

Animals & Avatars: Reflections of a biological naturalist

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When I say "I am my avatar," what do I mean?

What this claim does *not* seem to mean (at least not currently as regards digital game play) is that "I" and "my avatar" are identical. The conventional and original sense of "I" seems, in fact, relatively unscathed by this claim. Rather, this claim seems to mean more nearly something like "My digital game avatar *shares* some portion of my personal identity." Or, perhaps, "My digital game avatar *references* some portion of my personal identity."

These two claims are quite distinct in that the first is much stronger than the second. As Saussure (1916 | 1983) and other semioticians have shown us, referent-reference relationships are often arbitrary. And thus, the significance of a digital game avatar *referencing* some portion of personal identity can possibly be no more than that of the three words "my personal identity" referencing some portion of personal identity. In order to make "I am my avatar" a philosophically significant claim, we need to consider that a digital game avatar has unique properties, beyond those of say, a car, or a diet, or a drawing -- and that these properties do more than simply reference personal identity existing elsewhere. Somehow, to be non-trivial, these properties must indicate my personal identity -- what constitutes my *personhood* -- is significantly linked, at least in part, with a digital object.

How can such a claim be made coherent?

Some are now attempting to answer this as an empirical question (Blascovich & Bailenson, 2011), some as a psychological question (Anthony, Nagel, & Goss, 2010) and some as a legal question (*MDY Indus., LLC v. Blizzard Entertainment, Inc.* 2011). But it is easy to be skeptical of these attempts without first determining on what grounds personal identity is capable of being partitioned, distributed, and shared with digital objects that, at some other point and by all accounts, do not share it.

In this essay, I examine the nature of personal identity and, particularly, the relation between the continuity of personal identity and the (potential) divisibility of personal identity. I undertake this examination from the perspective of a biological naturalist (Searle, 2004; Myers, 2010) and animalist (cf. Olson, 1997) -- though the argument may well have implications beyond these two perspectives.

Part One: Biological naturalism and animalism.

I wish to claim that biological naturalism, which describes a particular sort of mind-body relationship, is compatible with animalism, which describes a particular sort of personal identity. Both these notions are then compatible with -- in fact, conducive to -- an understanding and analysis of human play. I. e., "biological naturalism... supposes material and objective properties of human cognition as essential to an understanding and analysis of that cognition and, by extension, cognitive play" (Myers, 2010, p. 5).

Let me make this connection clear.

There are two critical assumptions of biological naturalism: Human mental states originate in the human brain, and these mental states are "higher-level" functions of the brain. "Higher-level" -- or "macro-level" -- functions of the brain are those that arise from no source other than the neurobiological components of the brain yet, nevertheless, are not immediately evident from examining those components in isolation of one another, or in their static rather than dynamic state(s). "Consciousness," for instance, is one of these higher-level functions; "intentionality" is another.

One of the great appeals of biological naturalism is that it bridges the mind-body gap in a manner that, simultaneously, avoids reductive eliminativism on one hand and property dualism on the other.¹

Biological naturalism seems intimately compatible with the belief that humans are thinking animals, which is a basic tenet of animalism, as championed by Olson (1997; see also, Blatti, 2006). In brief, Olson's claim is that humans are thinking animals and that our personal identities do not survive as other than those of animals.

As regards biological naturalism then, the "animal" portion of this claim can be grounded in the neurobiological properties (and/or other physical components) of the human organism. And the "thinking" portion of this claim can be assumed to refer to the higher-level mental states that these properties constitute.

As a biological naturalist with a newly minted belief in animalism, I am then especially swayed by an animalist version of the persistence of human personal identity over time: What continues as an animal likewise continues as "me." This version stands in contrast to the perhaps more common, psychological version of the persistence of personal identity (as formulated by John Locke), with which it differs in at least this important way: If we locate personal identity in the psychological continuity of humans, then we are relatively less concerned about the persistence of the organism within which a particular psychological state is maintained; and if, on the

¹ Some believe it does so through a sort of trickery that disguises its true nature as either one or the other of these (Honderich, 2001; Collins, 1997), but I won't directly consider criticisms of biological naturalism, only its implications regarding personal identity. Also, I should note that these implications are similar, in some respects, to those of several other positions -- e. g., Baker's (2000) "constitution view" of personal identity and, perhaps, Parfit's (1971) account of the divisibility of personal identity as well. However, I will simply leave these similarities -- superficial or otherwise -- aside.

other hand, we locate personal identity in the animalist continuity of a human organism, then we are relatively less concerned about the persistence of any mental or psychological state housed within that organism. This difference is most significant when we try to determine when or how human personal identity begins or ends or, in more speculative moments, when or how it *can* begin or end.

Here are two arguments that bring this difference into sharp relief..

- *The fetus argument.* (e. g., McInerney, 1990). If you believe in the psychological continuity of human personal identity, then it is difficult to establish a relation of identity between "you" as an adult and "you" as a fetus. It would be much easier to do so if you believe in animalist continuity, since it can be claimed that both you and the fetus are the same animal -- and the property of you being an adult or a fetus (or, for that matter, a train conductor) may be only a temporary property of "you."
- *The transplant argument.* (e. g., Shoemaker, 1999). If you believe in the animalist continuity of human personal identity, then it is difficult to establish a relation of identity between "you" as an animal and "you" as a brain (most specifically, your cerebrum). It would be much easier to do so if you believe in psychological continuity, since mental states of the sort you commonly associate with "you" seem to be located in your brain (most specifically, your cerebrum), which is not, of itself, an animal.

...and one argument that emphasizes an important similarity between psychological and animalist continuity:

- *The corpse argument* (e. g., Francescotti, 2005). If you believe in the animalist continuity of human personal identity (or that version of animalist continuity that some -- e. g., Larkin (2004) -- call a *biological* approach to personal identity), then it is difficult to establish a relation of identity between "you" as an organism and "you" as a corpse. An animal that is a corpse is no longer an animal (at the very least, not a *living* one) and, therein, no longer you. Likewise, of course, if you believe in the psychological continuity of human personal identity, it is similarly difficult to establish a relation of identity between "you" (as a detached cerebrum, say) and "you" as a corpse.

Thus, the animalist continuity argument is not merely a *bodily* continuity argument, and both supporters of psychological and animalist continuity tend to emphasize *living* as a characteristic necessary to account for human personal identity. In the case of psychological continuity, this *living* characteristic seems to refer most often to *mental* states -- particularly (though not exclusively) consciousness. And, in the case of animalist continuity, this *living* characteristic seems to most often refer to *biological* states (which may or may not include consciousness). As such, it seems that animalist continuity stands more or less between notions of bodily and psychological continuity. This is analogous to how biological naturalism stands more or less between eliminativism and dualism.

Part Two: Sharing personal identity.

If the claim "I am my avatar" means something like "I share some portion of my personal identity with my avatar," then exactly what is a "portion" of personal identity? Can there even be such a thing?

This is an issue directly related to the continuity (or perhaps discontinuity) of personal identity; and the continuity of personal identity has been discussed at length. There are two common contexts for this discussion. One concerns the spatial continuity of personal identity; the other concerns the temporal continuity of personal identity.

2.1. The *spatial* continuity of personal identity.

Here's the question: *If X constitutes personal identity, what is the smallest (or, perhaps better, the most essential) portion of X that does so?* To answer this question, philosophers have often assumed that some X constitutes personal identity (e. g., the human cerebrum), and then, in a series of thought experiments, have subtracted, replaced, or otherwise transformed various portions of X in order to determine, after that transformation, if personal identity remains. There are several well-known examples of arguments using this approach, e. g., these...

- *The transplant argument* (mentioned earlier). I. e., if the human cerebrum constitutes human personal identity, what happens when we cut that cerebrum in two and transplant both halves into separate and independently functioning bodies? Where does the original personal identity go?
- *The substitution (or sometimes teleportation) argument.* (e. g., Hughes, 1997). I. e., if we replace all components (x1, x2, x3..., xN) of X with identical components (y1, y2, y3..., yN), such that each x is qualitatively identical to each y, does the identity of X remain? This argument can be applied to all forms of identity, but is most relevant here regarding personal identity based on material origins (e. g., bodily continuity).

Thus, most often, arguments regarding the spatial continuity of personal identity -- as the above demonstrate -- ask what would happen if some property we associate with personal identity is either removed (e. g., in the transplant argument, the human brain is removed from the human body), or removed and replaced (e. g., in the substitution argument, the wooden boards of Theseus's ship are replaced with others; and, in the teleportation argument, the molecules of Star Trek's Captain Kirk are reconstituted by the Enterprise's transporter). Unfortunately, however, our more immediate concern is rather with properties of personal identity that might be borrowed or shared.

For instance, while many philosophers seem willing to accept the possibility of entire zombie worlds (e. g., Chalmers, 1996) in which the physical properties of human bodies are, in effect, *shared* with zombies, there is no linked assumption that your personal zombie shares your personal identity. This appears to be, in significant part, because of spatial discontinuities -- that is, despite you and your zombie having the same physical properties (the same height, weight, and arrangement of molecules), you and your zombie do not occupy the same *space*. Thus, numerical identity immediately fails, and personal identity is immediately suspect.

This, then, points to an important obstacle facing us in trying to make sense of "I am my avatar." My avatar, as a digital object, is spatially discontinuous with "me." Commonly, a digital game avatar shares only some superficial portion of my physical attributes (many fewer than my zombie shares) and, in doing so, my avatar is -- unlike my zombie -- not a replica at all, but only a very coarse representation of my physical form.

Materially, then, my avatar is not me, nor is it in the same space as me. And, having briefly outlined this problem, let me return to it later.

2.2. The *temporal continuity (or persistence) of personal identity.*

Personal identity seems to persist over time, even in cases where there are various sorts of temporal discontinuities in what is assumed to constitute personal identity -- e. g., human memory loss as regards the psychological persistence of personal identity. Supporters of the psychological continuity of personal identity might then infer that memory is important to personal identity but not, ultimately, the deciding factor (e. g., Shoemaker, 1959).

Others solve problems of temporal discontinuity more broadly. For instance, some believe that temporal discontinuities are largely artifacts of an improper notion of time -- that is, a three-dimensional notion of time -- and that these can be overcome with an improved, *four-dimensional* notion of time (Sider, 2001). For the 4D'er, personal identity consists of a collection of temporal parts strung together through time, much like the individual segments of a worm through space. This 4D argument can then be applied to all forms of identity, but appears especially well suited for smoothing over temporal discontinuities within an animalist version of personal identity. As regards the earlier mentioned fetus argument, for instance, the 4D'er, in concert with the animalist, would have little trouble linking the personal identity of the fetus with the personal identity of the adult.

As a whole, such claims address how seemingly disparate temporal segments of "me" can be made whole, (e. g., within a newly conceived 4D space-time worm). And such claims may well prove useful, but are not, of themselves enough. For, if I am to share my personal identity with my avatar, then that sharing must address synchronic as well as diachronic issues.

For instance, are schizophrenia and other multiple personality disorders examples of "sharing" my personal identity with some other? This is a question that those supporting a psychological version of personal identity might wish to deliberate further. From an animalist point of view, however, I can fairly easily claim that all these personalities are separate temporal parts of a single animal-person (cf. Brown, 2001).

Nevertheless, pondering such a question tends to focus the problem of temporal continuity on (again) spatial discontinuities *in the same time period*. For instance, what happens if the Enterprise's transporter produces a new Captain Kirk in a new space without eliminating the old Captain Kirk in the old space? Now there are two, spatially distinct but temporally identical Kirks. Is the original Captain Kirk's personal identity shared -- or split -- between these two?

Fortunately, there is a way to sidestep this particular dilemma -- and most similarly imaginative synchronic paradoxes of personal identity -- at least for the time being. Currently, ava-

tars are neither independent nor complex thinkers. That is, I will here reject outright the possibility that my avatar has its own personal identity that is apart from (and might even somehow be in conflict with) "me." Thus, my interaction with my avatar does not give it a life "of its own." It is not, in any sense, "my offspring." In this rejection, I hope to find a solution to the "I am my avatar" problem without resorting to splitting my original animal identity in two separate but equal parts, either voluntarily or involuntarily. And, in this respect, digital avatars are considered to behave somewhat like puppets, active when their strings are pulled, but without activity (of any significance to personal identity) otherwise.

Obviously, for instance, if someone else is manipulating my avatar -- if I am not there when its string are pulled-- then this sharing process no longer takes place. This then requires me to inspect very closely both the spatial and temporal connection -- or *interface* -- between me and my avatar. If I am after a truly coherent meaning of "I am my avatar" applicable to current digital games and play, then my personal identity would best be present in my avatar and me *in the same space* and *at the same time*.

If so, then I have two tasks to accomplish in order to make sense of "I am my avatar":

- I must extend the spatial components of my animalist version of personal identity to include a digital object, and
- I must accomplish this first task without altering the temporal properties of my thinking animal's personal identity, (i. e., the *real-time-ness* of *me*).

Part Three: The digital interface.

I will deal with the second of these tasks first: What is the nature of the temporal connection between a digital game player and a digital game avatar?

Consider the digital game interface. This interface stands between player and game, or, in digital games specifically, between player and digital *code* (Myers, 2010). We may in fact conceive the digital game interface as a communications channel transmitting information back and forth between player and game. In accomplishing this, the interface serves as a filter -- a selective *barrier* at times -- determining what portion of a game player's activity and what portion of a game's code are most valuable during play and, as a result of that valuation, most likely to be transmitted from one to the other. Importantly, this interface then determines the *rate* of information transmission.

We can expand this analogy to include the human animal as an interface. This animal can also be considered as a sort of filter, a selective barrier, determining what portion of our natural environment (the "real world") and what portion of our mental state (or psychology, or, perhaps, "code") are most likely to be transmitted, through that animal, from one to the other. The normal pace -- or rate -- of this transmission is then what we call "real-time."

With this analogy in hand, we can consider whether biological naturalism and animalism are in any way compatible with the notion that a digital object might have a thinking-animal-like temporal identity -- borrowed, shared, or otherwise.

First, though, let's get this out of the way: Are avatars animals?

No. Clearly, avatars are not animals.

Avatars are algorithms. And, essentially, these algorithms are no different from those within a word-processing program that re-formats paragraphs or a traffic signal program that changes lights from red to green.

However, while it may be a stretch to consider algorithms as animals, it is much less so to consider algorithms as *thinking*. In fact, there is a toe-hold into this argument provided by biological naturalism's most prominent supporter, John Searle, who maintains that the "thinking" portion of the human brain (and, therein, the human animal) might be constituted by something other than the neurobiological components of the human brain. Indeed, it seems at least plausible to imagine an algorithm that could (sometime in the distant future, perhaps) map human brain processes in a manner similar to the meticulously detailed map Jorge Luis Borges describes in "On Exactitude in Science" -- that is, precisely. But there is no real need to debate this point, since it does not bear directly on our concerns.

For, even if we were to take this for granted -- that algorithms might constitute the same sort of thinking that human brains constitute -- it does not immediately follow that these algorithms can share the personal identity of *some other animal*. In order for algorithms to share the personal identity of something they are not (e. g., thinking animals such as ourselves), there still needs to be a non-trivial connection between the two -- a connection greater than that between a reference and its referent. As a biological naturalist and animalist, I am inclined to conceive this connection as an interface -- a communications channel -- of the same sort that mediates, in thinking animals, the physical and the mental, nature and psychology. And, within those virtual, non-physical environments in which avatars commonly reside, I am inclined to conceive this connection as that between a thinking animal and its avatar: the digital interface or, put more broadly, the unique properties of the technology that constitutes that interface.

Conceived in this way, the connection between thinking animals and their avatars is an analogous extension of the connection drawn by biological naturalism between the physical and the mental. Or, in other words, rather than attempt to map personal identity precisely from thinking animal to avatar, we might choose instead to regard the *neuromechanical* properties of the digital interface as analogous to the *neurobiological* properties of the human brain. These neuromechanical properties might then, in parallel with their neurobiological counterparts, help constitute the personal identity -- the sense of self -- game players experience in interaction with game avatars. Yet, these properties cannot constitute this identity without the active participation of a thinking animal within which personal identity originates and already resides. These properties remain uninformative in their static rather than dynamic state(s), and this dynamism is a peculiar sort that depends on the relationship between two modes of self experience, one which the dynamism itself functions to create *on a real-time basis*.

In order for this to happen in this way, these two interfaces -- digital and biological -- obviously need to be coordinated, linked in some significant way.

Conceiving these two as linked is not especially novel. There are parallels.

One of these parallel conceptions has been promulgated early and widely by Marshall McLuhan (1964). Similar conceptions to McLuhan's comprise a basic tenet of (at least a naïve) technological determinism in that the technological determinist supposes a correlation -- a link -- between human technology and human behavior. The strong technological determinist sees this correlation as a consequence of certain forms of technology necessarily favoring certain forms of social and/or mental states. The weak technological determinist is less certain about the necessity of this relationship, but posits a significant correlation nevertheless.

But the position here differs from technological determinism in an important way.

For instance, McLuhan, as a strong technological determinist, made the well-known claim that media extend our human senses and, in that process, have far-reaching consequences. Others carrying this particular determinist torch have made similar claims -- e. g. "Media 'define what constitutes reality'; they are always already ahead of aesthetics" (Kittler, Mücke, & Similon, 1987, p. 104). When accompanied by the right dose of relativism -- e. g. "What is built into the neural process that transforms stimuli to sensations ...[is] transmitted through education" (Kuhn, 1970, p. 196) -- these far-reaching consequence imply a fundamental rewiring of human cognition.

From a naturalist point of view, however, this seems unlikely, since the most basic "wiring" of the human brain is the result of millions of years of a relatively ponderous evolutionary process. Thus, the brain and its "thinking" must be, at first glance, as stably positioned in our natural history as are other processes equal vital to human survival, including our stomach and its "digesting," and our sexual organs and their "procreating." We do not imagine a drastic change in digestion based on a sudden change in our diet, nor do we imagine a drastic change in procreation based on a sudden change in our love interests. It seems reasonable, therefore, to question whether there is any sort of radical change in our cognition -- of the sort McLuhan and Kittler and others might envision -- as a result of a sudden change in our how we spend our leisure time.

This does not necessarily doubt a strong correlation between human cognition and human technology; it's just that the naturalist might explain that correlation more like this: Imagine plunging your hand into a bowl of wet clay. It is unlikely that your hand will conform to the shape of the clay in the bowl; it is much more likely that the clay will, given the right sort of wetness, conform to the shape of your hand.

This demonstrates a more general case regarding the degree to which any one of two objects will adapt to the other. It is the object that is most flexible and adaptable that is most likely to do the most adapting. Therefore, as regards human technology and human cognition, it seems much more likely that technology will adapt to cognition rather than the other way around. And, indeed, based on available evidence, this seems to have already been the case.

Digital game audio, for instance, has not caused us to rewire the sound-wave processing properties of the human ear. Rather, digital game audio has evolved very quickly from mono to stereo to surround sound, conforming to that with which our human ears are most familiar. Likewise, digital game displays have not caused us to rewire the light-wave processing properties of the human eye. Rather, digital game displays have evolved very quickly from black-and-white to color to increasingly three-dimensional displays, conforming to that with which our human eyes are most familiar. It is then not a great leap to assume that the same sort of adaptive relationship exists between the digital game as an interface and the human animal as an interface. And, in fact (and most to the point), digital games have already adjusted the pace of the hearing, seeing, and thinking required of their play from the plodding, turn-by-turn sequences of traditional board-games to an increasingly real-time experience – marked obviously, for instance, by the transformation of strategy games to *real-time* strategy games.

It is also useful to note that digital games have the capacity to increase this "real-time" pace ever further, to deliver an even faster-paced succession of sounds, images, and strategies than is, for thinking animals like ourselves, aesthetically pleasing. Certain DOS-based FPS games -- *Wing Commander* (1990) springs to mind -- subsequently played on newer and faster processors zip by so quickly that they become unbeatable -- even unintelligible. Likewise, digital chess games have become so strategically superior to their most common thinking-animal opponents that they must be dumb-downed to conform to a more aesthetically pleasing performance of a more human opponent; these games must create the illusion, in effect, of thinking *more slowly*.

Thus, the real-time experience of the digital game has gradually been shaped as neither too fast, nor too slow, nor too unintelligible, but, as in the story of Goldilocks, just right for Goldilocks. Of all human tools, digital technology appears most capable of adapting to its users most quickly and most precisely; indeed, digital games seem to form a clay with just the right sort of wetness. If so, then, in order to better understand the personal identity of thinking animals, it makes perfect sense to inspect the evolution of digital games and see what sort of animal imprint is left behind.

Part Four. The animal imprint.

Issue two: What is the nature of the spatial relationship between digital game player and digital game avatar?

The spatial discontinuity between me and my avatar is a significant problem to address in constructing a coherent explanation of "I am my avatar." As an animalist, I find it difficult to imagine how objects that are not physically continuous with my animal form might share my personal identity. Nor can this physical continuity be gained merely through my proximity to an object -- by touching it, for instance.

When I manipulate a race car, or a fishing pole, or any similar X, I may well say "I am that X." But this indicates only that this X acts (or simply moves) according to my intentions; it does not necessarily imply that this X shares my personal identity as a thinking animal. For instance, "I am that Top Hat on the *Monopoly* board" does not have the same existential meaning

as "I am Spartacus" or "I am Zarathustra." To share the personal identity of a thinking animal, these objects would preferably be *living* -- in the same sense that thinking animals are *living*.

Fortunately, here again, the digital interface is useful. This digital interface, conceived as a communications channel between player and code, regulates the pace at which information is exchanged between these two, and is capable of setting that pace as too slow, too fast, or at a pace that thinking animals experience as "real-time." Can this channel also affect the *content* of that information? Can this channel, for instance, import *living-ness* to that content? Can this channel convey information that I am, as a thinking animal, in some space that I am not?

There are two ways this might occur.

One of these ways is very direct and doesn't really depend on the interface at all. For instance, perhaps there is some sort of special space, constructed in a special sort of way, so that my *living* is naturally drawn into that space. Perhaps this space gains some portion of my personal identity as a consequence of how closely it resembles or "fits" me. Or perhaps it does so through some sort of magic, like, say, a voodoo doll. The digital interface between me and my voodoo-avatar could then be content-neutral in connecting me to my voodoo-avatar. And when I say "I am my voodoo-avatar," what I might really mean is "My voodoo-avatar is me."

Indeed, to some -- technological determinists, perhaps -- creating a virtual environment with digital technology has the potential to do something like this: *re-create* natural space. In that re-creation, technology would then have the same consequence as nature: I. e., technology would shape the personal identity of a *living* organism within a (virtually) *natural* environment.

Or, somewhat similarly, to others -- social constructivists, perhaps -- creating a virtual environment of this sort might provide new objects and properties that we thinking animals could use, as social actors, to re-create ourselves, in contravention of any earlier or more "natural" biological forms.

McLuhan's version of technological determinism is an example of the former possibility. Haraway's (1991) "cyborg manifesto" -- in which we forsake the problematic bipolarities of sex and gender for a more egalitarian cyborg-ness -- is an example of the latter.

Neither of these is very satisfying to the biological naturalist, however. The former assumes rather sudden technological changes in our environment somehow void myriad and subtle adaptations of our bodies and minds, adaptations that we have incurred during long millennia of our natural history. The latter assumes that these adaptations are already (and have always been) subservient to a collective will.

Neither would seem to give nature its due.

So, barring the existence of either the magic of voodoo or the power of collective will, this direct means of conveying information that I am in some place that I am not appears problematic.

The other way this might occur is if the digital interface is not content-neutral. Perhaps, even if there is really no such thing as a voodoo-avatar, a digital interface might selectively filter

information in just such a way that it seems that there is. But can deception of this sort truly result in me "sharing" my personal identity? According to the earlier argument, the neuromechanical function of the digital interface must operate in parallel with the neurobiological function of the human interface. Is the human interface ever deceptive in this sort of way?

At this point, rather than speculate on the degree to which technology might create that space we associate with personal identity, we are motivated to speculate on the degree to which we ourselves, as thinking animals, create that space. An example of such a creation -- an example of a deceptive human interface, perhaps -- occurs when some part of our animal form is lost and missing and yet remains in our real-time experience as a 'phantom' body part.

The phenomenon of phantom limb experiences is quite common. A significant portion of amputees report such experiences (Sherman, Sherman, & Parker, 1984). But is this phantom limb part of the personal identity of those who experience it? Is it, like I am, *living*?

Since I am committed to an animalist version of personal identity, and since I have conceived the human animal as a sort of communications channel between that animal's mental state and its natural environment, I am inclined to say yes, this phantom limb is a part of the personal identity of whatever animal experiences it. No doubt, the phantom limb is not really there; and, in that absence, the phantom limb represents a flaw in the communications channel. But the communications channel continues to function nevertheless, both to retain the phantom limb and, simultaneously, to sustain personal identity.

Out-of-body experiences, though rarer than phantom-limb experiences, are of similar interest. For, during these experiences, there again seems to be a very strong (even if deceptive) sense of self (Bünning & Blanke, 2005). And, while the exact origin of out-of-body experiences remains cloudy, there is ample evidence that these experiences result from neurological irregularities. Subsequent neurological research has then focused on something called "minimal phenomenal selfhood" or *MPS*.

Recent years have seen a flood of research into self-consciousness, and a renewed interest in its bodily foundations. In philosophy of mind, there is widespread agreement that the core of the problem consists of understanding the pre-reflective bodily foundations of phenomenal selfhood (defined here as all those levels which are independent of explicit cognition and linguistic abilities, and which give rise to the subjective experience of being a self), but which can function as enabling conditions for a conceptually mediated, cognitive first-person perspective and high-level social cognition. Prominent candidates are associated with notions such as 'agency' and 'embodiment'... Here, we argue that from a strategic point of view, future research should focus on what we call 'minimal phenomenal selfhood' (*MPS*), which is related to the concept of embodiment and the *simplest* form of self-consciousness.

(Blanke & Metzinger, 2009, p. 7)

This concept of *MPS* is useful to our cause. I offer it – or something very much like it --

as a candidate for the sort of "portion" of personal identity that might be most reasonably shared with some *other* space -- including, perhaps, the space occupied by a digital object.

In sum, the argument is this: The self-consciousness at the root of our sense of personal identity results from a thinking animal's ability to model itself: a dynamic property of its biophysics.² That is, as regards our earlier examples, it is not enough to drive a race car or to cast a fishing pole; in order for such objects to share my personal identity, the space of these objects must be intentional in the same sense that my body's own space is intentional: I. e., that space must be determined, in real-time, by the neurological properties of its creation. The mechanism by which this occurs originates in the neurological history of the human species, yes, but that neurobiological function can be interrupted, intercepted, and misapplied, resulting in the experience, for instance, of phantom limbs. Likewise, based on existing research, this function can be evoked more generally by exposing humans to "conflicting multisensory bodily cues by means of mirrors, video technology, or simple virtual reality devices" (Blanke & Metzinger, 2009, p. 11).

This certainly seems to provide a deceptive function of the sort we are looking for -- particularly when biomechanically constructed mental models of our bodies are not confined to the original physical dimensions of those bodies. And, indeed, phantom limbs sometimes seem shorter than their originals, or, upon occasion, as other oddities: e. g., a hand attached to a shoulder or a foot attached to a thigh. Similarly, a "supernumerary hand illusion" created by Guterstam, Petkova, & Ehrsson (2011) has resulted in subjects having the "touch and ownership of two right arms."

Most significantly, this *MPS* notion -- or something like it -- helps us conceive personal identity as not all of one piece. Our personal identity seems rather a coordinated effort among various properties of our thinking-animal form -- and this allows us to conceive how personal identity might indeed be partitioned and, subsequently, shared. These pieces of personal identity might be rudimentary or advanced. These pieces of personal identity might be healthy or diseased; they might be coordinated well or coordinated poorly. Or, in some cases, these pieces of personal identity might be disconnected and isolated. Some of these pieces in isolation might then seem much like the personal identity with which we are familiar, and some might seem much less so. Each, however, would be some part of our personal identity *in toto*.

Wholly aside from being based on gathered empirical evidence, this argument is attractive in several respects.

A divisible personal identity addresses questionable assumptions of naive (and sometimes not so naive) media theories. A naïve technological determinism too easily equates technology with nature, assuming virtual environments have causal properties equivalent to those of natural environments and that virtual environments also function, in some important ways, ahistorically. This argument assumes neither. A naïve social constructivism too easily equates technology with psychology, over-prioritizing the mental states of living organisms in the assumption that these mental states might exist and operate independently of their biological origin and status. This argument does not assume this.

2 Cf. Metzinger's (2003) "phenomenal model."

A neurological personal identity is compatible with intuitive claims of personal identity during digital game play. I am more likely to say "I am my avatar" when my avatar acts and moves like me, through something like the same space I act and move through. And, correspondingly, I am less likely to say "I am my avatar" when my "avatar" is a winning map configuration in *Sid Meier's Civilization* (1991) or a red dot inside Flatland. At the same time, however, when my avatar acts and moves like me, this is no guarantee that I am moved to claim "I am my avatar." In fact, the habitualization³ of rather arbitrary digital game controls -- e. g., WASD keyboard patterns -- often leads to even more heart-felt claims of "I am my avatar" than does a superficial resemblance of that avatar to human form. This appears entirely consistent with this argument's claim that the critical component of "I am my avatar" lies in a habitualized *interface* between player and avatar rather than in iconic characteristics of either avatar-space or avatar-time.

A tractable personal identity seems (quite elegantly) compatible with existing theories of aesthetics -- particularly neuroaesthetics. This argument leads me interpret the claim of "I am my avatar" as more fundamentally grounded in a falsified version of reality (an *illusion*) rather than in an increasingly perfect simulation of body, space, and nature. Indeed, there are similar assumptions in existing branches of media aesthetics -- e. g., cognitive film theory -- that posit human aesthetic response results from an unavoidably human interpretation (and, ultimately, misinterpretation) of art: i. e., interpreting the unnatural as natural. The "uncanny valley" of human representations is precisely an example of this capacity of certain representational forms, falsified in a particular and consistent way, to evoke a sense of dissonance, a shattering of our biologically determined expectations. In an analogous way, Blanke & Metzinger (2009) and their colleagues seem able to achieve another sort of illusion -- either a dissonant or an aesthetically pleasing and seemingly realistic *personal* identity -- by manipulating "mirrors, video technology, or simple virtual reality devices" much like an artist manipulates her canvas.

Part Five: The *living*.

I conclude that avatars -- digital objects -- can share my personal identity to the extent that my personal identity exists as an integrated collection of various thinking-animal, neurobiological parts and to the extent that these parts can be isolated and, therein, "fooled." This is, essentially, what I mean when I say "I am my avatar": I am fooled into thinking it is so.

This requires that a digital interface be in some way capable of interrupting, intercepting, or otherwise filtering the information that flows between player and digital game, similar to how the human animal as interface is capable of interrupting, intercepting, or otherwise filtering the information that flows between its mental state and natural environment. And, stated in this way, it is not immediately apparent that this conclusion is separate from that of the skeptic. Am I, in advancing this claim, supporting an indirect realism in which thinking-animal perceptions are indistinguishable from those of brains in vats? Is there a meaningful difference between perception and illusion?

No -- and yes.

³ The meaning of the term "habitualization" is here derived from early formalist aesthetics (see Erlich, 1981), where it indicates the divorce of a signifier from its experiential signified.

There is no difference in that components of my personal identity may be, in frames of reference other than my own, false or misleading. That is, my personal identity may be (at least partially) located in some object – a digital game avatar, perhaps -- that at other times and by all accounts (excluding my own), does not possess it. So no, there is no difference in perception and illusion in the sense that I can be "fooled" and that my personal identity may be, at times and in part, illusory without my awareness of it being so.

But ultimately yes, there must be a difference between perception and illusion, in that this particular sort of illusion -- an illusion regarding my personal identity -- can only take place if, in fact, it is already embedded within and integral to the specific natural history that constitutes my personal identity. Not all illusions will meet this requirement; some of those that do not, for instance, will be better classified as hallucinations. (And hallucinations are then comfortably distinguished from illusions in being disassociated from the biomechanics of perception.)

Obviously, if there is a meaningful difference between illusion and perception, it should be possible to distinguish them -- and this distinction should be found in the continuity of personal identity.

If, in accordance with our natural history, we did not link personal identity to a particular space (our own), and if we did not link personal identity to a particular time (i. e., a "real-time-ness" that endures -- or perdues, take your pick -- from one moment of real-time-ness to the next), then there might be further difficulty in distinguishing illusion from perception. For, admittedly, at any isolated moment, or in any isolated space, we can be fooled; it is during just such isolated spaces and times that illusion and perception are indistinguishable. But, over time, and through space, there are distinctions..

For instance, phantom limbs, as I have conceived them, are illusions. They are illusions that masquerade as perceptions and, for some portion of that masquerade, succeed. But, by the very nature of that success, their illusory nature is revealed. For, as illusions, these phantom limbs are both constituted by and in conflict with those neurobiological mechanisms that award them their false status as perceptions -- the very same neurobiological mechanisms (there are no others) that constitute my thinking-animal identity. Therefore, I must possess, as a peculiar consequence of my thinking-animal form, the capacity to be fooled in a particular way, in accordance with those particular biomechanics that constitute my personal identity. And this capacity to be fooled is then as much a part of my "personhood" as is any other stemming from these particular biomechanics.

Yet, because illusion is, in this scheme, in tension with perception, then eventually, through a process of something like (broadly conceived) apperception, illusion and perception are revealed as different components of "me."

Phantom limbs, for instance, while fairly common, do not as commonly persist. Nor do they fade in the same manner as memories fade or muscles atrophy. They rather tend to fade more as memories and muscles grow: through their consistent reflection and "use." Similarly, out-of-body experiences are a quite radical illusion in that these experiences are in dramatic conflict with conventional experience; appropriately then, these out-of-body experiences, as illu-

sions, are temporary and fleeting (or else may be called forth and sustained only with complex and sophisticated machinery).

Even as regards much simpler and less dramatic illusions -- the illusion of motion within the digital game DOOM (1993), for instance -- there are often cracks and inconsistencies that betray their origins. I am reminded of a fairly common human reaction to the incessant head-bobbing of first-person shooters: nausea. This sort of basic and instinctive reaction can be understood as something like an increase in white blood cells when confronted by an alien virus -- and much like similar nausea caused by motion sicknesses associated with cars and trains, themselves relatively recent technological impositions on our thinking animal's natural sense of propriety and equilibrium.

By this account, personal identity is at least partially self-governing and returns, if possible, to a natural state in which perception trumps illusion. Perhaps we can force this state into circumstances and conditions from which it cannot easily recover, but I am then pessimistic about the consequences of doing so. For, even if nature's illusions should suffer from natural fatigue, there is the possibility that more artificially constructed illusions will not. Given the proper sort of complex and sophisticated machinery, proprioceptive illusions, even quite radical ones, might be sustained for some indefinite period of time -- a circumstance I have called earlier "active reinforcement of false belief" (Myers, 2010, p. 160). Laboring under such false belief, we may ourselves become avatars of a sort, puppet-like slaves to whoever -- Maxwell's demon or some other -- interrupts, intercepts, or otherwise filters our communications with the natural world.

Indeed, if "I am my avatar" is to be made coherent by this account, then this implies that there must be some potential for "I am an avatar" to be made coherent as well -- wherein, for some particular moment or within some specific space, it will be uncertain whether my avatar-ness is illusion or perception.

The only recourse I might have under such circumstances would be my natural history and the embedded momentum of that history within my thinking-animal form. Will this suffice to save me, eventually, from deception?

I cannot say.

I only offer this account of analogous functions of digital and human interfaces as a means of mediating psychological and bodily versions of personal identity and, along the way, offer a coherent and plausible account (though perhaps not the only one) of what I mean when I say "I am my avatar." Prior to my avatar being a coherent and credible part of my personal identity, the digital interface that connects me to that avatar must operate in parallel with the animal interface that connects me to the natural world. This puts a slightly different spin on the problem of personal identity being replaced or substituted or shared. In this context, we are more concerned with personal identity being, like animals are, *living*.

Animalism has already blazed this particular path, though without providing a wholly satisfactory account of either animal identity or mind-body relationships, both of which appear nec-

essary. In support of his animalist version of personal identity, Olson (2008) seems to have admitted as much...

A surprising number of readers of *The Human Animal* have been happy to accept what I took to be the important claims -- that we are animals and that our identity has nothing to do with psychology -- but have objected to my positive account of animal identity. I'm not going to lose any sleep over this. If someone has a better account of animal identity than mine, I'll see that as a friendly amendment...

(Olson, 2008, p. 38)

I offer biological naturalism.

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