Świat i Słowo
filologia | nauki społeczne | filozofia | teologia
1(28)/2017

STUDIA I SZKICE

Piotr Czerwiński
The John Paul II Catholic University of Lublin
piotrczerwi@gmail.com

"The mind is the effect, not the cause" – exploring consciousness in Nikesh Shukla's *Meatspace*

The main character of Nikesh Shukla's latest novel, *Meatspace*, is a novice novelist experiencing a crisis in his professional and personal life. At the same time, he is becoming more and more immersed in cyberspace, to the extent that the meatspace – the physical world, as opposed to cyberspace – seems to become of secondary importance. The virtual existence seems to be as natural for the character as his existence in the meatspace. Consequently, the narrative of the novel can be construed as a good illustration of the concept of the extended phenotype, in which the consciousness and the mind are results of an interaction between a self and its environment, mediated by "the technological unconscious."[1]

As Daniel C. Dennett puts it: "Human consciousness is about the last surviving mystery."[2] Several theories of consciousness have been developed over the years, however, the question of what constitutes consciousness is far from being answered. Dennett claims that consciousness is an outcome of an interrelationship between a self and its surrounding. Dennett's model derives both from the phenomenal and cognitive consciousness models. First of all, he rejects the idea of what he calls the "Cartesian theatre,"[3] i.e.

[1] Nigel Thrift, "Remembering the technological unconscious by foregrounding knowledges of position," *Environment and Planning D: Society and Space,* Vol. 22, (2004), p. 175.

[2] Daniel C. Dennett, *Consciousness Explained* (New York: Back Bay Books / Little, Brown and Company, 1991), p. 21.

[3] Ibid., p. 17.

the idea that consciousness is a stream which is broadcast to some kind of an internal viewer located in the brain. Dennett claims that since the brain has no central governing body, which has been shown in research, the existence of consciousness as a kind of play staged continuously in the brain's theatre is impossible. Different parts of the brain process different kinds of information and are responsible for different tasks, cooperating only when necessary for execution of certain tasks. At no stage is there a place or moment where all these processes are combined to create conscious experience, understood here as being aware of an external object or something within oneself. As he points out:

> The pineal gland is not only not the fax machine to the Soul, it is also not the Oval Office of the brain, and neither are any of the other portions of the brain. The brain is Headquarters, the place where the ultimate observer is, but there is no reason to believe that the brain itself has any deeper headquarters, any inner sanctum, arrival at which is the necessary or sufficient condition for conscious experience. In short, there is no observer inside the brain.[4]

Dennett strongly opposes any views which do not stand on scientific grounds, hence the rejection of the dualist theories which consist in claiming that there is a supernatural or unexplainable element in consciousness. According to Dennett, such theories replace one mystery with another one and do not really offer any explanation of what constitutes consciousness or what conscious experience is. Instead, Dennett proposes his Multiple Drafts model, which he perceives as crucial to explaining the phenomenon of consciousness. As he points out:

> According to the Multiple Drafts model, all varieties of perception – indeed, all varieties of thought or mental activity – are accomplished in the brain by parallel, multitrack processes of interpretation and elaboration of sensory inputs. Information entering the nervous system is under continuous "editorial revision." For instance, since your head moves a bit and your eyes move a lot, the images on your retinas swim about constantly, rather like the images of home movies taken by people who can't keep the camera from jiggling. But that is not how it seems to us. People are often surprised to learn that under normal conditions, their eyes dart about in rapid saccades, about five quick fixations a second, and that this motion, like the motion of their heads, is edited out early in the processing from eyeball to… consciousness.[5]

[4] Ibid., p. 106.
[5] Ibid., p. 111.

Since, according to Dennett, there is no such a thing as the Cartesian theatre, no screen to display the information on, there is no reason to represent data after they have already been processed. Dennett says that:

> [T]he brain doesn't actually have to go to the trouble of "filling in" anything with "construction"– for no one is looking. As the Multiple Drafts model makes explicit, once a discrimination has been made, it does not have to be made again; the brain just adjusts to the conclusion that is drawn, making the new interpretation of the information available for the modulation of subsequent behavior.[6]

In his model, Dennett takes the view that, for a given event, there is a variety of sensory inputs and also a number of interpretations of these inputs. On reaching the brain, the sensory inputs are interpreted at different times. Consequently, a given event can result in a succession of discriminations, hence creating a counterpart of multiple drafts of a story. The moment each discrimination is finished, it is at the brain's beck and call to induce behavior, without any prior presentation at the Cartesian theatre. In other words, not every draft becomes the final version of the script. Similarly to many other theories of consciousness, according to Dennett's Multiple Drafts model, conscious experience takes time to happen. Consequently, perceptual experiences take time to appear in the mind in their full opulence. The difference between Dennett's model and other theories consists in the fact that Dennett rejects any clear-cut boundary dividing conscious experience from data processing. Dennett claims that consciousness is generated in the flow of information from one place to another. There is no central place which generates consciousness. Consequently, there is no centre deciding about approving or disapproving of any of the many drafts. Different sections of the neural processing have more or less control at different times. Consciousness, in this view, can be defined as a part of the neural processing which has enough power to influence action. It constitutes a part of the self-organising network of neural processes. Dennett claims that human brain, which plays an essential role in creating consciousness, works like a computer or a virtual machine made of organic tissue rather than silicon, processing many different kinds of distributed processes and, whenever necessary, combining them together to execute an operation required at a given moment. Dennett continues by saying that what makes human consciousness different from animal behaviour is that the basic skills, such as grasping, face-recognizing, throwing, etc., are used

[6] Ibid., p. 126.

to augment new kinds of processes, characteristic only for humans, such as reading or writing. Thus, so constructed consciousness becomes a part of the human mind.

Andy Clark also looks into the nature of the human mind and consciousness and builds upon the ideas propounded by Dennett. He wonders how it is possible for a material being to be able to process information and create and understand ideas and concepts, and, finally, how it is possible for those physical beings to create consciousness. According to Clark, answers to those crucial questions can be found at the intersection of neuroscience, psychology, artificial intelligence, and robotics. The central point Clark makes by discussing theories from these fields is that our minds work in a way which makes them prediction machines. This means that the mind is able to anticipate a stream of incoming sensory stimulation before it actually arrives. Based on those predictions, the mind is able to perform actions that structure our worlds. Clark looks into the self-structuring of the environment which determines "the predictive brain."[7] Clark perceives the brain as the key element of the system which allows us to navigate through the waves of sensory stimulation, but, at the same time, his theories undermine the classical computational models of consciousness. According to the computational model of the mind, the brain is an information processing system and thinking is a form of computing. It is a process of creating, storing and updating internal representations of the world. These representations create the basis on which other processes and actions may take place. Representations are updated to correspond with an environment consistent with the goal or function of the system at any given time. According to this model, an action is the result of the process which determines the most optimal way to achieve the goal on the basis of current representations.

The main criticism that Clark puts forward against the computational model is that if we were to accept it, the cognitive process would be impeded by an information bottleneck, since, in order to determine appropriate actions, the mind would have to constantly construct detailed inner representations of the constantly changing external world. Consequently, the demands on the mental system would almost certainly hinder any action taking place. Instead, Clark proposes his idea of the predictive brain model which lies at the heart of a two-way cascade of cortical processing underlying perception, action, and learning. The cascade consists in top-down predictions by means of which attempts to anticipate correctly the bottom-

[7] Andy Clark, *Surfing Uncertainty: Prediction, Action, and the Embodied Mind* (Oxford: Oxford University Press, 2016), p. 3.

-up sensory information are made in a recurrent and hierarchical way. Because the predictions made by the brain will differ from the sensory information, the functioning of this system is possible due to the correction of what Clark calls "prediction error."[8] The differences between the expected signal and the actual signal, namely the prediction error, are sent upward to help fine-tune the accuracy of future predictions. Interactions between forward stream of error and backward stream of prediction are dynamic, with the crucial role of attention, which balances the relative influence of both streams at each level of the cascade.

Another factor which Clark mentions as playing an important role in the model is action or action-oriented predictive processing, which can reduce the prediction error by directly influencing the environment. According to Clark, what follows is that our thinking does not occur only in our heads, but that "certain forms of human cognizing include inextricable tangles of feedback, feed-forward and feed-around loops: loops that promiscuously criss-cross the boundaries of brain, body and world."[9] Clark calls this model "the extended mind."[10] It offers an idea of the mind which is not "brainbound,"[11] but extends beyond the brain, into the environment. If we assume the model of the mind which Clark proposes, then the consequences for understanding our existence and functioning in the environment might be profound. If the mind incorporates aspects of social and physical environments, then the sorts of social and physical environments created by us can alter our minds and our capability for thought and reason in the constant flow of top-down and bottom-up feedback loops. Hence, an essential thought behind Clark's theory is that human beings, with their extended minds, are entities who are entangled in the web of connections with the surrounding world. As he puts it: "As our worlds become smarter and get to know us better and better, it becomes harder and harder to say where the world stops and the person begins."[12] Still, Clark's key argument is that the surrounding environments are not only the factors that we, as humans, use to boost our performance as the species, but that the relation between humans and their environments is a two-way process. Clark writes that: "We create these supportive environments, but they create us too.

[8] Andy Clark, "Whatever next? Predictive brains, situated agents, and the future of cognitive science," *Behavioral and Brain Sciences,* Vol. 36, 2013, p. 181.

[9] Andy Clark, *Supersizing the Mind. Embodiment, Action and Cognitive Extension* (Oxford: Oxford University Press, 2008), p. xviii.

[10] Ibid., p. xvi.

[11] Ibid., p. 28.

[12] Ibid., p. 12.

We exist, as the thinking things we are, only thanks to a baffling dance of brains, bodies, and cultural and technological scaffolding."[13] What transpires is that a human self is, and has always been, a construct consisting of biological and non-biological constituents. The human self utilizes the elements it creates in order to boost its own creativeness and effectiveness. As a result, the mind is not, or has never been, only a biological concept conceived in the brain. In fact, the selling point of a human being is the fact that it can utilise its surrounding environment to boost the conditions in which it lives. Consequently, according to Clark, humans can all be called cyborgs, because our brains are designed to cooperate with the external environment and incorporate the props we need in order to maximize the effectiveness of our functioning.

The term cyborg dates back to 1960, when Clynes and Klyne contemplated the possible ways the human being could be better equipped for space travel. They came to the conclusion that

> [a]ltering man's bodily functions to meet the requirements of extraterrestrial environments would be more logical than providing an earthly environment for him in space… Artifact-organism systems which would extend man's unconscious, self-regulatory controls are one possibility. [...] For the exogenously extended organizational complex functioning as an integrated homeostatic system unconsciously, we propose the term "Cyborg." The Cyborg deliberately incorporates exogenous components extending the self-regulatory control function of the organism in order to adapt it to new environments.[14]

Since that time the cyborg has penetrated many different areas of human activity, from bio-technology, through literature, visual arts, to social science and many definitions have been adopted. What they seem to have in common is that the cyborg is a physical, penetrative merger of a biological organism and non-biological technological prosthesis. What is important, as Clynes and Kline point out, the application and using of the prosthesis must be unconscious, which does not necessarily imply that the agent must be unaware of possessing the prosthesis. However, the cyborg theory may go beyond the purely physical fusion of the biological and the technological. In her "A Cyborg Manifesto," Donna Haraway takes the cyborg theory to the next level and uses it in a socio-political context. She defies the rigid boundaries between human and animal and between human and machine. Haraway's cyborg theory rejects the concept of essentialism, offering in-

[13] Ibid., p. 16.

[14] Manfred E. Clynes, Nathan S. Kline, "Cyborgs and Space", *Astronautics*, September, 1960, p. 27

stead a world of fusions between animal and machine. She points out that: "The dichotomies between mind and body, animal and human, organism and machine, public and private, nature and culture, men and women, primitive and civilized are all in question ideologically."[15] While Haraway deals with a wider socio-political context, Clark focuses on the interdependence of an individual mind and technology. What their theories have in common is the claim that, in order for a cyborg to come into existence, the merger does not have to be physical. Clark defines the phenomenon as the so called nonpenetrative technology:

> Nonpenetrative cyborg technology is all around us and is poised on the very brink of a revolution. By nonpenetrative cyborg technology I mean all the technological tricks and electronic aids that, as hinted earlier, are already transforming our lives, our projects, and our sense of our own capacities.[16]

What Clark emphasises is that it is not so much the method of the integration of the human and the technological that matters, but the result it brings. The result should be achieved in a smooth unconscious manner, so that the human attention does not have to be involved in the process. This, according to Clark, can be achieved by means of what he calls "transparent technology." As he writes:

> A transparent technology is a technology that is so well fitted to, and integrated with, our own lives, biological capacities, and projects as to become (as Mark Weiser and Donald Norman have both stressed) almost invisible in use.[17]

To illustrate this, he provides an example of a wristwatch:

> According to one diagnosis, then, you are telling the literal truth when you answer "yes" to the innocent-sounding question "Do you know the time?" For you do know the time. It is just that the "you" that knows the time is no longer the bare biological organism but the hybrid biotechnological system that now includes the wristwatch as a proper part.[18]

The wristwatch, an example of transparent technology, is an illustration of the way humans get and store information about the surrounding

[15] Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in: *Simians, Cyborgs and Women: The Reinvention of Nature* (New York: Routledge, 1991), p. 164.

[16] Andy Clark, *Natural Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (Oxford: Oxford University Press, 2003), p. 37.

[17] Ibid., pp. 37–38.

[18] Ibid., p. 42.

world. While it might seem to us that what we know about the world is stored in our brains, the mind might, in fact, employ a different method. According to Clark, humans require relatively little information about the world to act effectively upon it. We are susceptible to the illusion that all the details of the world are created or processed in our brains, while, in fact, we only need the minimal environmental information. Our impressions of a richly detailed world obscure a reality of minimal environmental information to reconstruct the details of the surrounding world, as this world is the best model of itself from which we can retrieve information in a just-in-time manner. Clark claims that the dynamic loops of mind-world interaction are not only instrumental. The loops consist of activities running from brain through body to the world and back. Such dynamic loops constitute cognition. Hence, the mind is not limited to the biological organism, but extends into that organism's environment. The cognitive process presented above is, according to Clark and Chalmers, characteristic of the conception of "the extended mind."[19] As they put it:

> [T]he human organism is linked with an external entity in a two-way interaction, creating a *coupled system* that can be seen as a cognitive system in its own right. All the components in the system play an active causal role, and they jointly govern behavior in the same sort of way that cognition usually does. If we remove the external component, the system's behavioral competence will drop, just as it would if we removed part of its brain. Our thesis is that this sort of coupled process counts equally well as a cognitive process, whether or not it is wholly in the head.[20]

They insist that the purely biological boundary of the mind is arbitrary and cognitively meaningless. The location of data and cognitive processes, it seems, is irrelevant as long as they work towards the common goal. The common goal in the cognitive process seems to be creating the most efficient mind possible and the brain's role is to function as a kind of a coordinator or manager of different distributed processes, not necessarily taking place solely in the brain. The ingenuity of the human mind, it seems, consists in the fact that the brain functions as the control centre for different external prostheses, streamlining and fine-tuning them in such a way so that they create a smoothly operating system. The result, or possibly a side effect, is that, to the mind itself, the system seems to be self-contained and operating solely in the brain.

[19] Ibid., p. 222.
[20] Ibid., p. 222.

At this stage, we come back to the question of transparent technology. Clark and Chalmers suggest that, provided certain conditions are met, there should be no difference in considering the relations between the brain and different parts of human body and between the brain and external technology. If we were to use technical terminology, the brain can be compared to the CPU managing the operation of the human machine, using both organic elements, like nerves or tendons, and non-organic elements, like fibre-optic cables, as actuators to extend and optimize the functioning of the system. As long as the actuators are effective, their nature (biological or inorganic) does not matter for the mind. As they put it:

> It is the two-way flow of influence between brain, body, and world that matters, and on the basis of which we construct (and constantly re-reconstruct) our sense of self, potential, and presence. The biological skin-bag has no special significance here. It is the flow that counts.[21]

In order to understand how the aforementioned flow is possible and how the transparent technology might become a part of the mind, unconscious to the self, it is necessary to consider what Nigel Thrift calls the technological unconscious. Thrift investigates how the technological unconscious works at the intersection of humans and their environment. Thrifts points out that "environments of which we are a part gradually come to be accepted as the only way to be because, each and every day, they show up more or less as expected."[22] He continues by claiming that the constituents of technological unconscious "do not belong to 'us' or to the environment. Rather, they have been coevolved, and so refuse a neat distinction between organic and inorganic life or between person and environment."[23] He argues that the technological unconscious will work increasingly through information technology. As he writes:

> This is the advent of 'ubiquitous,' 'pervasive,' or 'everywhere' computing. It follows that 'computing' will become more and more context dependent. This means that devices will become both more location aware, knowing where they are in relation to users and other devices, and able to interact, dialogue, and adapt to users and other devices. In other words, computing understood as a network of devices will increasingly be able to be appropriate to the situation.[24]

---

[21] Ibid., p.114.
[22] Thrift, "Remembering the technological unconscious by foregrounding knowledges of position," p. 175.
[23] Ibid., p. 176.
[24] Ibid., p. 183.

David Beer builds upon the concept of the technological unconscious in the context of virtuality. He refers to Thrift, defining the technological unconscious as "the operation of powerful and unknowable information technologies that come to 'produce' everyday life."[25] For Beer, what engenders the powerful and unknowable information technologies is Web 2.0, the version of the internet which allows the users to both receive and create content. Beer writes about

> a vision of dynamic interfaces and virtual spaces of engagement where users are involved in acts of invention or *content creation* (both actively creating content and passively generating informational traces as they got about daily routines). The issue of content creation is clearly a crucial point as we consider the ongoing emergence and mainstreaming of user-generated online content in the form of rating and reviews, blogs, posts, tags, friending and so on – content creation in this sense is compatible with Bauman's (2007) recent descriptions of what he terms a 'confessional society.'[26]

For Steve Mann, the phenomenon presented by Beer will be accelerated by the wearable technology. Mann notes that

> [o]ver an extended period of time, the wearable computer begins to function as a true extension of the mind and body, and no longer feels as if it is a separate entity. In fact, the user will adapt to the apparatus in the same way that we adapt to shoes and clothing to such a degree that being without them would make most of us feel extremely uncomfortable.[27]

According to the aforementioned ideas, the virtual space is becoming an integral part of the contemporary individuals' environments. And these environments, according to Thrift, are unconsciously taken for granted.

All of the ideas presented above seem to be reflected in Nikesh Shukla's *Meatspace*. The main character, Kit, is totally immersed in the virtual reality and tries to project his public image through the social media. At the same time, he neglects his emotional life in what we can call the material world, the eponymous meatspace. His attachment to social media, with the use of the wearable computer and his smart-phone, verges on addiction. At one point of the novel, when using his smartphone, he says: "All this takes up to 10% of my battery, which is a currency in modern life. Without

[25] David Beer, "Power through the algorithm? Participatory web cultures and the technological unconscious," *New Media Society,* Vol. 11 (2009), p. 988.

[26] Ibid., p. 992.

[27] Steve Mann, *Cyborg: Digital Destiny and Human Possibility in the Age of the Wearable Computer* (Toronto: Doubleday of Canada, 2001), p. 7.

battery, you can't tell anyone where you are or what you're eating."[28] However, what may look like addiction may as well be construed as an exemplification of the aforementioned concept of an extended mind in which the transparent technology plays a crucial role. The transparent technology is the wearable computer which enables constant access to the virtual world, to the extent that the virtuality becomes a part of the extended mind and Kitab can be construed as an exemplification of a cyborg – to use Clarke's aforementioned idea. Since the virtual constituent has become an integral part of the extended mind of the cyborg, Kit feels the irresistible need for his virtual presence. When trying not to answer the phone, he reflects: "My phone rings. It's Rach's number. I ignore it. She calls again. I let it ring in my pocket. Undeterred, she calls me again. This time, my impulses can't let a ringing phone go unanswered. Must connect. I answer."[29] The virtual presence achieved by means of the wearable computer comes as a natural and integral part of the mind, or, to use Mann's words, "a true extension of the mind and body."[30] It is an extension fully integrated into the system. It is no longer one of the factors influencing the mind, but it is its essential part, to such an extent that being unable to connect becomes as uncomfortable as being unable to use any other part of the cognitive system. The blurring divide between the constituents of the extended mind of the cyborg is reflected in the passage describing Kitab's anxiety during his tube journey:

> I check my phone, knowing there's no signal in these tunnels. I scroll the screen down to refresh, like a tic, knowing that there's no reception. I need to be plugged in. I need to know what's going on. I wonder how our brains function in these short bursts of signal outage. How do the commuting masses cope when their 3G signal drops in and out and they have to either read or listen to music or converse. I'm trembling, desperate to check my Twitter.[31]

On the face of it, the wearable computer which enables connectivity with the virtual world is anything but transparent. Kitab is painfully aware of the signal drop and feels uncomfortable with that. However, it is the very opacity of the technology when it fails, which confirms its transparency when it works properly. Just as we do not think constantly about how glasses help us see better, until we break or drop them, the wearable computer, and

[28] Nikesh Shukla, *Meatspace* (London: Harper Collins Publishers, 2014), p. 162.
[29] Ibid., p. 64.
[30] Mann, *Cyborg*, p. 7.
[31] Shukla, *Meatspace*, p. 136.

the opportunities it offers, is transparent until it fails. Andy Clark provides an example of transparent technology from the literary world:

> The accomplished writer, armed with pen and paper, usually pays no heed to the pen and paper tools while attempting to create an essay or a poem. They have become transparent equipment, tools whose use and functioning have become so deeply dovetailed to the biological system that there is a very real sense in which – while they are up and running – the problem solving system just is the composite of the biological system and these non-biological tools.[32]

As long as the transparent technologies work properly, they are "invisible-in-use."[33] It is at the times they fail that we notice their presence. What is more, it is not a case of mere influence of the technology on the human mind, but an instance of an external prompt which becomes an integral part of the system constituting mind. The cognitive processes take part in different parts of this extended system. As mentioned before, it does not really matter where particular cognitive processes are realised, as long as the system runs smoothly. As Clark puts it:

> But the more these [technical] drawbacks are overcome, the less it seems to matter (scientifically or philosophically) exactly where various processes and data stores are physically located, and whether they are neurally or technologically realized. The opportunistic biological brain doesn't care. Nor – for many purposes – should we.[34]

For Kitab's mind, his virtual presence is as important as his physicality, and that is why being unable to connect results in him in anxiety. What transpires is that the wearable computer and the virtual space are becoming a part of the extended cognitive system and a temporary failure of the mobile network is as painful as damage to any part of the nervous system would be. This extended cognitive system is mediated by the technological unconscious. As Thrift puts it, the technological unconscious is

> the bending of bodies with environments to a specific set of addresses without the benefit of any cognitive inputs, a prepersonal substrate of guaranteed correlations, assured encounters, and therefore unconsidered anticipations.[35]

---

[32] Clark, *Natural Born Cyborgs,* p. 38.
[33] Ibid., p. 29.
[34] Ibid., p. 69.
[35] Thrift, "Remembering the technological unconscious," p. 177.

In other words, Kitab takes the ubiquitous computing and the virtual reality for granted. He expects it to be there, all the time. To use Thrift's words, the omnipresent computing comes for Kitab as "the only way to be."[36] Still, as with any new technology, there is a transitional period. While some individuals have already incorporated the new elements into their cognitive systems, others have not, and others seem to be somehow stuck in the transitory stage. This results in tensions between individuals. When Kitab reflects on the relationship with his former girlfriend, he says: "Rach once said, after reading through my Twitter stream, that she couldn't believe I'd had all these thoughts and opinions and never thought to share them with her." It seems that Kitab does not feel the need to share the thoughts with his girlfriend in the non-virtual world, since he has already incorporated the virtual component into his mind and, in the manner suggested by the theories of technological unconscious and the extended mind, does not perceive the way he interacts with others as unnatural. That is why he does not perceive himself as detached from reality. For him, being in the physical world and living a virtual life at the same is not contradictory. In fact, the two comprise his reality. When Rach accuses Kitab of being detached from reality, she says: "You don't go out. You don't do anything. And yet you are living this life that's not real. It's not real. None of it is real."[37] Kitab, however, disagrees. He replies: "It is real."[38] The conversation reflects the ontological dilemma of individuals in the age of the rapidly developing reality of ubiquitous computing. The human mind incorporates external prosthesis in the form of portable computers, trying to use ubiquitous computing to its own advantage; and it seems there is no way back. As Clark puts it:

> The process continues, and it is picking up speed. Some of our best new tools adapt to individual brains during use, thus speeding up the process of mutual accommodation beyond measure. Human thought is biologically and technologically poised to explore cognitive spaces that would remain forever beyond the reach of non-cyborg animals. Our technologically enhanced minds are barely, if at all, tethered to the ancestral realm.[39]

What Clark fails to consider, however, is the fact that, in the process, the transition stage causes tensions in individuals. Being unable to define reality, to differentiate between the organic and the non-organic, the real

[36] Ibid., p. 175.
[37] Shukla, *Meatspace*, p. 278.
[38] Ibid., p. 278.
[39] Clark, *Natural Born Cyborgs,* p. 197.

and the virtual, results in emotional distress. In the age of omnipresent computing, the way we manage our emotional life has also changed. But not all individuals keep up with the change and others, like Kitab's girlfriend, oppose it. Even Kitab feels uneasy with his hybrid reality. Both Kitab and his brother Aziz have their doppelgangers, and the realisation of that fact is possible only due to the existence of the Internet. While Aziz is enthusiastic about meeting his other self and sets out to America to meet him, Kitab is met by his alter ego in London and is reluctant to have anything to do with him. Kitab 2, as he's called in the novel, on the other hand, is enthusiastic about meeting his doppelganger and takes their friendship in the meatspace for granted, even though he is disappointed with Kitab for not accepting his add request on Facebook. He seems to take virtual friendships for granted. For him, making friends in the virtual world equals making friends in the real world. It only takes a click. For Kitab it does not seem so obvious. Thus, the encounter in the meatspace seems to be disappointing for both of them, though for different reasons:

> "So," I say quietly. "What are you doing here, man? Were you just passing through this part of the city and thought you'd say high? I mean, how? How did you find me?" "I messaged you and asked where you were a whole lot of times, dude," he says anxiously, nodding his head with worry. "You didn't accept my add request." "I didn't understand why you kept doing that. We-'ve never met. Why would I tell you where I was?" "So I could come and find you" [...] "No, but seriously, Kitab. Were you just passing through? What are you doing here, man?" My brain is scrolling, I have itchy feet, I want to get up and leave. "No, but your website and Twitter said you would be here tonight. So I wanted to say hello. Why didn't you accept my add request?"[40]

The passage can be construed as a confirmation of Thrist's claim that, for the posthuman individuals, the ubiquitous computing and virtual reality are becoming a natural part of their environments and are a part of their extended cognition. The emotions expressed or desired via the Internet are taken for granted, and so is the information provided by it. For that reason, the social, emotional and intellectual life in cyberspace seems to be on a par with the meatspace, because it has become a part of the cognitive system in the extended phenotype of human mind.

However, the best commentary on the human condition in the advent of ubiquitous computing, and as a part of the extended cognition, seem to be the words of one of Kitab's friend, who says: "We're all just avatars,

[40] Shukla, *Meatspace*, p. 82.

Kit."[41] The organic world and the physicality of individuals are only material representations of the identity created by historically and technologically specific workings of the technological unconscious. What transpires is that this posthuman view considers the material embodiment to be purely accidental, thus, perceiving informational pattern rather than materiality as central to being. With the words quoted above comes realisation that individual identity is largely out of control of the individual and is shaped and conditioned actively by the historically and technologically dependent factors.

For centuries, literary works have reflected the contemporary human condition. Katherine N. Hayles writes that:

> when people begin using their bodies in significantly different ways, either because of technological innovations or other cultural shifts, changing experiences of embodiment bubble up into language, affecting the metaphoric networks at play within the culture. At the same time, discursive constructions affect how bodies move through space and time, influence what technologies are developed, and help to structure the interfaces between bodies and technologies.[42]

It seems that Shukla's *Meatspace* is no exception to that rule. It appears that the novel may be a good illustration of the fact that the technological surrounding, especially in the age of ubiquitous computing, does not merely influence the individual's mind, but is a part of it, and takes active part in creating one's consciousness. That is why Daniel C. Dennett claims that "the mind is the effect, not the cause"[43]; it is the effect of "the inextricable tangles of feedback, feed-forward and feed-around loops: loops that promiscuously criss-cross the boundaries of brain, body and world."[44] While we create technology, at the same time, it seems to constitute an integral part of our mind.

---

[41] Ibid., p. 150.

[42] Katheryne N. Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: The University of Chicago Press, 1999), pp. 206–7.

[43] Carole Jahme, "Daniel Dennett: 'I don't like the theory of mind' – interview," *The Guardian*, March 22, 2013, accessed June 22, 2016, https://www.theguardian.com/science/blog/2013/mar/22/daniel-dennett-theory-of-mind-interview.

[44] Clark, *Supersizing the Mind,* p. xviii.

Piotr Czerwiński

"The mind is the effect, not the cause" – exploring consciousness in Nikesh Shukla's *Meatspace*

In *Meatspace*, Nikesh Shukla depicts an individual totally immersed in the virtual space to the extent that the meatspace – the physical world, as opposed to the cyberspace – becomes of secondary importance. Consequently, the physical world interweaves with the virtual reality, which reflects the posthuman condition of the contemporary individuals. The posthuman view considers the material embodiment to be purely accidental, thus perceiving informational pattern rather than materiality as central to being. By discussing the concepts of the extended mind and the technological unconscious, this paper looks at how the narrative of the novel reflects the contemporary mind construed as a product of interaction between the individuals and their technological environments, exemplified by the technology of ubiquitous computing.

Keywords: consciousness, mind, technological unconscious, cyberspace, cyborg