reterritorialization. (2001: xiii)

In the context of digital postcolonialism, traditional (post)colonial policies based on the combination of military and economic power are now complemented with handshakes and wide smiles of global peddlers of computers, routers and software. The fourth pillar of PSTS, therefore, refers to the new mechanisms of (re)producing (post)colonial relationships that are directly and indirectly related to information and communication technologies.

Each of the analysed pillars of postcolonial science and technology studies provide important insights into studies of the relationships between information and communication technologies and the society. Migration into the digital cannot be thought of without geographical thinking, relationships between the digital settlers and the digital territories cannot be understood without anthropological method, and the current state of (post)colonial development cannot be placed in a wider context without historical thinking. Therefore, the research approach developed in this study – tentatively named *digital postcolonialism* – is obviously firmly situated within the wide theoretical framework of postcolonial science and technology studies.

Abraham defines two main ways of doing postcolonial science and technology studies, and concludes that "'postcolonial techno-science' as a way of doing science studies may not be commensurable with 'postcolonial techno-science' as a way of thinking about alternative and local knowledges" (2006: 211). According to Anderson, these approaches are necessarily complementary:

Too often the 'postcolonial' seems to imply yet another global theory, or simply a celebration of the end of colonialism. But it may also be viewed as a signpost pointing to contemporary phenomena in need of new modes of analysis and requiring new critiques. (…) The term 'postcolonial' thus refers both to new configurations of technoscience and to the critical modes of analysis that identify them. (2002: 643)

In order to build our theory from ground up, this paper develops digital postcolonialism as a way of doing science. However, digital postcolonialism could also be used as a way of exploring alternatives to mainstream information and communication technologies. In recent research we already started to develop this line of reasoning, and inquired some opportunities for digital decolonisation (Jandrić and Kuzmanić, 2015). By combining these approaches, borrowing one more sentence from Anderson, our take on digital postcolonialism is an attempt to develop "a means of writing a 'history of the present', of coming to terms with the turbulence and uncertainty of contemporary global flows of knowledge and practice" (ibid: 644).

3. GEOGRAPHY OF THE DIGITAL

In *Culture and Imperialism* Edward Said leaves no trace of doubt that geography is the very heart and soul of imperialism.

> Underlying social space are territories, lands, geographical domains, the actual geographical underpinnings of the imperial, and also the cultural contest. To think about distant places, to colonize them, to populate or depopulate them: all of this occurs on, about, or because of land. The actual geographical possession of land is what empire in the final analysis is all about. At the moment when a coincidence occurs between real control and power, the idea of what a given place was (could be, might become), and an actual place – at that moment the struggle for empire is launched. This coincidence is the logic both for Westerners taking possession of land and, during decolonization, for resisting natives reclaiming it. Imperialism and the culture associated with it affirm both the primacy of geography and an ideology about control of territory. The geographical sense makes projections – imaginative, cartographic, military, economic, historical, or in a general sense cultural. It also makes possible the construction of various kinds of knowledge, all of them in one way or another dependent upon the perceived character and destiny of a particular geography. (Said, 1993: 78)

Following Said's argument, any inquiry into digital postcolonialism should start from establishing opportunities for geographical thinking in the digital worlds. In its most general sense, geographical thinking consists of the dialectic between an object and its representation, a territory and its map (Wark, 1994: 62). Therefore, the following analysis inquires the nature of this dialectic in the wide context of information and communication technologies.

In 1974, Henri Lefebvre published the highly influential book *The production of space* (1991). He claims that every society produces own spaces, and that such production is prerequisite for (re)production of social relationships. The contemporary society has produced the digital worlds that consist of two main components: the material spaces of the Internet and the non-material spaces of the World Wide Web. Gradually, their dialectical mix in the form of digital worlds has become essential for maintenance and (re)production of the contemporary network society. Mechanisms of social reproduction are rooted in human nature, rather than environment. Therefore, the (re)production of the new digital spaces is undertaken by the dominating classes as a tool for (re)production of the existing inequalities – using Gramsci's terminology, digital spaces are (re)produced in order to (re)produce the existing hegemonic social relationships. In this sense, digital worlds are true Lefebvre's social spaces as described in the following oft-used quotation: "(social) space is a (social) product (...) the space thus produced also serves as a tool of thought and of action (...) in addition to being a means of production it is also a means of control, and hence of domination, of power" (1991: 20).

Obviously, the digital spaces are not physical in the same sense as Australia. Digital grass cannot be felt on bare feet, digital potatoes will never feed our families, and – most importantly – digital artefacts cannot (re)produce life. In spite of being intangible, however, this article on our screens is just as real as coffee mugs placed next to our keyboards. Its production requires intellectual and physical effort. During the process of (re)production, it utilizes physical resources such as plastic, silicon and electricity. Its transport through the

network requires energy, and its acceptance by the research community contributes to academic appointments of its authors. While the nature of the digital is clearly different from the nature of the physical, those differences do not impede opportunities for spatial thinking in the digital worlds – at least on the abstract level required by the theory of digital postcolonialism. In words of David Harvey, "different concepts of space may be appropriate for different theoretical purposes. It may be realistic to regard the concept of space, therefore, as a 'multidimensional' concept in the sense that the concept has a different meaning according to cultural background, perceptual ability, and scientific purpose" (Harvey, 1973: 197). Based on the concept of production of space, the digital worlds can be considered as fully developed physical, social, economic, cultural and linguistic territories.

This conclusion can hardly be paralleled by any other: the Internet is indeed one and unique. However, Redfield found a similar relationship in the context of outer space exploration, which focuses "directly on the spatial edge between metaphor and materiality use to distinguish global and local: the planet united and bounded by its atmospheric limit, revealed and transcended by techno-science" (2002: 795). Certainly, the nature of the Internet is very different from the nature of outer space. However, both lie on the very edge between metaphor and materiality and both transcend our usual experience. On that basis, it is reasonable to follow Redfield's reasoning and conclude that digital spaces of the Internet "reflect a practical shadow of the empire" (ibid). Pushing the analogy between the Internet and outer space a bit further, it seems reasonable to accept two more conclusions developed by Redfield.

First, it is fairly self-evident that digital worlds created by the Internet represent "a kind of stabilization of 'elsewhere'", and its (metaphorical) "removal from the globe" (ibid). Colonization of the outer space, as well as colonization of the Internet, have constantly referred to "the masculine adventure of earthly colonialism", which has effectively provincialized the existing worlds – the first by opening the skies, and the latter by opening the cyberspace. Second, digital worlds can clearly be linked with the empire through the representation of place. Just like space shuttle, the computer ('smart' phone, tablet, or any other networked gadget) represents both "an immediate presence and a conduit beyond the horizon" (ibid). In a sense, the digital worlds provide us with one more dimension beyond the existing dimensions contained in standard space-time four-vectors. We can sit in our rooms and armchairs and look into the digital territories created by the Internet, but we can also – and often simultaneously – situate ourselves in the digital territories of the Internet and look back through the screen into our rooms and armchairs. In this way, digital worlds created by the Internet provide us with new frontiers, new challenges, and new perspectives for understanding analog aspects of our existence.

In order to gain a better understanding of the new digital territories, we must first examine opportunities for surveying and mapping their features. In general, a territory is an entity that is being described; a map is a description which represents human knowledge of the territory. The map covers the same space as the territory, but in less detail. Therefore, the map forever remains representation of the territory and never reaches full accuracy. The dialectics between the territory and the map has been explored with equal interest in arts and science. More than a century ago, in *Sylvie and Bruno Concluded*, Carrol showed that a perfect map must be exactly of same size as the territory it aims to describe, and poetically illustrates the absurd consequences of such enterprise. Such map "has never been spread out, yet," said Mein Herr: "the farmers objected: they said it would cover the whole country and shut out the sunlight! So we now use the country itself, as its own map, and I assure you it does nearly as well"

(1996[1893]). Elaborating on Carrol's concept after approximately one century, in the short literary forgery entitled *On exactitude in science*, Borges asserts that "the following generations, who were not so fond of the study of cartography as their forebears had been, saw that that vast map was useless, and not without some pitilessness was it, that they delivered it up to the inclemencies of sun and winters" (1975). In fiction, as well as in science, map-making has always been directly associated to epistemology.

In order to build maps smaller than territories, map-makers must inevitably exclude and simplify – political maps are focused to physical borders between countries, while meteorological maps are focused to the dynamics of cold and warm air. Furthermore, map-makers are always at least indirectly immersed in the mapped territories: it is hard to find a truly apolitical geographer, or a meteorologist who does not care about accuracy of own forecasts. Therefore, maps are never objective or neutral, and the act of map-making is always political. This understanding gives rise to the field of critical geography. Based in the dialectic between theory and practice, action and reflection, critical geography assumes that "maps are active; they actively construct knowledge, they exercise power and they can be a powerful means of promoting social change" (Crampton and Krygier, 2006: 15).

In the field of postcolonial studies, "the scholarly trend in recent decades has been to view scientific activities such as surveying and mapmaking as two cogs in an imperial machine – a 'scopic regime' – grinding across far-flung colonies and distant landscapes" (Craib, 2009: 481). In this context, cartography is dialectically intertwined with discourses of power as the technology of plunder and control. Typically, imperialist cartography excludes indigenous knowledges, languages and worldviews. In order to challenge the imperial routines, however, it is not enough to include bits and pieces of indigenous knowledge in the current maps (although that is definitely a good start). Instead, we need to "more fully historicize the practices, categories and narratives themselves by not artificially bounding – geographically or socially – the subjects of study in the first place" (ibid). In the digital worlds created by information and communication technologies, the subjects of study cannot be easily bounded according to any particular criterion – more often than not, it is next to impossible to know who resides on the other end of the network. Therefore, Craib's conclusion that "the history of cartographic practice needs to take a social, not solely cultural, turn" (ibid: 487) gains particular relevance in the context of digital postcolonialism.

The nature of Earthly territories may claim at least some degree of neutrality. For instance, current temperature in Edinburgh can hardly be disputed – although, admittedly, it can easily be used to prove or dismiss theories of global warming, and / or to motivate a certain type of individual and / or collective reaction. In this context, the nature of digital territories raises at least two important consequences for critical geography of the digital. First, as Jaron Lanier concludes in his analyses of virtual reality, digital worlds provide us with the powerful illusion of detachment from their physical origins (2011). Therefore, mapping the digital is even more susceptible to politics – and requires even more grounding in critical theory. Second, geography of the digital directly influences human decisions about the physical (the Internet) and the logical (the World Wide Web) structure of the described territories. Therefore, the map of the digital is just as real as the physical optical fibre that enables its virtual existence. Speaking of Earthly territories, Wark says that subjectivity may be "formed within two sets of exterior relations, both external to individual subjects and their "consciousness", both equally real. Those two relationships are the map and the territory upon which people locate themselves and form their sense of place." (1994: 62) Geography of digital spaces is just as real as geography of physical spaces – and this conclusion provides theoretical grounding for examination of their inhabitants.

4.   THE DIGITAL SETTLER AND THE PRE-DIGITAL SAVAGE

According to Henri Lefebvre, "space is not a thing but rather a set of relations between things (objects and products)" (1991: 83). Therefore, the object of digital geography is a set of relations between the physical network, its makers, its users and all other actors affected by its existence. Digital worlds created by the Internet – usually called cyberspace or virtuality – arrive into existence only through interaction with human beings. Therefore, inquiry into colonization of the digital should be made in dialectical relation with the settler. During the process of settlement, the settler interacts with the territory – together, they co-create the new reality. In his analyses of traditional colonial conquests, Frantz Fanon describes this relationship as follows:

> The settler makes history and is conscious of making it. And because he constantly refers to the history of his mother country, he clearly indicates that he himself is the extension of that mother country. Thus the history which he writes is not the history of the country which he plunders but the history of his own nation in regard to all that she skins off, all that she violates and starves. (Fanon, 2001: 40)

Certainly, the digital worlds cannot be 'plundered', 'skinned off', 'violated' and 'starved' in any traditional sense – although, some reflections of the underlying violence can be found in online phenomena such as trolling, sexting, scams, surveillance and stalking. Computers can be switched off the grid, local networks can be detached from the World Wide Web, and access to websites can be restricted. Therefore, violent digital practices definitely do not carry the same emotional appeal as traditional colonialism. After all, physical territories are unique – there is only one Mount Everest on this planet – while digital worlds may always be deleted, duplicated or replaced. In spite of these restrictions, the main line of Fanon's argument remains as valid as ever. Digital colonialism is a transfer of the existing social relationships into another territory, and the very act of settlement irreversibly changes the emitting and the receiving territories and their inhabitants.

Differences between geography of Earthly territories and geography of digital territories cause profound differences in the dynamics of settlement. Geographical structure of Earthly territories is given: as powerful as they were, the British could never cause snow in Mumbai. Faced with staggering heat, therefore, the best thing they could do was adapt: re-organize activities in order to avoid the warmest periods of the day, install air-conditioning, eat low-fat foods. This kind of attitude, known as environmental determinism, reflects the view that "environmental features directly determine aspects of human behavior and society" (Encyclopædia Britannica, 2014). Faced with familiar problems, people often instinctively resort to familiar solutions: in the digital worlds, environmental determinism transforms into technological determinism. Consequently, for the good part of the twentieth century, several generations of Frankfurt School theorists have criticized relationships between human beings and their technologies through various determinist positions, and their critiques inevitably ended up in paralyzing theoretical dead ends probably best summarized in Martin Heidegger's famous *Only a God can save us* interview (1981).

However, information and communication technologies are not 'natural' in the same sense as the weather. Therefore, the 'third generation' of Frankfurt School theorists such as Douglas Kellner (2003) and Andrew Feenberg (2002) replace technological determinism with more

nuanced worldviews which understand that the contemporary relationships between technologies and the society consist of multiple social, economic, cultural and various other powers. The structure of the Internet – or indeed any other human technology – results from negotiation of various influences that contribute to its design and development (Illich, 1973). The British in India had the power to conquer territories and introduce new customs. However, Tim Berners Lee and the creators of the Internet had the power to design new territories and customs from the scratch. Naturally, their designs were taken from what Frantz Fanon calls their 'mother country' or the existing social relationships in their environments. (As a convenient side-effect, shows Richard Stallman (2002), a good part of openness of the Internet results from almost accidental fact that it was created in an academic institution – which, by definition, values freedom and exchange – rather than corporate laboratories.) The digital settlers have much more power over the new territories than their traditional counterparts – therefore, digital postcolonialism must abandon technological determinism and replace it by more nuanced approaches to human agency. Following a similar line of argument, technological determinism is nowadays superseded by complex posthumanist approaches (Haraway, 1991; Hayles, 2006) and the concept of digital cultures (Knox, 2015).

In early 2000s, Marc Prensky's article *Digital natives, digital immigrants* has become "a commonly-accepted trope within higher education and its broader cultural contexts, as a way of mapping and understanding the rapid technological changes which are re-forming our learning spaces, and ourselves as subjects in the digital age" (Bayne and Ross, 2011: 159). While this trope has recently been superseded by various posthuman approaches (Haraway, 1991; Hayles, 2006), it nevertheless carries certain potentials for explorations of digital colonialism. Transferred into the new digital territories, however, the concepts of native and immigrant require a bit of good old-fashioned conceptual analysis. For Edward Said, Frantz Fanon and other postcolonial authors, the first immigrants – known by various names such as colonizers and conquistadores – are curious adventurers, mighty soldiers, zealous missionaries, cold-blooded mercenaries, heartless murderers, savage rapists, true oppressors, male, white machistas who plunder the colonized territories and extract their riches for the benefit of themselves and their crowns. During colonization of the digital, however, the likes of Christopher Columbus, Vasco da Gama and Amerigo Vespucci have been replaced by people such as Tim Berners Lee, Steve Jobs and Mark Elliot Zuckerberg.

So what are the digital colonists like? Without any doubt, they are also curious, adventurous, brave, bold, organized, white, middle class, and male; many amongst this colorful lot made even larger fortunes than their ancient counterparts. However, historical forms of legalized crime such as murder and rape have been put out of law and replaced by the global system that consistently turns a blind eye to unhuman conditions in factories throughout the global South. Conceptually and geographically, new forms of oppression closely follow geographic, racial, economic and other lines of traditional colonial relationships. (While this is not the place to kick off deeper discussions about morality of contemporary global industrial production, digital postcolonialism might indeed significantly contribute to studies of global economic inequalities.) For the purpose of this argument, it is enough to recognize that – while digital colonists cannot be literally paired with their ancient counterparts – Fanon's concept of colonists as creators of the colonized territories is even truer in the context of the digital. Prior to arrival of the digital settlers, the digital worlds were lifeless, empty, non-existent – it is only through their creative interaction with physical infrastructure, that the digital worlds came into the current form of being.

Speaking of natives, things are obviously different. In the context of traditional colonialism, natives are the original inhabitants of the colonized territories, recipients of other nations' colonial ambitions, sufferers of territorial conquest, slaves to colonial masters, infidels who dearly hold on to their backward religions, lazy savages who need to be put into service of civilized peoples. As Hussein Alatas's masterfully explains in *The myth of the lazy native* (1997), this image is a pure social construction designed and developed by colonial masters in order to serve their political and economic interests. In a similar fashion, digital conquistadores also created own class of savages. Obviously, empty digital worlds which arrive into existence only through interaction with the settlers do not have own pre-existing natives. Instead, the new savages are sought for and created elsewhere – from the population that did not follow digital conquistadores into the digital world, on the non-privileged side of the digital divide. In this way, the age-old principle of creating the savage has merely shifted direction: instead of creating the savage from peoples found in the new territories, digital colonialism has modelled the savage from peoples who are left behind in the old territories.

Within few short decades, digital colonialism has created own class of digital natives – people who were born into the world of information and communication technologies, their most able users, the true citizens of the network society. (As a side-thought, it would be interesting to employ digital postcolonialism in order to examine the nature of contemporary citizenship.) As the digital natives have soon become cyborgs (Haraway, 1991), who reside in cybersphere (Hayles, 2006), this parallel inevitably ends up in the field of posthumanism. Digitally native cyborgs do not have an exact counterpart in traditional postcolonial theory. Yet, their main features are roughly the opposite from traditional colonial natives. In order to remain within postcolonial discourse and avoid terminological confusion, therefore, this study pairs traditional natives with digital savages. While this linguistic acrobatics adequately serves requirements of this article, further developments in digital postcolonialism and posthumanism will inevitably need to develop a more nuanced jargon.

In order to (re)produce superiority, the settler needs the inferior other, the primitive, the savage. This relationship is not a mere by-product of colonialism, but its main precondition. While critical theory clearly recognizes that 'inferior' features of savage peoples result from objective conditions in their surroundings, traditional colonial thought often attributed those features to the very nature of the savage. Hussein Alatas (1997) shows the common process of creating inferiority of the savage using the common example of trade. The process consists of two simple steps: (1) destroying the local merchants and (2) declaring the savage 'unfit' for trade. When the last jobless local merchant passes away, the process is complete: ancient knowledge had not been passed on to the new generations, and they have become truly inferior to colonial tradespeople. Using similar strategies, colonialism needed only one or two generations to create long-term damage in the form of self-fulfilling prophecies that are very hard to break long after the departure of colonial masters.

In a similar fashion, the supposed superiority of cyborg digital natives arrives into existence only through juxtaposition with the pre-digital savages. Up to very recently, there was nothing wrong with traditional face to face communication, education or business. It is only through introduction of information and communication technologies that traditional activities have been digitalized and 'improved', while their analog versions have been proclaimed 'primitive'. Harding shows that a similar correlation between science, technology and modernity can be identified at least since the Enlightenment. At a time, continues Harding, "the West's sciences and technologies were supposed to be the jewels in the crown of modernity. To achieve social progress, value-neutral scientific rationality and technical

expertise one must replace traditional religious beliefs, myths, and superstitions about nature and social relationships" (2011: 2). Information and communication technologies may be very different from steam machine, but ancient principles remain as valid as always: in order to define modernity, the new generation of techniques must always proclaim its predecessors primitive.

As soon as the command of information and communication technologies has become necessary for full participation in the society, digital colonialism has evoked the familiar discourse of personal responsibility for structural inequalities. In ancient times, the savage was guilty of being poor, dirty and ill; contemporary pre-digital savage (at least in good part) is guilty of being unable to use computers. Thus, digital postcolonialism has created own version of Hussein Alatas's myth of the lazy native (1997) – for aforementioned terminological reasons, we shall paraphrase it into 'the myth of the lazy pre-digital savage'. In public discourse, as well as in the official jargon of social science, those people are often looked upon with frown. For instance, in one of the most popular models of technology dissemination – the popular Rogers's theory of the diffusion of innovations – they are conveniently labelled 'diehards' (Rogers, 1995) or even 'laggards' (Zemsky and Massy, 2004) that need to be saved from ignorance, poverty and the sin of failing to catch up with the 'inevitable' logic of technological development.

At advanced stages of traditional colonialism, those in power understood that colonies could get much more productive if the savages would overcome certain features such as drug abuse and laziness. For as long as they remained within the confines of the colonial system, therefore, it was acceptable – and even desirable – to improve their living conditions. Therefore, Hussein Alatas writes:

> Between the First and Second World Wars there was a genuine interest among an influential section of the colonial administrators to improve the condition of the native population, both in Indonesia and Malaysia. But this policy of improvement was within the colonial hierarchical structure. As we have earlier stated, it is not our intention to evaluate the merits of colonialism which could be considered only after the First World War. There are four areas to which questions of merit apply. They are the area of education, the area of health, the area of earning a livelihood, and the area of status and power. We judge a colonial measure meritorious if it improved conditions in these four fields. (Hussein Alatas, 1997: 237)

In the context of digital colonialism, improving the conditions of the savage can be done in only one way – by making pre-digital populations accept information and communication technologies. According to Seth, this way of thinking is coherent with historic experiences: "The idea that science and technology were amongst the gifts that Western imperial powers brought to their colonies was an integral part of the discourse of the 'civilising mission', one vaunted both by proponents and critics of the methods of colonialism" (2009: 373). Traditional colonial masters maintained missionary schools; nowadays, "the sums invested under the banner of reducing a 'digital divide' are staggering" and sometimes even "larger than the gross domestic products of some countries" (Graham, 2011). Then and now, those investments have not been aimed at empowerment of the savage, but at making the savage more efficient within the dominating socio-economic orders. In spite of all advances brought by information and communication technologies, the relationship between the digital settler and the pre-digital savage has remained one of exploitation, violation, and oppression.

5. DIGITAL POSTCOLONIALISM

When first sailors embarked on new lands, their large ships and fair skin impressed the savages. They made peace and traded: knives for food, mirrors for gold, glass pearls for ebony. In the early days of colonization this exchange was conducted on more or less equal grounds, because the sailors were still mere visitors – received and treated just like any other foreigners. Soon after, however, the sailors had been followed by the settlers, and it became clear that the white man was here to stay. The settlers brought their ways of living, working and organizing daily affairs, and the traditional ways of functioning slowly but surely became out of date. The settler economy was blooming, and vast open pastures that once belonged to savages gave way to organized plantations, mines and manufacture. Naturally, the savage did not let go easily – however, the logic of techno-social development has inevitably pushed once free hunters, gatherers, shamans and many other occupations into one or another form of slavery. Centuries later, the most stubborn savages have exiled into reservation sites, where they still trade their 'original way of life' for a modest living in the modern society.

When first people embarked into the digital worlds, chess-playing machines and immersive worlds of virtual reality impressed the pre-digital savages. They lived in peace and traded: algorithms for scholarships, network protocols for PhDs, computer programs for wages. In the early days of digital technologies this exchange was conducted on more or less equal grounds, because computers were still just tools – handled and developed just like any other machinery. Soon after, however, more people settled into the digital worlds. Digital technologies entered homes, offices and factories, and the traditional ways of functioning slowly but surely became out of date. The settler economy was blooming, and vast open pastures that once belonged to pre-digital savages had been narrowed down to sporadic niche jobs and hobbies. Naturally, the savage did not

let go easily – however, the logic of techno-social development has inevitably transformed professors, tradespeople, artists and many other occupations into operators of various digital machines, and posthuman cyborgs (Haraway, 1991). Decades later, the most stubborn savages have exiled into the small niche of manual occupations, where they still trade their 'pre-digital way of life' for a modest living in the modern society.

The dynamics of early settlement is obviously very different from the dynamics of late colonialism and/or postcolonialism. Early settlers plunder using brute weaponry and strong colonial administration; postcolonialism exploits through politics of knowledge, representation and cultural perception of the colonizer and the colonized, human relationships within the colonial nations, and ideology. Therefore, the current dynamics of human settlement into the digital should be placed into an appropriate historical context.

During the past few decades, the digital worlds had been created and conquered. Their founding fathers such as late Steve Jobs are slowly but surely entering history. Recent critiques of Prensky's digital natives and digital immigrants "argue against the reduction of our understanding of these issues to a simplistic binary" (Bayne and Ross, 2011: 169), and develop various posthumanist perspectives. Recent research of the digital divide is oriented towards alternative formulations "which take into account the hybrid, scattered, ordered and individualized nature of cyberspaces" (Graham, 2011). Important social changes such as the development of the global class-in-the-making, the precariat, reflect a multiplicity of tensions between the global North and the global South, the industry and the environment, the digital and the pre-digital (Standing, 2011). Profound global impacts of digital colonialism have

reached all the way to worldwide acceptance of evolution from the mass society to the network society (van Dijk, 1999; Castells, 2001), and further into the Anthropocene (Wark, 2015).

Temporal aspects of this evolution are obvious – we are witnessing the period of fastest technological development in human history. However, it is (again) the geographical aspects that are particularly relevant for the current dynamics of settlement into the digital. At the end of 2013, 34.3% of world population was online. This percent vastly varies amongst countries: from 92.9% in the Netherlands, 91.1% in Luxemburg, 83% in Germany and 78,1% in the USA to 1.1% in Ethiopia, 1.2%, in Congo, 1.3% in Niger and Guinea (Internetworldstats, 2014). In order to analyze the current stage of colonization of the Internet, we shall draw a brief comparison with its geographical counterpart. In 2014, the global North has a decent network of roads and railways (Internet infrastructure) as well as legal institutions (data protection laws, international treaties, technical standards). Slavery had recently been abolished (Internet access has transformed from commodity into social category), but the unequal social relationships resulting from colonialism cannot be stronger (the digital divide still strictly follows the poverty line) (van Dijk and Hacker, 2003). In the global North, therefore, digital colonialism has already transformed into early stages of digital postcolonialism.

The global South, however, still anticipates the sweeping wave of digital colonialism. Its Internet infrastructure is yet to be built, its technology-related laws are yet to be adopted, and pre-digital slavery is still the stark reality. Naturally, it is hard to expect that the global South will re-invent digital technologies from the scratch. Instead, it is likely to buy Northern technologies, re-write Northern laws, and adopt Northern social inclusion policies – and it is even more likely to pay for these services by exporting natural goods in various forms from oil and minerals to human labour. Powered by globalization, uneven development is dialectically intertwined with usage, design and production of information and communication technologies (Smith and Harvey, 2008: 147).

For instance, the global North conceptually develops and designs the vast majority of world's most popular operating systems, search engines, social networks, and specialized programs, while the global South does 'dirty work' related to their production and then pays a lot of money to buy expensive usage licenses. This relationship can easily be generalized to all aspects of production and usage of information and communication technologies (Jandrić and Boras, 2012). Da Costa Marques shows that this kind of uneven development is fundamentally colonial, as

> the epistemological assumptions around notions of stable borders and discovery are associated with the idea of the 'primacy of the origin', which invokes the precedence, priority, predominance, preference, prerogative, privilege, right-of-way, seniority, supremacy of the original over the copy, of the model over the imitated (2005: 139).

Using its upper hand in the fields of science and technology, the global North utilizes (its command of) information and communication technologies to maintain its borders and inculcate its 'natural' superiority. In this way, it returns directly to Michel Foucault's concept of power-knowledge (1980), and Barbrook's and Cameron's analysis of digital technology as ideology (1996).

Few centuries ago, colonists set out to 'civilise' the savage by introducing Christian missionary schools that taught basic skills such as reading, writing and calculus – all soaked

up in the Holy Scriptures. Missionaries and teachers (more often than not, embodied in the same person) inculcated knowledge, values, representations, human relationships and ideology of the colonial powers, only occasionally allowing minor cosmetic adjustments such as sculptures and images of the Black Madonna. Their main message was that every government is divine, and that only the meek will inherit the Kingdom of God – in this way, the religious ideology of Christianity was employed directly into the political and economic service of colonialism. Throughout the twentieth century, diverse theorists from Marcuse (1964) and Heidegger (1981) to Barbrook and Cameron (1996) have repeatedly shown that modern technology has become the new (colonial) ideology. Technological determinism takes essentially the same approach as the Bible – information and communication technologies are humanity's only destiny, and it is only the meek adopters that will inherit the network society.

During early 1970s, Illich and Reimer provided probably the clearest analyses of the links between technology and ideology. (Conveniently, they developed these analyses while working at the typical religious / colonial Catholic University of Puerto Rico.) The first few sentences in Reimer's *School is dead* resonate particularly well with the view of technology as the new colonial ideology.

> School has become the universal church of a technological society, incorporating and transmitting its ideology, shaping men's minds to accept this ideology, and conferring social status in proportion to its acceptance. There is no question of man's rejecting technology. The question is only one of adaptation, direction and control. There may not be much time, and the only hope would seem to lie in education -- the true education of free men capable of mastering technology rather than being enslaved by it, or by others in its name... (Reimer, 1971).

Evidence of the colonial nature of information and communication technologies is all around us. For instance, two short sentences in the back panels of popular smartphones – 'Designed by XXX in California. Produced in China' – say conceptually the same thing as our complex analyses. Global IT companies will happily map Nigerian streets for those who can afford their geographic information systems. During the process, Nigerian precariat will spend long hours driving smart cars designed in California and produced in China for a meagre wage and no social security. Powered by information and communication technologies, traditional colonial relationships have gained new wind in their sails. For instance, our Nigerian precarious workers might 'subjectivate' (Foucault, 1980) their 'inferiority' to the Western 'digital masters', and be proud to work in the lowest ranks of a successful global corporation. Their Californian employers might evoke the myth of the lazy pre-digital savage and complain about bad performance of digital immigrant workers. Opportunities for drawing such analogies are numerous, and we are strongly convinced that they might significantly contribute to our understanding of the network society. In this way, digital postcolonialism might graduate from a mere description of the contemporary reality to the powerful tool for inquiry.

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6. DISCUSSION

This paper stablishes opportunities for using postcolonial thinking for analyzing the relationships between information and communication technologies and the society. Digital postcolonialism reveals economic and social relationships between the users and the non-users of information and communication technologies, between the global North and the global South, between the rich and the poor, between the oppressor and the oppressed. Once again, missionaries from 'civilized' countries bring 'enlightenment' to the 'savage' – this time, in the form of creating material and educational preconditions for 'informatization'. At the one hand, the return to the familiar terrain of economic, cultural and military domination gives some confidence in accuracy of digital postcolonialism. For instance, its elegant explanation of technological determinism can be interpreted as a powerful confirmation of the developed theories. At the other hand, however, it still remains to be answered whether digital postcolonialism is a mere coincidence – a curious, but unimportant consequence of universality of human nature – or it may have wider impacts. In the worst case scenario, this paper will represent just another description of the current reality. In the best case scenario, it will start a new, exciting research adventure.

Cyberspace was born and raised in fully artificial laboratory conditions. With the advent of participatory web, however, digital colonists have quickly built up own communities, customs and even vernaculars, while research methods such as internet ethnography have quickly gained popularity. Local knowledges and languages are rising in importance, and researching contemporary phenomena on the World Wide Web strongly resembles the phase of epistemic primitive accumulation (Hess, 2011: 429). 'Hard' sciences such as physics and electronics have created the digital worlds of the internet – in turn, our experiences from these worlds have started to question the primacy of 'hard' sciences. This inversion is an essential feature of postcolonial science and technology studies, and might be used as another argument in favor of developing the theory of digital postcolonialism. However, the developed perspective is burdened with profound methodological challenges. Digital postcolonialism is based on the idea of human expansion into new digital territories. While our analyses introduce some theoretical opportunity for geographical thinking in cyberspace, such expansion is clearly metaphoric. Therefore, theoretical opportunities for digital postcolonialism are deeply rooted in fundamental, unanswered questions about the nature of relationships between the analog and the digital.

Last but not least, the rise of the network society cannot be further from the smooth curve of technology development envisioned by technological determinists – instead, it is a battlefield of various world-views, cultures, interests and social forces. Certainly, we could try and align digital postcolonialism with traditional anthropological approaches. Moving towards postmodernism, we might also follow Said and examine the impacts of digital postcolonialism through the lens of Foucault's discourse. Also, posthuman approaches – and Wark's theory of the Anthropocene in particular (2015) – pave the way for future inquiry. Based on such diversity, there will be a lot of water under the bridge before digital postcolonialism manages to develop a theory that would situate its 'history of the present' (ibid: 644) in the context of past and future.

7. CONCLUSION

Faced with numerous opportunities offered by information and communication technologies we dream, hope, fear and anticipate. Sometimes, such as in the embarrassing case of the Millennium Bug, we develop unjustified collective fears. Other times, such as in the unfulfilled vision of the paperless office, we expect too much from technologies. Some people try and replace real-life relationships with online social networking, while 'cyborgs' go as far as replacing physical parts of their bodies. To each their own – our expectations often say more about us than they say about our technologies. However, it cannot be denied that we live in exciting times. Immersed in the spirit of the moment, it is often hard to see wood from trees. In order to achieve a balanced view of our present relationships with information and communication technologies, therefore, they need to be placed in relation with the past and the future.

Digital postcolonialism is an attempt to create a historical framework for our understanding of human relationships to information and communication technologies. It starts from the deep human need to migrate from one space to another, and ends in the vast open fields of postmodernism and posthumanism. Developed in the research framework of postcolonial science and technology studies, digital colonialism might absorb wide bodies of research in various fields including but not limited to technologies, postcolonial studies, posthumanism, philosophy, education, economy and arts. Therefore, it could contribute to diverse debates from global trade to citizenship. However, it should be remembered that the material base of digital postcolonialism is much more elusive than the material base of geographical migration. After all, digital postcolonialism is merely another lens for viewing our reality, and it is only with great caution that it might be transformed into a research methodology. At the current state of development, digital postcolonialism is just another attempt in the ancient quest for historicization of our lived experiences – and the one in serious need of deeper evaluation.

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