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Collaging the Posthuman into the Postnatural

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Abstract

Collage – that somewhat old-fashioned sounding word, revolutionary in the arts in the early 20th century – remains a powerful and omnipresent creative and interpretive strategy throughout all media, and much philosophy, over one-hundred years later. The value of collage theory to a wide range of topics is derived by recognizing literal or figurative gaps and seams between components, and the conceptual contested space between them. Such ideas are useful when considering characteristics of the posthuman and the postnatural. By tracing collage, the posthuman, and postnatural through several topics in the arts and sciences, unexpected commonalities can be found. The (post) human body threads through these topics: a body of irreversible chimerality, interpenetrating and entangling larger physical, psychological, and cultural environments. At that point the line between the posthuman and postnatural becomes murky at best. That ambiguity raises questions of ethics. The perspective found within one particular ethical response is surprisingly resonant with collage.

Keywords: *Collage; CRISPR; Environmentalism; Human microbiome; Max Ernst; Relational ethics; Videodrome*

Collage—that somewhat old-fashioned sounding word, revolutionary in the arts in the early 20th century—remains a powerful and omnipresent creative and interpretive strategy throughout all media, and much of philosophy, over one-hundred years later. There are many other closely related words including, but not limited to, *remix*, *cut-up*, *assemblage* and *montage*. What these terms share is more important than their differences. In spite of media specificity and nuances of meaning, I will use the word *collage* as the umbrella term. For some years now I have been detailing a collage theory that emphasizes how meaning is derived from recognizing literal or figurative *gaps* and *seams* between components. Together they create conceptual *contested spaces* within the artwork (see Summers, 2016, for more information). The gap can be considered an ontological discontinuity between the components found within a collage. Gaps describe the conceptual distance between compositional fragments. These fragments can be images, texts, sounds, or really any media at all, that are juxtaposed in space and/or time. Seams direct the spectator's attention to the proximate organization of collaged elements and the apparent unity or disunity of the overall composition. Seams are those edges or points at which the collaged elements meet, join, or are spliced. Contested spaces result from the spectator determining meaning not solely from the content of the components, but from the characteristics of the gaps and seams between them. Both gaps and seams can be more *or* less emphasized, and in varying combinations of emphasis. The examples given in this article attend to collages where the gaps between components are large, but the seams are negligible. In spite of the relative lack of seams, the conceptual spaces created lead to fruitful

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and possibly novel perspectives on both natural and creative subjects. This approach can easily and fruitfully be extended to theories of the *posthuman* and *postnatural*.

In fact, as I contend here, the posthuman and postnatural are fundamentally collages. Definitions of the posthuman and postnatural remain diverse, but I am specifically interested in how most of them explicitly or implicitly describe human beings and natural environments as assembled from seemingly disparate parts. Briefly and selectively, the concept of the posthuman is commonly identified with that of the cyborg, as articulated so influentially by Donna Haraway. She describes human bodies as complicated by their associated artificial components. In addition, as articulated by Katherine Hayles, new information technologies similarly extend and complicate the human body. Taken together, the human being is then understood as a hybrid ontological unity that includes both its biological and technological elements. The posthuman also draws attention to the extension of human bodies into complex networks that are defined by, and dependent on, not only technologies but other living beings. The postnatural is often taken to describe natural environments that are now complicated in various ways by the effects of human activity: their culture and technology. These complications describe nature too as a hybrid ontological unity. An understanding of these two systems of entanglement is aided by looking at a range of examples through the lens of collage theory.

Several topics from the arts and sciences can be discussed in order to yield more generalized conclusions regarding collage, the posthuman, and the postnatural. The latter two ideas express the difficulty of identifying distinctions between human beings, natural worlds, and technology, which have been well explored in the arts dating back over a hundred years. The following five seemingly disparate topics expose this entanglement in different ways. A short review of the human microbiome becomes surprisingly relevant to the 1983 movie *Videodrome*, directed by David Cronenberg. Considered next is the artwork by the surrealist Max Ernst, which, in turn, resonates with the following topic, that of recent advances in synthetic biology. Taken together, these subjects create a palimpsest (also a kind of collage) through which we can read our relationship to global ecological systems. Ideas about the (post) human body thread through these topics: a body of irreversible chimerality interpenetrating larger physical, psychological and cultural environments. At that point, the line between the posthuman and the postnatural becomes murky at best. That ambiguity raises questions of ethics. The perspective found within one particular ethical response is surprisingly resonant with collage.

The microbiome

The ecology of microbial creatures cohabitating and evolving with human beings is called the *human microbiome* (as compared to other plants and animals that similarly contain their own microbiota). It has only been within the past few decades that scientists have discovered vastly more microbes present in the human body than was previously suspected. Microbial creatures are found teeming on our skin, on our many mucosal surfaces, and especially throughout our digestive system. Historically, these microbes were considered to be either incidental or antagonistic to human life. However, we currently understand that they are required for biological survival. In addition, the social behavior of animals can be influenced by these organisms. It is not coincidental that the word *assemblage* is used with regularity in the literature to describe host-microbiotic systems. If we could see into this microscopic world, it would be a vast, ever-changing collage linking us not only to other humans, but to other plants and

animals. The behavior of such assemblages raises questions of identity, agency, and ontological permeability that have implications for the collaged posthuman entity.

It is astonishing for most people to appreciate that more than half of our body consists of cells not typically acknowledged to be "us". Instead of the traditional understanding of human beings that *contain* microbes, we must be recognized as a single entity consisting of multiple components. "We are genetic and physiological chimeras" (Sapp, 2016, 596). Chimeras are of course collages, and Hutter et al. (2015) ask: "Is the organism currently recognized as a human being the real individual?" (2). This human entity is seamless, yet the gaps between its various constituent organisms are enormous. Scientists will continue to speculate about the contested spaces between our multiple selves for years to come. In addition to questions raised about our posthuman identity, the microbiota raises questions about our agency.

We have evolved with these microbes, and evolutionary pressures have acted on the entirety of the human microbiome (Sapp, 2016, 596). Microbes respond to these pressures, in part by manipulating the behavior of their human hosts. They and we have evolved together, and depend on one another (Rees et al., 2018, 4). These creatures are indispensable for almost every functioning system within our body, including our digestive system, our immune system, and our cognitive system (Bordenstein & Theis, 2015; Dinan et al., 2015; Gilbert et al., 2012; Hutter et al., 2015). The systemic relationship between the digestive and cognitive systems is called the *human brain-gut-microbiome axis*. Cognitive stress can be managed or mismanaged by the gut microbiome (Dinan et al., 2015). The gut and the brain communicate in intricate ways, at least in part via microbiota. These "microbes may directly 'hack' the host nervous system to increase microbial transmission—essentially manipulating host behavior to benefit their own fitness" (Archie & Tung, 2015, 28). This hack and this axis are compellingly relevant to the story of *Videodrome*. In that movie, the main character finds himself controlled by a bio-technological entity.

Also relevant to *Videodrome*, and to the posthuman, is the recognition that the individual consists of numerous entities extending beyond the physical limit of our traditionally understood bodily barriers into the larger environment without obvious demarcation. Our personal microbes are entangled with those of other entities in complex and mutable networks (Adair & Douglas, 2017, 27). Our microbes are shed into the environment, and we absorb external microbes (Ursell et al., 2012, S40). As I have described elsewhere (2016), a collage always radiates outward to incorporate the spectator and their physical surroundings into an ever-expanding collaged assembly. As we walk through the world, we are painting it with unique microbial patterns that are superimposed on different patterns left by other beings. The seams between ourselves and other entities are dissolved. All life is actively entangled.

Videodrome

The main character of the movie *Videodrome*, Max Renn, is similarly entangled with his environment. In his case, Renn functions within a media-saturated environment that consists of television transmissions. The film is structured as a genre mashup of science fiction, horror, and film noir, reminiscent of the work of William S. Burroughs—an admitted influence on the director, David Cronenberg. The film raises issues of politics, religion, and sexual transgression. It portrays a malleable reality, the rejection of binary oppositions, and mass media's role in the spectacle of society. Another of Cronenberg's acknowledged influences is media theorist Marshall McLuhan, who is manifested as one of the film's characters. Collage

permeates *Videodrome*; it is present in its formal methods of montage, its imagery, and its content. As well as the technological elements, the film anticipates concepts of biotic collage—identity, agency, evolution, and permeability.

Briefly, *Videodrome* tells the story of Max Renn, the stressed manager of a small, struggling, local Toronto cable TV station. While looking for "edgier" content, Max becomes "infected" by the videodrome signal from a pirated production called *Videodrome*. One group within the movie believes this transmission can produce an evolutionary advance for humanity. That element is represented by Professor Brian O'Blivion—the McLuhanesque character who invented the videodrome signal. The other side wants to use videodrome in order to control humanity's baser instincts. Max's identity becomes fluid; he is literally programmed and reprogrammed—both in the sense of a computer routine and that of a television show—by each side against the other via different semi-organic techniques, including videotapes that might be living entities. Many images from the film suggest that humans are constituted of bio-mediated material and immaterial assemblages. The film concludes ambiguously, with Max either killing himself or possibly evolving into the "new flesh" of a bio-technological chimera.

Videodrome imagines a fused bio-technological environment consistent with the posthuman cyborg and the postnatural. Max's identity is challenged by sexual confusion and the subsequent weird and novel capabilities of his body. Max's hand is part firearm, his brain part television. In an assertion meant to be taken literally, O'Blivion points out more than once: "The television screen is the retina of the mind's eye. Therefore, the television screen is part of the physical structure of the brain." Max's cyborg identity and agency are variable, depending on his "programming", but also on the ontological status of hallucinatory cinematic sequences. The movie's construction intentionally obscures whether or not Max's videodrome-addled brain is changing reality.

Hallucination and reality are blended in the bio-mediated material assemblage of Max Renn, whose behavior is, in part, controlled by bio-technical entities within his *brain-gut* axis. We can see the parallels to the microbiome collage of the human entity. In addition to the gun, the videotapes ("flesh cassettes") inserted into his gut are biological entities—scenes show them fleshy and pulsating with life—that control his behavior. Although not microbes, these devices, as well as the electromagnetic videodrome infection, likewise manipulate the host. Max, under increasing stress, has been hacked. The connection between the body and the videodrome signal is made explicit by a comment from one of the characters that, "It opens up receptors in the brain and the spine…and that allows the Videodrome signal to sink in".

Incorporated videodrome signals lead to the evolution of new chimeric bio-technological beings. The status of O'Blivion, and Max, as participatants in an evolutionary process, is made explicit when O'Blivion's daughter tells Max that her father "helped to create Videodrome. He saw it as part of the evolution of man as a technological animal". As philosopher Douglas Kellner (1989) puts it, "The (post)modern body is invaded and remade, or unmade, not only by parasites of dead power, but by viral, carcinogenic, and telematic parasites which are posing new challenges to bodily survival and human evolution" (95). Viral evolutionary processes are not a fanciful invention of Cronenberg. In the pre-historic past, viral DNA became integrated into the genome of many mammals (Sapp, 2016, 599). The posthuman O'Blivion has evolved into an ontological presence crossing over into elements such as video cassettes and video

signals themselves. Although "dead", he endures as an organic, inorganic and electromagnetic posthuman collage.

This permeability of essence appears in numerous ways throughout the film. The videodrome signal suggests that the new flesh can be seen as a fusion of the organic with a free-floating electromagnetic field. These and other objects and events emphasize that there may be new kinds of living creatures that are an amalgam of organic and technological material. In the most striking image from the movie, a vertical slit (or seam) in Max's torso splits open into which videotapes, and a gun, are inserted at different moments. The gun is later removed by Max, at which point it fuses into his hand as an organic "flesh gun", turning him into a bio-technological chimera. Max's flesh gun initially extends cables into his hand and wrist, becoming a prosthetic which looks more fleshy and phallic, and less metallic, as the movie progresses. One memorable scene occurs when Max's television console turns fleshy and begins to bulge, breathe, and moan, suggesting a fusion of his lover's electromagnetic video presence with that of a new species of biological furniture. The gaps between biological and technological entities are emphasized, and it is into these contested spaces that many of the themes of the movie—notably those of sexual anxiety and the pernicious impact of mass media—are raised. These biomechanical assemblages recall the artwork of Max Ernst.

Max Ernst

Describing *Videodrome,* cultural critic Steven Shaviro (1993) writes: "New arrangements of the flesh break down traditional binary oppositions between mind and matter, image and object, self and other, inside and outside, male and female, nature and culture, human and inhuman, organic and mechanical" (115). This quote can as well be applied to the collages of German artist, Max Ernst. In addition to themes (well explored by other commentators) such as alchemy, war trauma, and sexual and religious conflict, Ernst regularly created art that emphasized his interest in biology, technology, and the natural environment. They were seamless pictures with almost unbridgeable conceptual gaps between visual elements that exposed content that remains contested today. Attention to this imagery will shift our examination of the posthuman technobody in a mediated environment to one represented in a natural one. Ernst frequently portrayed an almost endless assortment of chimeric beings and, even specifically, microbes. Given his interest in biology, he plausibly would have been aware of research in Germany from the late 19th century regarding lichens. In 1867 "lichens were shown to be 'dual organisms', composites of fungi and algae", and algae was found to be living inside the cells of animals such as corals and sponges (Sapp, 2016, 597).

In the 1930s, Ernst's paintings began to include imagery that resembled lichens, referred to as his jungle paintings. They read as lush natural environments teeming with microscopic life. His painting technique created fractal like patterns into which he would seamlessly add additional painted disparate elements such as strange insects and other animals. This is seen in one of his most well-known paintings, *Europe After the Rain II, 1940-42*, where the painting "appears damp, murky, and vegetal, as if a covering of moss and lichens had accumulated on rain-soaked wood" (Kavky, 2010, 214). That painting, and other similar ones, could be considered as pictures that illustrate postnatural environments consisting of genetically modified organisms that are plant and animal chimeras. Surprising collage-like juxtapositions—such as plants that appear to be seamlessly fused with birds, lizards, bulls, and humans—appear somehow natural. At first the imagery appears to show a unified, fecund

natural environment, but closer inspection reveals disturbing unexplained gaps. Just what is that bird-headed, humanoid chimera doing in the lush jungle of the painting *Nature at Dawn* (1938)? Its arms appear to be fused into the plants that surround it. The contested space might include shamanic magic and/or the positive life-force of the jungle. But this is contrasted by the creature's slightly menacing looking, beaky-nosed head, and what might be a plant-snake wrapped around its waist, suggesting darker possibilities. Such imagery can, amongst other things, be seen as portraying a synthetic form of biology.

Synthetic Biology

More specifically, synthetic biology can be said to refer to the human use of technology in order to genetically redesign organisms, or to engineer entirely new life forms. This is certainly a significant aspect of the postnatural. The results of synthetic biology are always chimeric. One well-known example of synthetic biology is the recent development of CRISPR/Cas (Clustered Regularly Interspaced Short Palindromic Repeats/CRISPR-associated protein) technology. CRISPR systems are often referred to as "molecular scissors". And expressions like "cut and paste" are regularly used, both in technical and lay literature, in order to describe the CRISPR process. Cuts are made to the host DNA, and exotic viral fragments or synthetically derived DNA sections are pasted within. CRISPR systems are explicitly systems of collage. The result is seamless, and yet the gaps between, for example, a virus and bacteria are enormous. Viruses generally aren't even considered to be living creatures. CRISPR describes *both* a commonly used immune defense system employed by numerous microbial organisms, *and* the human-created technology that modifies genes by repurposing that system.

A naturally occurring CRISPR system is widely present in bacterial and archaeal microbes, which is used to record a copy of a DNA fragment from an attacking virus (also known as *phage* or *bacteriophage*) into its own DNA. These DNA fragments are replicated and laid down in a chronological sequence, thus assembling an ordered archive of viral assaults. The bacteria can subsequently access that record and create a molecule that will cut and destroy the DNA from a repeat viral attack. The microbe now contains a collage consisting of its own DNA along with copies of DNA arising from alien viral systems. Sometimes beneficial chimera can be created: "Phages don't always wreak havoc; they can slip their genomes quietly into the bacterial chromosome and coexist benignly, getting copied along with the host DNA. Phages…can confer new, useful traits – sometimes even essential ones. Indeed, such movement of DNA across species and strains is at the heart of how bacteria… evolve" (Mestel, 2017, 25).[2]

CRISPR as a *human technology,* and game-changer in synthetic biology, matured around 2012, creating biochemical tools that can sever chromosomes at specific locations defined by specific sequences of the DNA's constituent nucleic acids. Scientists can alter the Cas sequence in order to make cuts where they specify. With this capacity they can paste in a new synthetically created DNA molecule at the cut. Referred to as genome editing, this would allow for gene deactivation or repair, but also for the creation of novel genes.[3] In addition to therapeutic applications, this technology can potentially allow scientists to destroy entire species or bring back extinct ones (Charo & Greely, 2015). Such deliberate species

[2] Pieces of viruses that are retained were originally thought to be "junk" DNA. Junk is a word that has frequently been used by critics to describe collage and assemblage and/or their components.

[3] It is important to remember that scientists have been able to modify genes for some decades prior to CRISPR. Those methods were both less efficient and more difficult. GMO foods such as the fish gene/tomato are one well known collaged example.

manipulations illustrate the human predilection for *sculpting* the natural environment, creatively crafting an assemblage according to aesthetics and desire.

The (post)human body in (post)nature

CRISPR assemblage technologies raise important considerations of ethics and control. Unlike human microbiome networks that largely arise and function beyond our control, "CRISPR is being used in ways that affect not only organisms but ecosystems themselves. …'gene networks connect genes as complex as the "webs" that connect the species in an ecosystem"' (O'Keefe et al., 2015, 8). CRISPR is only the most recent example of a long history of human interaction with biological systems. Ecosystems, too, are mutable and permeable collages, and ones with notably ill-defined frames. Between the extended posthuman body and the postnatural environment in which it is embedded lies a contested space that can best be comprehended via collage theory.

Before looking at the aesthetic status of natural environments, I need to clarify some terminology. The terms "nature" and "natural environment" are fraught with epistemological and ontological conflict. For example, how can demarcations be constructed between humans (microbiotic or otherwise) and non-human environments? Even that question is problematic: Does a non-human environment even still exist? Unfortunately, language does not easily provide for essential nuance, and these questions have been in dispute for decades. "Nature" and "natural environment" here will initially be taken to refer to ecological systems where webs of living creatures exist without *obvious* human interference. Another set of troubling adjectives used to describe species are *invasive, alien, introduced, exotic*, or *non-native*. Each of these complicate the meaning that might be applied to a specific organism present in the "wrong" location. A non-biased word would avoid refereeing ongoing debates over determining the relative value of a species within a local environment – for example: is it a "weed" or is it "naturalized exotic"? The reader is advised to keep this in mind as flawed or ambiguous terms are used by necessity. Species have always migrated from one location to another, and nature, as the philosophical construct that it certainly is, now must exist in the presence of human beings that affect it profoundly.

Nature has always been in a flux independent of human presence, and at the same time human beings have contributed significantly to that flux as their technological capabilities have advanced. To be clear, I am not suggesting that human beings are fundamentally distinct from "nature," nor that other non-human animals don't also manipulate their environments to their advantage. Merely that natural environments have long been altered by human beings owing to utilitarian desire, chance, and aesthetics. We have created the collaged environments that we now occupy (Kareiva et al., 2011; Kueffer & Kaiser-Bunbury, 2014).

Within the collaged natural/human environments that exist now over most of the planet, ecologists use the phrase "novel ecosystems" to refer to ecosystems with introduced or invasive species. I like this phrase because of the way it suggests not just newness but also creativity. Some use the equally evocative expression "cultural landscape" to describe environments manifestly altered by human beings. This phrase conflates the human with the non-human in useful ways. It points to cultural landscapes as collage. To most spectators without environmental expertise, it is a seamless collage, and generally the gaps too are invisible. Natural environments are hidden collages in plain sight. As we expose some of its gaps and seams, we will gain new insights into the world in which we live. Regardless of

whether or not introduced or invasive species can be judged a net negative or net positive, many people are unaware of how many useful species can be considered as introduced.

The apple tree which many might think is native to North America ("American as apple pie"), is not, and neither is the omnipresent dandelion. More examples include the state bird of South Dakota, which is the non-native ring-necked pheasant. Although most (if not all) will argue that kudzu in the southern U.S. is an invasive and destructive plant, many non-experts are likely to think that Kentucky bluegrass is native. The state flower of Alabama is the *Camellia japonic*a, which, as its name implies is non-native – as are the state flowers of 9 nine other states and the District of Columbia. In Pennsylvania the Penngift crown vetch is recognized as the state "beautification and conservation plant", and also ironically considered to be "invasive." Most people are also unaware of the introduced status of the honeybee, even though it is technically known as the European honeybee. And it is also the state insect of eighteen U.S. states. In Tennessee it is referred to as the "state agricultural insect," which gets to the heart of a key issue regarding non-native species – their use value to human beings. In the song "America the Beautiful" there is the line: "amber waves of grain" which refers to the American wheatfields—*wheat* being another exotic species. At this point, it should be evident that a considerable amount of the biology of North America has been collaged together with introduced species, many of these were introduced out of aesthetics or desire. Still, there are few conservation ecologists who would consider returning the North American ecosystem to a condition lacking honeybees or apple trees. In fact, recovery ecology suffers from its insistence on determining an arbitrarily defined historical point to which to return the natural environment. These points are often aesthetically determined, or based on cultural and historical values (Barilla, 2013; Trudgill, 2008).

That arbitrary point assumes an imaginary *pristine* environment. In North America, interventions by Native Americans (well before the intrusions just listed) had earlier created collaged environments that went unrecognized by the colonizing Europeans. In 1967, the seminal environmental historian Roderick Nash (1967) wrote: "Wilderness is a matter of perception—part of the geography of the mind" (333). This is consistent with my assertion that collage is a matter of perspective and interpretation, not of media or construction techniques. In his indispensable book *Wilderness and the American Mind,* Nash asks what defines wilderness, and how has that definition been modified over the past few centuries. Wilderness, Nash maintains, especially in North America, is a matter of aesthetics. Aesthetics are a matter of judgment. And judgment leads to intervention.

This intervention is called "managing the environment," and it means determining what we want from it, not what nature wants (were nature to have such desires). As William Cronon (1995) points out, we must "abandon the dualism that sees the tree in the garden as artificial—completely fallen and unnatural—and the tree in the wilderness as natural—completely pristine and wild. Both trees in some ultimate sense are wild; both in a practical sense now depend on our management and care" (88). Some ecologists contend that managing "novel ecosystems will be increasingly nuanced, calling for control of some species and not others, and in some places and not others" (Belnap et al., 2012, 570). Such imaginative manipulation will be challenging as the global climate warms and alters environments in not always predictable ways.

Anywhere on Earth where there have lived human beings—which is just about everywhere—the ecology of the environment has been altered by those human beings. There is *no* pristine

natural wilderness. "Far from being the one place on Earth that stands apart from humanity, it is quite profoundly a human creation—indeed, the creation of very particular human cultures at very particular moments in human history" (Cronon, 1995, 69). The idea of a seamless unprocessed environment needs to be replaced with that of collaged ecosystems: "Wilderness" is a cultural construct no less than the first collage by cubist artist Georges Braque *Fruit Dish and Glass* (1912). Natural landscapes are cultural creations. The difference between a landscape collage, or a human-microbiotic collage, and a written, filmed or painted one, may simply be a function of media.

Relational ethics

To be clear, I am not advocating that ecosystems ought *only* to be recognized as collage—there are certainly useful insights to be gained from holistic perspectives—but that we should always keep in mind that they *are* collaged. I also want to stress that I am not sanguine about the negative effects of non-native species (contra Pearce, 2016; Trudgill, 2008). A world filled with only kudzu, crows, cats, rats, and cockroaches would be undesirable. What, if any, responsibility do posthuman beings have to postnature? Other than aesthetics or self-interest, why should we care about the loss of elephants, dolphins, great apes, and other sentient and feeling animals? Why should we care about so-called "lower" animals? Should we care about plants? When we fully recognize our role as the creators of a global environmental collage, as *artists* we also recognize the intimate and entangled relationship with our artwork. So, what began as an aesthetic question becomes an ethical one.

Fortunately, there is a body of relatively recent scholarship addressing these very issues, and it strongly resonates with the theory of collage. *Relational ethics* draws from much larger and historically prior practices—specifically that of feminism and environmentalism. Feminist scholarship in the 1980s questioned androcentric and Eurocentric values based on freedom, individual autonomy, objectivity, utilitarianism, rights and obligations—in short, the long history of Euro-American philosophy that emphasizes values typically associated with male dominance, and that ignores values typically associated with women. In parallel with feminist analysis, environmentalist philosophers were coming to similar conclusions from their perspective regarding human and nonhuman interactions and responsibilities. Relational ethics intertwines these achievements in a philosophy of care founded on interrelations. Human reality must be seen as embodied with, embedded in, and dependent on, a natural environment containing other entities and their respective realities—lives entirely distinct yet equal in standing. This constellation of ideas has certainly existed throughout history and cultures worldwide, but lost valence as modern Euro-American philosophies became dominant. "Acting ethically," according to Wendy J. Austin (2008), "demands attentiveness and responsiveness to our commitments to one another, to the earth, and to all living things. Ethics is about our interdependency as well as our freedom, our emotions as well as our reason, and our unique situation as well as our human commonalities" (749).

Ethics is about identifying interdependence, as is collage. Collages are networks of components that gain meaning only because they *are* interdependent—otherwise they would simply be random assortments of stuff. Any collaged structure consists of multiple elements engaged in multiple dialectics.

Throughout this article, I have used collage theory in order to look at the ambiguity, permeability, hybridity, and entanglements of the human body in the arts and sciences. Many

of these concepts can be described as hybrid networks. Such ethical networks are relevant to theory-oriented geographers including Sarah Whatmore and Noel Castree. They provide conclusions augmenting Austin's depiction of relational ethics, that closely correlate with collage theory. Echoing both collage and posthuman theory, and paraphrasing Bruno Latour, Whatmore (1997) describes "hybrid networks … as occupying narrow lines of force that allow us to pass with continuity from the local to the global, from the human to the nonhuman, through partial and unstable orderings of numerous practices, instruments, documents, and bodies" (47). It is by recognizing the existence of such networks that we can build ethical communities.

In addition, Castree (2003) draws attention to the fact that these networks depend on questions of ontology. He complicates Whatmore's case somewhat by explaining that "worldly entities—be they people, prions, spiders or what have you—… [do not have] clearly definable properties that can be ontologically fixed" (8). As strange as this may sound, a review of the many historical examples of collage in all media should prepare us for this perspective. *Videodrome* and the art of Ernst are not exceptional in this regard. The ontological status of collaged components is flexible—it changes with context. In the arts this is no longer problematic. As with the components of a collage, the posthuman must be (and generally is) understood as a contingent process depending on shifting relationships. Castree writes:

> I am not suggesting that each and every thing in the world lacks some specific material characteristics that help define what it is. What I am arguing, though, is that the interconnections that help constitute those "things" are complex and variable, such that if the same "thing" is inserted into different relational contexts aspects of its material nature alter correspondingly. (10)

This is precisely the definition of collage: Context and perspective transform content. It is perhaps most vividly described in cinematic montage as the "Kuleshov Effect." Around 1920, Russian filmmaker Lev Kuleshov created short films in which he sequentially juxtaposed a plate of soup, a prison gate, or a child's coffin with the exact same clip of an actor's face (Kuleshov, 1973, 69). Viewers would identify *different* emotions in the actor's "response" based on the unrelated prior images. If the definition of our posthuman self depends on its behavior within, and biological interconnections to, postnatural ecological environments—*and vice-versa*—then collage theory becomes a powerful strategy for identifying appropriate responses and responsibilities.

While collage isn't *ethical* per se, collage interpretive methods support nuanced ethical assessments. Holistic philosophies and art have entirely different social, environmental, historical, conceptual, and political implications. Although collage *can* be co-opted for reactionary purposes, most often it remains a disruptive and generative force. Attention to the breadth of such art in this context can help us to envision future possibilities. Collage is disruptive precisely for the reason that it questions established philosophical orders and posits an intricate, contingent, and entangled existence. It exposes seams, opens gaps, and contests the spaces within and between ourselves, our culture, our politics, the natural world, and the network of variegated entanglements throughout. The often apparently seamless juxtapositions of various natural/cultural landscapes throughout the planet can be as dizzying as those of Ernst's collages. But his work implies that scrutinizing historical details can inform visionary decisions. That said, the current global socio-political condition more closely

resembles the opposing forces within *Videodrome* that are literally contesting the space within Max Renn's torso. And like Max, whether we evolve or die remains uncertain.

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