

# Our Posthuman Selves: How Will Discoveries in Neuroscience Alter Our Self Conception?

Steve Dunn

## 차례

- I. Introduction
- II. Posthuman selves
- III. Neuroscience and Self conception
- IV. Conclusion

## I. Introduction

I have to believe in a world outside my own mind. I have to believe that my actions still have meaning even if I can't remember them. I have to believe that when my eyes are closed, the world's still here. Do I believe the world's still here? Is it still out there? Yeah, we all need mirrors to remind ourselves who we are. I'm no different (*Memento*, 1999).

He wakes up on a cold surface; it appears to be a bathroom floor. Blood is in pools around him. He feels a throbbing sensation coming from his head; the blood is his own. What happened? So begins (or ends?) the tale of Leonard in Christopher Nolan's film *Memento*. He has recently suffered

a brain injury that affects his short-term memory that was caused by an intruder who broke into his house, raped and murdered his wife, and left him for dead. He desperately seeks vengeance but the injury has caused a fragmenting of his self that only allows him to remember a few minutes at a time, until everything is eventually lost to oblivion. In order to rescue these fleeting selves, he creates an ingenious, albeit untrustworthy, system of permanent self-narrative. He tattoos information he believes to be true about himself and his environment onto his body, thus creating a unity where before only chaos could be found.

In my previous research on the history of the author and its multiplicity of forms, a striking pattern began to emerge. Our conception of the author is intimately linked with our self-conception at that particular time and place. Has this self-conception evolved independent of cultural, social, and technological advances? Of course not. Two obvious ruptures of self can be linked to these forces. Copernicus challenged the geocentric model proposed by Ptolemy and Aristotle, thus dethroning our collective self-conception as the central, and most important part of the cosmos. World War II dealt another devastating blow to our sense of self by showing us how our technological progress was more closely connected to our demise than the technotopia that had been promised. Consequently, articles with declarative titles, such as *The Death of the Author*, began to surface, and a foreboding sense of loss began to permeate the cultural milieu. The argument I am interested in making, however, pertains to Leonard. Whereas in the wake of the War, the feeling of a fragmented self was all-pervasive, the science could not yet test this hypothesis. These arguments were purely theoretical. But with recent advances in neuroscience, many leading researchers are edging closer to what they see as being an empirical reality: your sense of self is an illusion created in the brain caused by the interaction of many not one neurological processes.

I would like to suggest that an interesting intersection exists between current theories in critical neuroscience and posthumanism in how they negotiate this mutable notion of self-conception. And by critically interrogating these approaches, we can find a means of reclaiming our selves through the metaphorical system of self-narrative devised by Leonard.

## II. Posthuman selves

Leonard represents the posthuman. Although the film never explicitly addresses posthumanism's attendant technological concerns, we are clearly meant to see his journey into the underworld of the dispersed self as a reflection of how the posthuman can find meaning in a society where even the concept of the self is untenable. In Kim Toffoletti's book, *Cyborgs and Barbie Dolls*, she describes how a tension has emerged that has created a new understanding of the subject that can be characterized by its decentered form of explanation (2007: 12). She implies that the tension is caused by the impact of technology, and that our subjecthood is imperiled by its encroaching influence in our everyday lives. I would argue that instead of technology causing the fragmentation, it is merely magnifying a perennial truth: we have always had numerous selves. The fear of technology subsuming the human subject could be better framed as: technology threatens to demolish our self-conception of the human subject. In this sense, accepting the posthuman into modern discourse is nothing more radical than saying: we were wrong about our selves before.

I think it is important to conceive of the posthuman outside of its technological context because to fixate only on this aspect is like focusing on a new pair of shoes, and assuming that your feet underneath are

somehow changed as well. Toffoletti states that Jean Baudrillard's theories have been particularly influential in which digital simulations, made possible in the 20<sup>th</sup> century, have broken down the illusory boundary between representation and reality (3). Thus the human subject is untethered and left to drift and wonder if their sense of self is real or a dream or a holographic projection. But technology did not need to exist in its current form in order for this question to be posed. As far back as 380 BCE, Plato was able to probe the same philosophical questions without the garishness of modern technology. In *The Allegory of the Cave* he tells a parable about a group of slaves who are chained to a wall, and the only thing they can see are shadows of objects flickering on the wall. They mistake the shadows for reality until one is able to break free and see the blinding truth for himself. Maybe our conception of self is nothing more than a shadow on the wall, an apparition. It has been said that history disappears when the original and the real no longer exist as coherent categories (5). By extension, does this suggest that technology in its current form threatens to destabilize the self by collapsing the categories of the real and the digital, until the self disappears? This argument, however, necessitates the belief in a real self, and in the boundary that separates the real from the digital.

Perhaps the most dubious categories implicit in the techno-posthuman argument are those of human and technology. In her introduction, Toffoletti asks the question, When the limits of the body and identity are called into question by an acceleration of information and media, where does the human reside? (4-5). Although provocative on the surface, this question fails to address the assumption that the concept of the human has always been stable and knowable. Furthermore, technology is implied as being 'other', and as a result, our sense of self is jeopardized by this alien outsider. Perhaps a more nuanced approach would be to see the human and

by extension, the self as a fluid concept. In this view, technology would simply be another extension of this self, which seeks expression through infinite forms. Containing it in one rigid form undoubtedly creates a dogma, which, when challenged, seems to unravel the self. Perhaps it is just being liberated.

As we will see later, metaphors are commonly deployed to better help us understand the brain, but the self is generally regarded as being unique to each individual, thus eluding any kind of unified conceptual model. I suggest, however, that the fractal would be a good start. I do not pretend to have a full understanding of the mathematics behind it, but what most interests me about the fractal is what it might tell us about ourselves if its figurative possibilities are clearly expressed. First coined by the mathematician Benoit Mandelbrot, in the simplest terms, fractals represent an unimaginably complex pattern that until the advent of powerful microcomputers were thought to be just long strings of random numbers. The patterns appear to be self-similar, which means that the overall structure appears the same whether seen on a macro or micro scale. Intriguingly though, if you were to zoom in or out of the image, you would be able to see seemingly infinite features (selves) that appear to be existing independently, and yet they are connected to the same, unified structure. In her book, *Chaos Bound*, N. Katherine Hayles discusses how Mandelbrot had to defend fractals because they were initially regarded as 'monstrous' because traditional geometry is ill equipped to deal with its complexities (1990: 164). Similarly, the posthuman conception of multiple selves connected to a larger structural self might also be perceived as 'monstrous' because it clashes with the conventional view of the unified self. Either we have one self, or no self. Having multiple selves does not seem to have a place in the discourse. As Donna Haraway argued in her seminal essay, A

Manifesto for Cyborgs, my cyborg myth is about transgressed boundaries, potent fusions, and dangerous possibilities (1985: 2195). The posthuman selves are able to evoke all of the above.

I am interested in deemphasizing the technological aspect typically associated with the posthuman, but it is important to understand the concept of distributed cognition which is made more potent within a computer context. In her book, *How We Became Posthuman*, Hayles mentions how the posthuman view privileges informational pattern over material instantiation, so that embodiment in a biological substrate is seen as an accident of history rather than an inevitability of life (1999: 2). It would seem to follow then that the body we currently possess is perceived as an arbitrary shell that temporarily houses this informational pattern. Technology is simply the means by which we spread out these multiple selves. In other words, these selves are not localized within the body; the body is just their current medium. She then goes on to say that the posthuman subject is an amalgam, a collection of heterogeneous components whose boundaries undergo continuous construction and reconstruction (3). These fluid ineffable selves are projected or written onto the body, and a narrative forms in their wake.

The posthuman narrator occupies a unique role in the technological fabric: As writing yields to flickering signifiers underwritten by binary digits, the narrator becomes not so much a scribe as a cyborg authorized to access the relevant codes (43). With these codes, the posthuman is free to write whatever story it chooses. However, like Leonard's tattoos, the code or script may only be decipherable to the narrator. And the narrator in this case exists less as a speaking voice endowed with a plausible psychology than as a series of fissures and dislocations that push toward a new kind of subjectivity (45). The posthuman self-narrative could thus be seen as a defensive response that seeks a semblance of order. Social

networks have traces of this posthuman residue. Various sites allow users to don their best selves, our edited selves. Instead of liberating our multiple selves though, this type of self-narrative is far more likely to invite narcissism. Whereas Leonard inscribes in order to frame his selves in a meaningful context, the social network encourages one to create the self that exists in their imagination. This self has never appeared in an unflattering photo or uttered an embarrassing word. These unsavory details can be easily deleted away, leaving the unified self unharmed.

But what if confrontation with these selves causes nothing but suffering? Toffoletti expounds on this idea by suggesting that our humanist thinking is responsible for this because we have been indoctrinated with the idea that the modern subject is an autonomous agent whose sense of being remains constant, regardless of the factors that impact on the experience of day-to-day living (13). Hence, the sickness originates in the ideology of humanist thinking, and its most severe symptom is manifested in the belief of this unified self. In Anthony Miccoli's book, *Posthuman Suffering and the Technological Embrace*, he suggests that an implicit danger exists within the posthuman idea of the self-as-information [because it] has the potential to become just another reinscription of the liberal humanist subject, especially in light of its own self-awareness (2010: 4). Although this is a legitimate concern, I think what is most crucial for this discourse is not whether or not one conception of the self is going to stand in for another, but rather, how a refinement of our self-conception seeks to open up possibilities, not definitively lay claim to any one particular version of the self. And the reason why the informational pattern idea is more compelling than most other conceptions is that the pattern could express itself in an infinite variety of ways. Simultaneously representing unity and fragmentation, it has the metaphorical power to contain our multiple selves.

On the surface, the approach taken by neuroscientific research in its

attempt to locate the self may seem diametrically opposed to posthumanism. After all, the informational pattern does not require the body, but neuroscience depends on it. More specifically, it needs the brain. However different their approaches may be in locating the self, I am convinced that if we break down the imaginary boundary separating what is inside the body from the outside world, we will discover that some of the ideas expressed about the self in both disciplines will start to mirror one another.

Before this mirroring can occur though, we should briefly touch on some of the most enduring brain metaphors of the recent past. One early interpretation of the brain was linked to the idea of a tape recorder: your sensory information is processed by a centralizing agent, and then stored for future recall. Cornelius Brock describes in his article, *Toys are Us*, that this metaphor was potent because it captured precisely what memory was not: an objective representation of the outside world (2011: 116). This metaphor seems to offer us wish-fulfillment: nothing will ever be lost, a copy will always exist somewhere in the brain archives. Following this was the humanist utopian version: The metaphorical appropriation of the body by electrical tools began with the simple analogy between cable and nerve fibre and provided the material basis for comparing the nervous system with telegraphy (119). This image provided a powerful fantasy of the unified self: Our brain is operated by a homunculus who sends information down various cables that other organs eventually receive and respond to.

Replacing this idea was another metaphor which served the same purpose that is, to interpret the brain in a unified context but incorporated what is arguably our most impressive technological achievement: the brain as computer. Perhaps useful figuratively, the metaphor completely breaks down when you compare how the two function. In *Neuronal Man*, Jean-Pierre Changeux describes how the brain cannot be interpreted in the



cybernetic context of hardware and software, because it behaves more complexly than a preprogrammed code: It anticipates coming events and elaborates its own programs. This capacity for self is one of the most remarkable features of the human cerebral machine (1985: 127). These metaphors can be seen as a way of imposing an ideology of self onto the body, which resists it. We already conceptualized ourselves as having a unified self before the computer was invented; the computer just solidified these thoughts and became a dogma. Borck imagines that, Maybe one day we will look back on the computer as the most convenient and common form of misunderstanding the brain in modern history (127). If the brain cannot be understood as having a centralized control center that hierarchically carries out its duties, then how should we conceptualize the brain, and how will this affect our conception of the self?

### III. Neuroscience and Self conception

It does not require much exploring in the research of critical neuroscience to get a sense of where the field is heading in terms of the self. Titles such as *Neuronal Man* and *The Synaptic Self* are boldly declaring: we are our brains. Before neuroscientists started exploring the interior of the brain it was thought that at a certain point in human development our personality would become fixed, and this meant that the brain must be finished developing as well. However, it turns out that our brains continue to change throughout our entire lives. In Catherine Malabou's essay, *What Should We Do with Our Brain?* she describes this concept of plasticity taking on two senses: it means at once the capacity to *receive form* and the capacity to *give form* (2008: 5). Environmental and biological factors may play an equal part in brain development which

collapses the strict boundary thought to exist separating the brain (inside) from the world (outside). Because of this interaction between experience and the brain, she says no two brains are identical with respect to their history (24). Clearly, a new self-conception is required to fit this plastic model. While pondering the future of this nascent field, Laurence J. Kirmayer says that, Contemplating images of our brains evokes both a sense of awe and a measure of self-estrangement because we believe it is the brain that enables and somehow contains our individuality, subjectivity, and agency (2011: 367). The self-estrangement may arise because this new view of the synaptic self has more in common with the posthuman selves than with the unified self.

To understand the synaptic self, it is important to recognize an underlying assumption in neuroscience: the certainty that there exists a perfect continuity between the neuronal and the mental (Malabou: 55). If this perfect continuity does not exist, the loftier questions about the self would be better posed in a different discipline. In Joseph Ledoux's book, *The Synaptic Self*, he says The essence of who you are is stored as synaptic interactions in and between the various subsystems of your brain. As we learn more about the synaptic mechanisms of memory, we learn more about the neural basis of the self (2002). But this self could be better articulated as being a collection of selves working together to create the self-illusion. Even our label of the brain causes one to conjure a false image of a monolithic organ, when in actuality, the brain consists of numerous systems, each of which has a function, but it appears as though the systems work in collaboration. Malabou poses a valid question when confronted with these facts: How does a person with a coherent personality a fairly stable set of thoughts, emotions, and motivation ever emerge? (58). How can the brain perform such an incredible juggling act?

Before pursuing these questions, I think it is worth reflecting on a

conspicuous parallel existing between the posthuman and the synaptic self. The informational pattern posited by posthumanist ideas locates itself outside of the body while the synaptic self is found within. However, if synapses occupy the space between nerve cells and allow the signal to pass between them, can't we perceive this as being a kind of biologically-based informational pattern? The configuration of the pattern is never fixed, so the self that emerges within the body or the plastic brain is entirely dependent on the synaptic connections that are made. Various cognitive illnesses threaten our old notion of the self, but if we shifted our perspective to include these many selves, maybe this could have a transformative impact on our society. The healthiest version of self usually defined by its lifestyle choices involving exercise, diet, eight hours of sleep, etc. seems to be the ideal being put forward that we should all strive for. But perhaps illness is stigmatized because it forces us to rethink our position on the self. I am not saying that we should not try to eradicate some of the diseases which cause us untold suffering. However, if we cling to the unified self, the suffering may only be exacerbated. Instead of taking on the idea of a diseased/damaged self, which implies that the healthy one still exists somewhere else, we could think of the informational pattern, and how no self expressed within it is positioned higher or lower, in terms of worth, than any other. In Adam Kelley's essay, *From Syndrome to Sincerity*, he also describes how people tend to suffer as a result of our modern identity construction, which posits that one is required to *be* someone rather than exist in a process of constant change and becoming (2013: 56). The authentic self results from this construction, and any deviations or aberrations can be edited out of the self-narrative.

Antonio Damasio, author of *Descartes' Error*, says that our experiences tend to have a consistent perspective, as if there were indeed an owner

and knower for most, though not all, contents (238). This consistent perspective is a careful way of invoking the unified self, but the words as if imply that this is all part of an elaborate illusion. He goes on to say, At each moment the state of self is constructed, from the ground up. It is an evanescent reference state, so continuously and consistently reconstructed that the owner never knows it is being remade (240). The synaptic self is a work in progress. An important question to pose then would be: If our self is connected to our synapses which are continually being built and eroded away, why should we keep believing in the very concept of a self at all?

In the book, *Neuro*, Nikolas Rose and Joelle M. Abi-Rached point out that it is widely believed that The contemporary Western conception of the self-individualized, bounded, with interior depth and temporal continuity, self-possessed, autonomous, free to choose was not natural, given, or universal, it was a historical and cultural achievement (2013: 203). So should we abandon this futile pursuit? Perhaps this question of the self cannot be resolved within a neuroscientific discipline, because the assumption from the outset is that a materialist explanation will be satisfactory.

A neuroscientist might locate the self or selves in synapses; a posthumanist in the informational pattern; a theologian in an immaterial form which emanates from a divine source. The answer regarding the self and its origin reflects back to us our own assumptions: its basis is material, cybernetic, and spiritual, respectively. But I think it is particularly important to focus momentarily on a built-in assumption regarding the brain and the self within neuroscience. It may seem fanciful to speculate about the self outside of a scientific context, but conversely, it may be hubristic to only conceive of it within. Without concrete evidence of a self, all conscious activity can be merely reduced to the inner

workings of the brain. In Graham Hancock's essay, *The Consciousness Revolution*, he mentions how from a neuroscientific point of view, instead of imagining the brain as a computer, it would be seen as a generator. The generator produces electricity like the brain produces consciousness, so essentially, the self dies with the brain. He goes on to say that maybe the relationship of consciousness to the brain[is] more like the relationship of the TV signal to the TV set. In that case when the TV set is destroyed the signal still continues (2013). In this view, the brain would act as a transceiver that is able to pick up the non-localized consciousness (which could also be interpreted as an informational pattern) and temporarily makes it available within three-dimensional space. In this view, a damaged brain would not equal a damaged self.

In her introduction, Catherine Malabou talks about how the plastic brain refuses to conform to any models, because plasticity is situated between two extremes: on the one side the sensible image of taking form, and on the other side that of the annihilation of all form (5). This destructive potential is not usually thought of as being positive, but perhaps it could apply to concepts that were conceived by the brain as well. To annihilate the conception of the unified self could be a way out of the feedback loop, and a way in to an unknown frontier of being. In Francisco Varela's book, *The Embodied Mind*, he pursues an argument that shows how the trajectory of neuroscientific research has been leading to a conclusion that mirrors what many Buddhists believe: cognitivism is thereby led to embrace the idea that the self or cognizing subject is fundamentally fragmented or nonunified (1991: 48). So what is the self within this context then? Hayles says that, in the more extreme view, the self is a story consciousness tells itself to block out the fear and panic that would ensue if human beings realized there is no essential self (1999: 156). The self is a narrative coping mechanism in a world where nothing is

impervious to change. But, who tells the story of the self? asks Paul Broks, a neuropsychologist and author of the book *Into the Silent Land* (2003: 41). Leonard chooses to remember what he wants by getting a fresh tattoo on his skin, otherwise it is lost to the erosion of time. Others may choose to write this information down in a journal. However, this will never be the whole story. Broks answers his question with this thought: It's not so much a question of us telling the story as the story telling us (41). And even if we do not suffer a brain injury like Leonard, we are all subject to time's relentlessness. Our narrative will always be open to interpretation, never fixed, just like our selves. The initial shock of this revelation is like getting the wind knocked out of you for the first time. Gasping for air, and certain of death's imminent approach, the panic sets in. And then: the breath returns and the feeling subsides. Broks offers an optimistic message to those who fear the acceptance of our nonselves: We inhabit the spaces between things. We subsist in emptiness. A beautiful, liberating, thought and nothing to be afraid of (56).

I have deliberately opened many doors in this investigation into self-conception. Whether the self can be proven scientifically seems unlikely. The self is like the idea of brain plasticity in this way: it refuses to take any one form. As soon as it is declared that we are our synapses, another explosion sounds off and we are left with the original unanswered question: What is the self? However, if we were to conceive of the self as being a collection of selves, this would open up our conception of the self. A self would constantly be giving way to the next, and at any moment, a different self could emerge depending on the circumstances. These selves could be activated in a number of different ways: they could be brought out by our genetic predispositions, or perhaps, an injury, dream, hallucinogen, or even music could trigger their arrival. Sometimes the emerging self will be radically different from the former; other times, it

may be indistinguishable. The brain does not exist independent of its environment and neither do our selves. In his essay, Perception is to self as memory is to selves, Edward S. Reed says that Memory provides a bridging of a different sort, between earlier and later aspects of one's self[and] is the process for maintaining coordination within a multiple self (1994: 278). Memory thus contributes to the illusion of the unified self, but it can be liberating if each self is unshackled from the whole, and allowed to express its own uniqueness. These selves would have the freedom to create their own narratives, while at the same time, be self-aware enough to know that the narrative can never fully capture all the possibilities.

So what will all of these narratives look like? Like the selves being represented, their form could assume many shapes. However, it is most likely that even after accepting these selves into the discourse, their expression will take on familiar forms. While considering how our self is a construction, Brok says that We create our selves by inference[and] in doing so we ride the rails of the deepest human convention, but, at root, it is just that: a convention (42). What makes these narratives liberating though is in the self-reflexiveness inherent to the form of storytelling. The very telling of the story calls attention to its artifice and frees the selves from the binding form. The story of the self will no longer compete to tell the truth, because every story told will be, at least, partially false. The narrator chooses what to tell, and the reader how to interpret. In Mark Freeman's book, *Rewriting the Self*, he expands on this point by saying that just as narrators tell about their lives in ways that are circumscribed by the social world in which they liveso too do readers read, bringing their respective horizons of expectation with them to the texts they encounter (1993: 200). How could these stories of the selves and their interpretations find the appropriate form for expression? Perhaps, the

hypertext would be a good model to explore. George Landow talks about the transgressive possibilities of the dispersed text in his book *Hypertext 3.0*. He mentions how texts in the past have been intellectually separated, and that a fear exists that this may cause the notion of authorship to be obscured. He thinks the fear is unfounded though because destroying now-conventional notions of textual separation may destroy certain attitudes with text, but it will not necessarily destroy text. It will, however, reconfigure it and our experience of it (2006: 98). The hypertextual space could house these selves.

#### IV. Conclusion

We could apply this same thought to the notion of self-conception. Our selves have always been co-existing outside of our conceptual understanding of them, so the only real threat posed is that our preferred story of the self and its unity may start to break down. But at the same time, from the informational pattern or the synaptic space a new multifaceted conception emerges. We are more than our brains could ever know.



## Works Cited

- Borck, Cornelius. 'Toys are Us.' *Critical Neuroscience*. Oxford: Wiley-Blackwell, 2012: 113-130
- Broks, Paul. *Into the Silent Land*. London: Atlantic Books, 2003: 39-86
- Changeux, Jean-Pierre. *Neuronal Man*. Princeton: Princeton University Press, 1985: 126-130
- Damasio, Antonio. *Descartes' Error*. London: Vintage Books, 1994: 236-244
- Freeman, Mark. *Rewriting the Self*. London and New York: Routledge, 1993: 196-214
- Hancock, Graham. 'The Consciousness Revolution.' <http://www.grahamhancock.com/forum/HancockG7-TheConsciousnessRevolution.php>
- Haraway, Donna. 'A Manifesto for Cyborgs,' *The Norton Anthology of Theory and Criticism (2<sup>nd</sup> Edition)*. London: Norton & Company, 2010: 2190-2220
- Hayles, N. Katherine. *Chaos Bound*. Ithaca and London: Cornell University Press, 1990: 143-174
- Hayles, N. Katherine. *How We Became Posthuman*. London: The University of Chicago Press, 1999
- Kelly, Adam. From Syndrome to Sincerity, *Diseases and Disorders in Contemporary Fiction*. Routledge, 2013: 53-66
- Kirmayer, Laurence J. The Future of Critical Neuroscience, *Critical Neuroscience*. Oxford: Wiley-Blackwell, 2012: 367-380
- Landow, George P. *Hypertext 3.0*. Baltimore: Johns Hopkins University Press, 2006: 80-107
- Ledoux, Joseph. *The Synaptic Self*. Penguin Books, 2003
- Malabou, Catherine. *What Should We Do with Our Brain?* New York:

- Fordham University Press: 1-82
- Miccoli, Anthony, *Posthuman Suffering and the Technological Embrace*.  
New York: Lexington Books, 2010: 1-33
- Reed, Edward S. Perception is to self as memory is to selves, *The  
Remembering Self*. Cambridge: Cambridge University Press, 1994:  
278-290
- Rose, Nikolas and Joelle M. Abi-Rached, *Neuro*. Princeton and Oxford:  
Princeton University Press, 2013: 199-235
- Toffoletti, Kim. *Cyborgs and Barbie Dolls*. London and New York: I.B.  
Tauris, 2007: 1-18, 117-120
- Varela, Francisco. *The Embodied Mind*. London and Cambridge: The MIT  
Press, 1993: 37-85, 147-151

Abstract

## **Our Posthuman Selves: How Will Discoveries in Neuroscience Alter Our Self Conception?**

Steve Dunn (University of Exter)

This paper will examine how recent discoveries within the field of neuroscience have altered our view of the self. Special attention is paid to Catherine Malabou's work, *What Should We Do with Our Brain*, which explores how the current model of the brain based on plasticity has subtly influenced our notion of self-conception. Instead of recapitulating the idea of a fixed and stable self, plasticity could potentially cause a dramatic reevaluation of who we are, and how we think. The argument then expands to include many ideas that emerged within the field of posthumanism and attempts to demonstrate how the idea of the self, as conceptualized within the informational pattern posited by N. Katherine Hayles in her book, *How We Became Posthuman*, can be compared to the notion that we are our synapses as stated by the neuroscientist Joseph Ledoux. The humanist idea of a unified self is challenged throughout this paper, and ultimately, discarded altogether. What emerges in its absence though is a multivalent and fluid concept suggesting that many selves exist as opposed to just one.

**Key Words:** Neuroscience, Posthumanism, Malabou, Brain, Self

논문접수일: 2014.1.26

심사완료일: 2014.2.16

게재확정일: 2014.2.23

이름: Steve Dunn

소속: University of Exeter

주소: Flat 7, King Edward Court, King Edward Street, Exeter, England

이메일: [stevendunn33@gmail.com](mailto:stevendunn33@gmail.com)