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Jennifer Parker-Starbuck

"There's no way to learn to fly like a hummingbird unless you fly."
—Regina Dugan¹

As Regina Dugan spoke these words during her 2012 TED conference talk, a small hummingbird drone was released into the air (fig. 1). Although Dugan, the then nineteenth director of the US Defense Advanced Research Projects Agency (DARPA), was delivering an inspirational talk about how "scientists and engineers change the world," it was this tiny robotic hummingbird that captured the audience, garnering a round of applause. Proposing an answer to Dugan's rhetorical question—"What would you attempt to do if you knew you could not fail?"—the hummingbird represents human progress in understanding the mechanics of flight, here seeking to introduce more maneuverable tools (especially for warfare). The nonhuman animal is, of course, no stranger to the process of human progress; animal and insect forms have always served as models, as well as subjects, for sites such as human medical experimentation, aeronautic development, and within combat. Dugan prefaces the above statement by discussing the importance (after speed) of maneuverability in conceptualizing warcraft during her time working at DARPA. She says that

[h]ummingbirds are not hypersonic, but they are maneuverable; in fact, the hummingbird is the only bird that can fly backwards. It can fly up, down, forward, backwards, even upside down, and so if we wanted to fly in this room, or places where humans can't go, we'd need an aircraft small enough and maneuverable enough to do so. This [shows image] is a hummingbird drone. It can fly in all directions, even backwards. It can hover and rotate. This prototype aircraft is equipped with a video camera. It weighs less than one AA battery. [She pauses] It does not eat nectar.² (See fig. 2.)

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¹Regina Dugan, "From Mach-20 Glider to Hummingbird Drone," *TED Talks*, March 2012, available at http://www.ted.com/talks/regina_dugan_from_mach_20_glider_to_humming_bird_drone.html (accessed 10 Feburary 2013). Dugan worked for DARPA from July 2009 until she was hired by Google in March 2012. See the video at 8:47 (emphasis added).

² Ibid., 7:48.

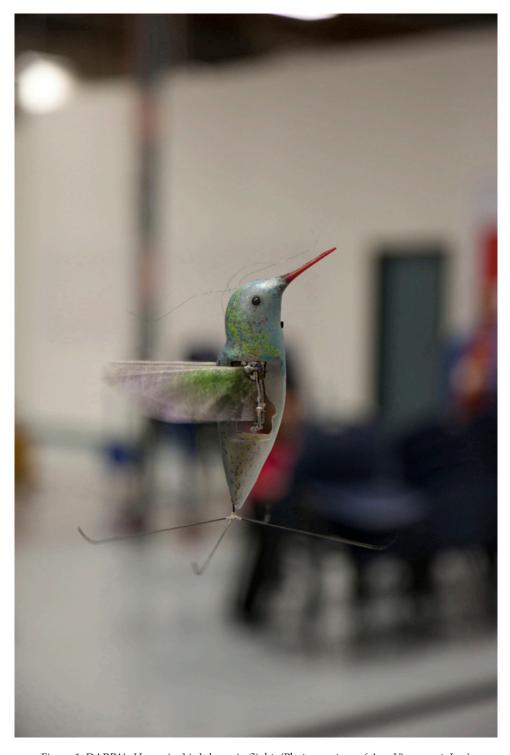


Figure 1. DARPA's Hummingbird drone in flight. (Photo courtesy of AeroVironment, Inc.)



Figure 2. DARPA's Hummingbird drone. (Photo courtesy of AeroVironment, Inc.)

This reliance upon the living hummingbird's mobility represents an ongoing "interspecies" relationship between humans and nonhuman animals—for food, clothing, motion, inspiration—that has shifted over time from dependence to "reproduction," often in favor of a technological replacement. It is, to be clear, more often a human reliance upon animals, a reliance too often viewed as one-sided and long interwoven with technologies, one that frequently views animals *as* simple technologies. The long historic parallel between animals and machines has served to complicate human—animal relations, and yet, despite the increasing ability to mechanically replicate the motions, maneuverability, and speed of animals, we still revert back to the forms of animal bodies in toys, cartoons, aircraft, and weapons.³

My recent research focuses on human–animal–technological engagements in cultural and performance practices, and addresses how performance might occupy a space for illuminating how the technologization of animals—for meat, on video, in factories, in film, in laboratories, and in biosciences—shapes our understanding of and relationship to animality. As actual animals are pushed further from our sights, we accept their mediated stand-ins, forgetting the material conditions and lived lives of the innumerable animal bodies in human service. The animals in this essay—from

³ Although I prefer to use the term *nonhuman animal* to distinguish within the kingdom *Animalia*, for clarity's sake I will henceforward use the shortened term *animal*.

the robotic hummingbird to the multiple horse ontologies of *War Horse*—are entangled in the production of violence: their bodies are reproduced, replaced, rendered, and reappropriated. I propose a shift from a parallel (and anthropocentric) configuration of animal and machine in a side-by-side trajectory to more of a triangulation among human, animal, and machine, a space in which to begin to introduce more collaborative modes of understanding. It is a space of performance, a space in which the animal—its labor, its history, its body—might be reanimated.

Within performance practices, animal encounters through specifically techno-sites like film, animation, bio-art, and so on have been increasingly visible sites of animality, but within these sites the animal, especially when represented by the "real" animal, is frequently conflated with human technological advances. Therefore by unpicking some of these sites, I hope to identify possibilities for what I have proposed previously as a becoming-animate, which allows encounters at the intersection of animality, technology, and performance to reestablish the animal's centrality within the relationship. Although "becomings-," as derived from Gilles Deleuze, are by now often referred to as a "passing reference" in animal studies, as Laura Cull has carefully outlined, 4 the concept has allowed for open and generous readings in human-animal relations as an attempt to better "interlink and form relays in a circulation of intensities," as Deleuze and Félix Guattari explain in A Thousand Plateaus.⁵ It is a concept that has had much traction, and I prefer to use it following Rosi Braidotti, who explains that "[b]ecoming woman/ animal/insect is an affect that flows, like writing, it is a composition, a location that needs to be constructed together with, that is to say in the encounter with, others."6 Or alongside Donna Haraway, who, on the ground with her dogs, takes issue with Deleuze and Guattari's "scorn for the mundane" and prefers to think of a "becoming with" that is based on the material, on touch: "Touch, regard, looking back, becoming with—all these make us responsible in unpredictable ways for which worlds take shape."7 In a becoming-animate, this dance among humans, animals, and machines, which grows more complicated as technologies advance, has often been a mimetic attempt to overcome human limitations, but one that I have argued is "a condition of sensory attunement—palpable and vibrant—that reveals the interrelationships and traces left between animal, human, and machine."8 It is in these traces that a deeper attempt at a true interspecies relationship might be located. If we rely and depend upon one another, we must take responsibility and seek a sense of collaboration over control to begin to understand how we are affected by one another. As Haraway has eloquently expressed: "Species interdependence is the name of the worlding game on earth, and that game must be one of response and respect."9

The inclusion of *technology* is a critical aspect of the possibility of becoming-animate, which distinguishes it from what Una Chaudhuri has importantly labeled "zooësis,"

⁴Laura Cull, "Affect in Deleuze, Hijikata, and Coates: The Politics of Becoming-Animal in Performance," *Journal of Dramatic Theory and Criticism* 26, no. 2 (2012): 189–203, quote on 189.

⁵ Gilles Deleuze and Félix Guattari, A Thousand Plateaus: Capitalism and Schizophrenia, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1987), 10.

⁶ Rosi Braidotti, Metamorphoses: Towards a Materialist Theory of Becoming (Cambridge: Polity Press, 2002), 118.

⁷Donna Haraway, When Species Meet (Minneapolis: University of Minnesota Press, 2008), 36.

⁸Jennifer Parker-Starbuck, "Becoming-Animate: On the Performed Limits of 'Human,'" *Theatre Journal* 58, no. 4 (2006): 649–68, quote on 650.

⁹ Haraway, When Species Meet, 19.

as a mode of thinking about the very mimesis between animals and humans. "Animal studies offers a new perspective on that overlap of culture and performance space that we call mimesis" writes Chaudhuri, 10 proposing zooësis to consist of the semiotic and performance elements (including literary, dramatic, and social) in cultural animal practice as a way of better understanding the "discourse of animality in human life." She begins by identifying specific "animal plays," suggesting that they "often contextualize their inter-species encounters within 'eco-sites,' heterotopias of 'nature' in culture."12 While certainly open enough to allow for a possible incorporation of the technological, as well as Chaudhuri's ecological/environmental lineage, intersections of animal studies and performance studies have now generated such diverse scholarship that more specific terms and ideas are crucial to articulate the myriad distinct possibilities within this overlap.

Of course, historically, animal bodies and their mechanics have always been material for the development of technological advancement, from Jacques de Vaucanson's digesting duck automata (1739), to Eadweard Muybridge's horse photographs and development of the zoopraxiscope (1879), to ongoing experiments into robotic animals during the twentieth and twenty-first centuries. Étienne-Jules Marey's artificial insect creation in 1869 and subsequent La Machine Animale (1873) served to explore the parallels between machines and animals, as Jussi Parikka explains in his Insect Media: "Marey wrote that it is not only a valid parallel but also of practical use: studying animals allows us to engage with the basic principles of how mechanics work, with the additional possibility of offering a synthetic counterpart to the moving, sensing animal."13 Humans try to understand and appropriate what animals can do, and animals fuel our imaginations—even as extinctions, environmental factors, and urbanization threaten their inclusion in large percentages of daily lives. Long before DARPA, humans were interested in the mimetic possibilities between animals and machines. Parikka points to the human desire to interact with the environment, and traces these mimetic practices as ways to "map the thresholds of the material body . . . and feed those results to those trying to meet the needs of the industrial society."14 Yet, this feeding back to meet the needs of industry has also contributed to an unequal relationship in the animal-machine parallel, leaving animals, as Akira Mizuta Lippit argues, existing "in a state of perpetual vanishing."15 Lippit's Electric Animal takes up John Berger's eloquent 1977 claim (argued through an unyielding critique of zoos) that animals are marginalized to a point of a "historic loss . . . now irredeemable for the culture of capitalism." 16 Perhaps it is, paradoxically, within the arguably marginalized form of performance where the interspecies possibilities are the most potent and where a fluid intersection of performance practices, animality, and technologies might shape an understanding of the "perpetually vanishing" nonhuman animal so as to more thoughtfully and ethically incorporate its ongoing presence and importance in human lives.

¹⁰ Una Chaudhuri, "Animal Geographies: Zooësis and the Space of Modern Drama," Modern Drama 46, no. 4 (2003): 646-62, quote on 646.

¹¹ Ibid., 647.

¹³ Jussi Parikka, Insect Media: An Archaeology of Animals and Technology (Minneapolis: University of Minnesota Press, 2010), 12.

¹⁴ Ibid., 13.

¹⁵ Akira Mizuta Lippit, Electric Animal: Towards a Rhetoric of Wildlife (Minneapolis: University of Minnesota Press, 2000), 1 (emphasis in original).

¹⁶ John Berger, "Why Look at Animals?" in About Looking (London: Vintage International, 1980), 28.

Following scholars like Deleuze and Guattari, my work has often relied upon affective statements: the power of art, performance, images, encounters, senses, and smells to seize hold of ideas and our imagination and to rethink these crucial relationships with nonhuman others. As a possible way of seeing beyond the animal as strictly metaphor or symbol, ideas of affect may better express ideas of relations between animal and human lives. Brian Massumi translates Deleuze and Guattari's use of the terms affect/affection as "a prepersonal intensity corresponding to the passage from one experiential state of the body to another . . . a state considered as an encounter between the affected body and a second, affecting, body," implying at least a relational encounter that can be applied between humans and animals.¹⁷ Parikka, who explores insects at the intersection of media and animality, writes that "[i]ndeed, affect is one of the key words used in thinking beyond both the signifier and the body as only an individualized entity and to grasp the interconnected nature of bodies of various kinds."18 However, what has been most compelling to me as I work increasingly in this growing field of animal studies are the concrete and material realities of animals; when I find myself in conversation with anthrozoologists, zookeepers, animal rights activists, lab technicians, and bioethicists, among others, the animals in question are living, breathing creatures. In these encounters, a turn to languages of affect can leave me with a sense of frustration.

Branches of animal studies that are more influenced by issues of animal ethics and rights are perhaps correct in insisting on greater advocacy, or, as Nicole Shukin argues in Animal Capital: Rendering Life in Biopolitical Times, more "possible openings for protest."19 So while becoming-animate is a concept largely based on notions of affect and on unpicking and analyzing moments of the interconnectedness among humans, animals, and technologies, this essay also attempts to consider the material realities and questions drawn from these bodies in response to Shukin's pressing question: "How does animal affect function as a technology of capital?" Shedding light upon practices in automobility, telemobility, and biomobility that are reliant upon animals, Shukin argues that "animal and capital are increasingly produced as a semiotic and material closed loop, such that the meaning and matter of the one feeds seamlessly back into the meaning and matter of the other",21 her goal is to make "their contingency visible."22 While the history of the production of War Horse certainly produces an animal-capital loop, by returning to the space of performance and locating the seams producing a becoming-animate, these strands might begin to disengage, leaving room to reconsider the animals.

Crossing Species Lines

"Treat the horse like the soldier he is."

—War Horse

In a pivotal scene in Steven Spielberg's 2011 film *War Horse*, the camera cuts to an open field that is full of high reeds, golden and rustling in the wind; out of the field, riders

¹⁷ Brian Massumi, trans., Deleuze and Guattari, A Thousand Plateaus, xvi.

¹⁸ Parikka, Insect Media, xxii.

¹⁹ Nicole Shukin, *Animal Capital: Rendering Life in Biopolitical Times* (Minneapolis: University of Minnesota Press, 2009), 47.

²⁰ Ibid., 42.

²¹ Ibid., 16.

²² Ibid., 24.

rise up, mount their horses, and begin to move en masse across the field, propelling the electrifying 1914 British cavalry charge.²³ The scene stages an important historical turning point—a transitional period when the animal body was being replaced by machinic technologies (the tank in particular) in a shifting interspecies relationship. Although industrialization gradually lessened human reliance upon animal labor in farming, transport, and war, this replacement paves the path toward a disconnected relationship with the animal, resulting in its reappropriation by machines. In the film, it is difficult not to be moved by this scene, which is so carefully constructed to pull at our emotions—between the swelling music, the major's call to his men "Be brave, be brave, be brave" ringing in our ears, and the galloping charge from the golden fields to the dark forests where the German machine-gun placements awaited. The understanding that many of these horses and their riders raced to their slaughter plays on a sense of sentimentality and sympathy for these animal-soldiers.

War Horse (for those who have not encountered its novel, theatrical, or cinematic version) is the story of a horse, Joey, who is sold off of a Devon farm into war in the early 1900s. His journey is marked by those around him, especially Albert, the boy who loved him, as well as Topthorn, his equine friend, and the soldiers to whom he is assigned in wartime. These friendships and bonds between human and animal and between animal and animal drive much of the action and form the most significant emotional scenes of the story. While ultimately a sentimental tale about friendship, bravery, and survival, the story, as epitomized in the scene described above, also illustrates the period when the mobile animal body is transforming in service to a machinic mobility, replacing the animal with technology. The cavalry charge scene ends with close-ups of machine guns, for which the oncoming horses are no match. The juxtaposition of the horses and riders charging through the golden fields against the darker shots of the firing and smoking guns sets up the historical distancing of the animal. Technology's expansion leaves no room for the actual animal, and this scene signals a triumph of technology over animality that overrides the previous interspecies relationship. Replacing the animal with the mechanical (whether the tank or the drone) is arguably a humane trajectory; replacing it with a technological "species" reliant upon the memory and form of the animal safeguards the living animal from harm (and while I see no historical reliance upon hummingbirds outside of an ecological perspective, perhaps it prevents a harnessing and testing of these birds as the carrier pigeons of the future), yet it also sets up a conflation of animals and technologies that disallows meaningful encounters with the actual animal.

In the midst of the twenty-first century, the inclusive term interspecies, I would argue, can now expand beyond the biological to include a technological species like the hummingbird drone. Created, deployed, and controlled by humans, these animal-

²³ The scene closely resembles accounts of the charge of Lieutenant Flowerdew's squadron at Moreuil Wood in 1918 in which his Canadian Cavalry Brigade fought a similar charge against the Germans, losing 70 percent of its men (War Horse: Fact & Fiction exhibit, National Army Museum, London, 22 October 2011-31 March 2013). Also see the information at the Canada War Museum Online, available at http://www.warmuseum.ca/cwm/exhibitions/guerre/photo-e.aspx?PageId=2.B.1.k&photo=3.D.2.z&f=%2Fcwm% 2Fexhibitions%2Fguerre%2Fgerman-offensive-e.aspx (accessed 10 February 2013). For historical accounts in relation to the film War Horse, see Annabel Venning, "Machine-Gunned. Bombed in His Stable. Buried Alive: The War Horse the Germans Couldn't Kill," The Mail Online, 14 October 2011, available at http:// www.dailymail.co.uk/femail/article-2049362/Steven-Spielberg-film-The-war-horse-Germans-kill.html (accessed 10 February 2013). Thanks to Jed Parker for his invaluable military fact-checking.

technological forms epitomize the closed animal-capital loop that Shukin suggested and are not open enough to consider how their components might change and shape each other. Within science, interspecies research triangulates species and technologies and is also caught up in this looping pattern. Considered here in terms of human policy and law-making, interspecies research refers to "studies that combine genes, gametes, embryos, or embryonic stem (ES) cells from human and nonhuman species at the earliest stages of development."24 Distinctions among types of interspecies research are typically drawn depending on whether or not the human is affected—on the "moral" qualities of the research. Andrea Bonnicksen points out differences between "general" and "early" interspecies research (or ISR), in which the general "is not as a rule morally problematic, [it] encompasses research and therapies that combine human-nonhuman DNA, cells, tissues, or organs without involving human embryos or potentially inheritable modifications."25 An example here might include the use of pig valves to treat human hearts, a clear use of the animal assisting humans in need. Early ISR is more complicated, because it takes place as a "human-nonhuman cell transfer at the earliest, prenatal, stages of development. It involves gametes, embryos, or human ES cells, and it can lead to inheritable modifications."26 The focus in all of this rhetoric is, predictably, the human: the idea that one practice "helps" humans while the other might cause "inheritable modifications" enforces a human bias. We wish to use the nonhuman enough to bolster our species, but not enough to risk a contamination of an inheritable nonhumanity.

Yet, perhaps it is only this contamination that would force an understanding of what it might mean to be interspecies. Figurations in early interspecies research, such as chimeras, animal–human hybrids, cybrids, cross-species embryo transfer, and nonhuman–human transgenics, all challenge species boundaries and require policy discussions. As performers/artists continue to push these very possibilities in their work, new distinctions and vocabularies, such as bio-art, open up discussions across species lines. Although Bonnicksen appears wary of the arts, claiming that "contemporary images at once invite curiosity and discussion, which is a welcome effect, and risk distorting the science involved, which is a less welcome effect," it is the curiosity and discussion that might realign the human-centric possibilities within these mergings. 29

²⁴ Andrea L. Bonnicksen, *Chimeras, Hybrids, and Interspecies Research: Politics and Policymaking*, (Washington, DC: Georgetown University Press, 2009), 1.

²⁵ Ibid., 7.

²⁶ Ibid.

²⁷ Ibid., 10–11. Bonnicksen defines the five types of interspecies research as follows: 1) *chimeras* are created by combining cells from two genetically different individuals; 2) *animal–human hybrids* are created by fertilizing a human egg with nonhuman sperm or a nonhuman egg with human sperm. These, she states, are unlikely to be gestated to birth, but invoke vivid imagery in the public imagination; 3) *cybrids* are created by transferring a human cell nucleus to an enucleated animal egg, largely to develop embryonic stem cells; 4) *cross-species embryo* transfer, which refers to the transfer of a human embryo to a nonhuman uterus, which she says is also unlikely; and 5) *nonhuman–human transgenics* refers to splicing human DNA to nonhuman embryos (common) or nonhuman DNA to human embryos (not on the horizon).

²⁸ Ibid., 9.

²⁹While there are many productive examples of art works in which the animal's centrality challenges a human-centric position, there are also ethical concerns and limitations to how the animal, especially the living animal, should be used, which are outside the scope of this essay. For example, see the case of Marco Evaristti, whose 2000 piece *Helena* placed live goldfish in plugged-in blenders in a gallery, inviting viewers to consider their lives. For more on this piece and other animals in art, see Giovanni Aloi, *Art and Animals* (London: I. B. Tauris, 2012) and Steve Baker, *The Postmodern Animal* (London: Reaktion Books, 2000).

It is at these boundary crossings among human, animals, and technology that we are perhaps most afraid—what if traces of one are left in another? Might we have to expand notions of what it means to be "human" when we recognize that we are modified by other species? How can this triangulation open out to better include and respect the nonhuman elements within it? These are the questions being raised in current art and performance practices—questions raised by a becoming-animate. Somewhere between the fixed representation of the war horse and the fixed animal-technological drone used in warfare are alternate possibilities for animating the animal.

Indeed, artists exploring bio-art practices—such as Eduardo Kac, whose famous Green Fluorescent Protein (GFP) Bunny Alba was an experiment in transgenics; OR-LAN, whose Harlequin Coat project explored the co-culturing of skin cells with multiple species; or Doo Sung Yoo, whose organ-machine hybrid projects include the "Robotic Pig Heart-Jellyfish"—all challenge assumptions about how we understand animality at all.³⁰ They challenge the conflation of animal and technology to explore interspecies possibilities and draw the animal back into the loop. By staging technologically driven interspecies examples within art contexts, these artists start to create dialogues reminding viewers of parallel practices in labs, and perhaps generating questions about the conditions of animals under human control. These works present complications that, while arguably challenging, are crucial to the types of animal visibility in contemporary society, raising questions about the actual experiments being done on a much larger scale in other fields. Although there is still "truck" (as Haraway loves to write) in examining the shift that Berger identifies that "animals are fading away"31 to where Lippit proposes they have gone—into "humanity's reflections on itself: in philosophy, psychoanalysis, and technological media"32—I argue here, through these art sites and the question of representation, for a sense of their return within a performance terrain in which the displacement or abandonment of living animal bodies to their machinic or hybrid replacements might not go overlooked, but instead can also be understood as a loop, although a loop drawing our attention back to the animal itself.

Reproducing, Replacing, and Rendering the Animal

The technologization of animals, in all its vast complicated processes, is too often simply trivialized, overlooked, or sentimentalized. In her analysis of the kangaroo's "captive" role as a sentimental species and its identity as understood through a popular Australian television series, Peta Tait raises the important dichotomy in question for these animals (but that can be applied to other political and economic concerns over animals): "How can free-living species be viewed with affection and endearment in cultural representation while becoming increasingly exploited and imperiled?" She asserts that "sentimentality about animal species blinds humans to the force of our species control."33 In countless cultural representations of animals, sentimentality drives

 30 For more information on these artists, see Jennifer Parker-Starbuck, "Reflective Viewing: ORLAN's Hybridized Harlequin, Banksy, Bacon, and the Animal-Human Divide," in Performance, Identity, and the Neo-Political Subject, ed. Fintan Walsh and Matthew Causey (London: Routledge, 2013). On Kac's bio art projects, see his website, available at http://www.ekac.org/; also see the website of new media artist Doo Sung Yoo for more information on his organ-machine hybrids and other works, available at http://doosungyoo.com/home.html (both accessed 10 February 2013).

³¹ Berger, "Why Look at Animals?" 19.

³² Lippit, Electric Animal, 3.

³³ Peta Tait, "Caught: Sentimental and Decorative Kangaroo Identities in Popular Culture," in Captured: The Animal within Culture, ed. Melissa Boyde, Anne Collette, and Amanda Lawson (Basingstoke, UK: Palgrave Macmillan, forthcoming).

the way that animals are experienced and understood, and it manipulates human relationships with animal species.³⁴ Actual animals have become less visible in daily life—humans, especially urban dwellers, rely upon zoos, film, television, circuses, or the occasional trip to the countryside to activate their understandings of what animals are or do, and rarely do these experiences involve the realities of the caging, processing for food, mistreatment, or any long-term engagement with animals. In War Horse, a nostalgic sentimentality to our bonds with a more natural world and with the animal is set up and reinforced through lingering idyllic shots of the Devon fields, the soft focus on the horses freely cavorting, the musical accompaniment. This sentimental memorialization of the horse body replaces any kind of critical understanding of the materiality of how animal bodies are controlled and used in the history of war and in the film industry itself. The turn of the century leading into World War I saw the rise of both the automotive and cinematic industries, signaling a gradual turn to a mediated rather than a material animal,³⁵ and Lippit contends that "animals appeared to merge with the new technological bodies replacing them."36 This conflation turns the animal into a technology to be further appropriated and replaced in the cultural imagination, drawing the actual animal, its life, and material conditions away from view.

War Horse is set during World War I (1914-18), when over a million horses were conscripted into wartime service. Horses have been used throughout the history of warfare for transport and in battle, but this war was a turning point in equine involvement, as technologies like the tank began to be introduced (1916). Half-a-million horses died over the course of the war because they were no match for the weaponry used, as reported in London's National Army Museum's audio accompaniment to its War Horse Fact & Fiction exhibit: "The horses were so vulnerable to artillery and machine gun fire, and to harsh winter conditions in the front line, that the losses remained appallingly high. Indeed, the loss of horses greatly exceeds the loss of human life in the terrible battles of the Somme and Passchendaele."37 In Britain, horses were already in short supply when the war began, and people had to give up their field and farm horses. The British military also had horses shipped over from the United States, but this reliance upon animal-soldiers was not to last. War Horse's celebration of these equine heroes and the role they played in the war points to their gradual, and humane, replacement by emerging technologies. In a climactic moment of the film, in the midst of battle, Joey the warhorse finds that his only escape route through the chaos is to literally jump over an oncoming tank. As he soars over it, it is clear to me why the robotic hummingbird drone is so desirable, because the awkward and lumbering tank is no match for a horse's graceful ability. But this moment, despite the tank's inability to fully match the animal's versatility or agility, represents the horse's last act, literally—both diagetically and extra-diagetically—signaling the live animal's (here

³⁴ A recent exception may be the moment in the film *The Life of Pi*, when the tiger, Richard Parker, unceremoniously walks away from the human Pi at the end of their long (and sentimental) journey. This lack of sentiment provokes mourning, as well as bewilderment in the human Pi, pointing to sentiment as a basic human driving force.

³⁵ Although both industries have long evolutionary histories throughout the 1800s, the automobile (and hence the tank) and cinema can be tracked to "births" in the 1890s and came of age in the early decades of the twentieth century. For a fascinating historical interweaving of slaughterhouses, automobiles, and cinema, see Shukin, *Animal Capital*.

³⁶ Lippit, Electric Animal, 187.

³⁷ National Army Museum, War Horse: Fact & Fiction exhibit.

necessary) disappearance and replacement as a technology, and on the film one of the few moments rendered in computer-generated imagery (CGI).38

Similarly to interspecies research that draws the line when human inheritability is at stake, sentimentality often only goes as far as cost effectiveness. We can hold up the war horse for its heroism, but the reality was quite different; both during and after the war, thousands of these horses were too damaged and deemed unfit for work and ultimately many were slaughtered. A newspaper article accompanying the British television documentary War Horse: The Real Story begins with an ironic anecdote:

There is a scene in Steven Spielberg's War Horse in which Joey, the heroic nag of the title, becomes caught in the wire in no-man's-land. A German and a British soldier both emerge from the trenches to cut Joey free, their shared humanity finally disinterred by the plight of the animal. When I saw it at the cinema I heard a man behind me say, "Rubbish! The men were so hungry by then they would have just eaten it."39

The sentimentality of War Horse overrides the material realities of these horses.⁴⁰ Although Joey escapes harm and is eventually returned to the fields, the majority of horses did not fare as well as the fictional one. Reportedly, many horses that did survive were sold to Belgian butchers, while others were put down to ease their misery.

Film itself produces the sentimentalized animal, and certainly the comment above, while perhaps made in jest, points to the sanitization of this story. In his influential book Animals in Film, Jonathan Burt stands behind certain types of sentimentality, arguing that "[c]riticisms of these family films have often been made on the grounds that their sentimentalism and anthropomorphism create a comfortable complacency in attitudes to animals. However, what kinds of imagery would be more appropriate for children to see? And what kind of imagery would be more true to the position of animals in this world?"41 His point is well-taken in War Horse, and it is not intended as a documentary nor even invested in the historical over the boy-meets-horse narrative. The realities that the horses faced would no doubt detract from the marketability of the film. But it is not only complacency that is at stake in this sentimental anthropomorphizing, but the Joey's complete subsumption to the forces of human capitalism. While I agree with Burt's further point that "the visual animal is caught in an argument over whether the animal should be considered on its own terms or understood through a network of human-animal relations,"42 in this film, the horses seem only to disappear into this network. The history of cinema is itself literally a history of turning the animal into technology, and as Shukin is quick to point out, cinema is historically contingent on the rendering industry, an ages-old practice-turned-industry of boiling

³⁸ Bill Desowitz, "A Stealthy and Seamless War Horse," Animation World Network, 30 December 2011, available at http://www.awn.com/articles/article/stealthy-and-seamless-war-horse (accessed 8 June 2013). Thanks to the anonymous reader for pointing out this article.

³⁹ Benji Wilson, "War Horse: The Real Story—Adding Some Historical Heft to the Fable," The Telegraph, 2 March 2012, available at http://www.telegraph.co.uk/culture/tvandradio/9114272/War-Horse-the-Real-Storyadding-some-historical-heft-to-the-fable.html (accessed 10 February 2013).

⁴⁰ This comment takes a different turn in the light of the recent UK horsemeat scandal, in which specific brands of beef-based prepared meals in several popular supermarket chains have been found to contain horsemeat. This scandal has become fodder for jokes, cartoons, and internet memes largely because the British public now find it far-fetched to consider horsemeat as food product. Although horsemeat is available online, the last horsemeat butcher in the UK closed shop in the mid-1950s.

⁴¹ Jonathan Burt, Animals in Film (London: Reaktion Books, 2002), 187 (emphasis in original). 42 Ibid., 188.

down animal by-products to create oils, soaps, glycerine, and, of course, gelatine—the stabilizing coating applied during the development of film stock. She explains that "for cinema's animated effects to *literally* develop—they required the tangible supports of photographic and film stocks. It is here, in the material convolutions of film stock, that a transfer of life from animal body to technological media passes virtually without notice."⁴³ Although a turn to digital filmmaking processes is transforming the notion of rendering, as I will mention shortly, part of the double significance of animal capital for Shukin is in recognizing the material histories that complicate these industries, and *War Horse*, for example, although edited digitally, was largely shot on film.

Am I a Horse or Am I a Puppet?

War Horse originated as a novel written for children in 1982 by Michael Morpurgo, who was inspired by conversations that he had in his local Devon pub about real horses in wartime. In audio segments recorded for the War Horse Fact & Fiction exhibit, Morpurgo relates that his inspiration for the novel began in conversation with a World War I veteran in the pub, who told stories about the terror the soldiers felt during the war and how paralyzing it was. What the veteran said that caught Morpurgo's attention was "the only person I talked to was my horse." That the horses gave the soldiers comfort and a sense of camaraderie to the point of this "transformation" into a form of personhood inspired Morpurgo to write the tale. The novel was eventually adapted for the stage by Nick Stafford and produced as a theatrical production for the UK's National Theatre in collaboration with South Africa's Handspring Puppet company in 2007 (fig. 3). It transferred to the West End in 2009 and then to Broadway, where it ran until January 2013; Spielberg's film version opened in December 2011. The journey from novel, to stage, to film is one of multiple animal ontologies: from real horses serving in wartime, to their discursive fictional representation, to their physical representation through puppetry, to actual, living horses (dis)embodied on film. This shift from form to form creates a palimpsest of bodies, each seeming to prompt the next into being along this journey from novel to screen.

Although the transitions through forms have resulted in an accretion of life-like representations, I am mostly interested in how the final shift from puppet body to "real" horse on film seems to produce a sense of authenticity—it finally produces the actual horses, and yet, this is a hollow move. Although it might seem that the move from puppet onstage to living horse on film is a move to a more authentic animal body, I argue that the authentic body is ironically not what best induces human—animal affiliations or facilitates political action. While *War Horse's* popularity and commercial and cinematic success may have generated a larger interest in the real-life horses that fought in wartime, it is the puppet forms, I argue, that facilitate a sense of animality that loop us back to the animal.⁴⁴ And while placing puppets onstage rather than inthe-flesh horses may seem to raise questions about the notion of whether this is truly an interspecies collaboration, the puppets successfully challenge the term, opening up an argument for an "inter-" that is an unfixed position rather than the filmic real animal that forecloses these gaps.

⁴³ Shukin, *Animal Capital*, 104 (emphasis in original).

⁴⁴ National Army Museum, War Horse: Fact & Fiction exhibit. Also see Channel 4's War Horse: The Real Story, available at http://www.channel4.com/programmes/war-horse-the-real-story/4od (accessed 10 February 2013).



Figure 3. The human and nonhuman cast of War Horse. (Photo: Brinkhoff Mogenburg.)

Portrayed in the stage production by Handspring's intricate life-sized, humancontrolled puppets, the animals slowly take on lives of their own through the human-animal-puppet technological interactions. Audience members consistently praised the power of the puppetry, even if the production itself also evoked an otherwise too sentimental air for some tastes. These are life-sized puppets made out of lightweight frames covered with mesh and cloth and worn and operated by puppeteers who work the mechanisms to create realistic movements.⁴⁵ Handspring's Basil Jones describes their puppets, and the philosophy behind them, when he says: "We call this a piece of emotional engineering that uses up-to-the-minute seventeen-century technology to turn nouns into verbs."46 This shift from noun to verb is an important one, for it is a move from animal as object to animal as do-er. As experienced through the puppet horses, the animals take on an agency that they cannot seem to achieve in the film. In their construction as a verb, these horse "technologies" appear as discrete subjects onstage in a way that the onscreen horses cannot, and they have the power to, I argue, shift viewers' relations to a "horseness" that the living animals onscreen cannot (fig. 4).

Comparing animal agency across the stage and screen versions of War Horse is perhaps unfair, because the (human-controlled) actual animal surely carries more weight than a human-controlled puppet. Yet, like Brecht's culinary theatre, which creates pleasure though arouses no action, or like the integrated Gesamtkunstwerk that, as Brecht laments,

⁴⁵See the National Theatre's War Horse website, available at http://www.warhorseonstage.com/puppetry for more details (accessed 10 February 2013).

⁴⁶ Basil Jones, "Handspring Puppet Company: The Genius Puppetry Behind War Horse," in TED Talks, March 2011, available at http://www.ted.com/talks/handpring_puppet_co_the_genius_puppetry_behind_war_horse.html (accessed 10 February 2013). See the video at 2:46.



Figure 4. Puppets and performers in War Horse prepare for a charge. (Photo: Brinkhoff Mogenburg.)

only muddles and degrades the various elements, each acting "as a mere 'feed' to the rest," the cinematic horse, flattened and fused onscreen, provides sentimental pleasure, but leaves no space for reflection or thought.⁴⁷ It is rather in the interplay of the puppet technology and human operator that the idea of horseness emerges. Here, the actual animal's absence draws viewers back to it through the puppet. Handspring builds this sense of agency into the horse puppets from their engineering upward. Respecting the horse and its movements and behaviors was the first step for Adrian Kohler's design, and although the puppets are his artistic creations, he first studied living horses and built on Muybridge's horse-motion films to learn how to construct a horse's mobility onstage.⁴⁸ Actors were also trained in equine movement and learned how to address notions of weight and rhythm in the horses' steps. Although techniques such as rotoscoping, knowledge of anatomy, and basic observation have been long used by Disney and other animators and are now supplemented by motion-capture technologies, it is only through this multilayered collaboration among designer, builder, actor, horse, and puppet that the horse puppets onstage can seem to come alive in their own right.⁴⁹

If there is a space to become animate, it is through these triangulations rather than from conflations of human, animal, and technology. The sense of becoming is what is at stake here; these are ontologies that are nonfixed, and the moving, shifting terrains are what produce a sense of animality that stays with viewers. The theatrical

⁴⁷ Bertolt Brecht, Brecht on Theatre, trans. John Willett (New York: Hill & Wang, 1964), 37–38.

⁴⁸ See the National Theatre's *War Horse* website segment "Puppetry—The Puppet Factory" for more details.

⁴⁹ For examples of how Disney animators work, see, for instance, Chris Pallant, *Demystifying Disney: A History of Disney's Feature Animation* (New York: Continuum, 2011).

War Horse's horse puppets are complex and palimpsestic, they are affective; Lippit describes this potential as "metamorphic rather than metaphoric." ⁵⁰ Handspring has said that its "puppets have to try to be alive," 51 and so perhaps the move from noun to verb, here created through a human-controlled mechanical technology, can function beyond metaphor, facilitating shifting ground. Perhaps because we are aware that these horse puppets are human operated, we recognize them as performers in the process of becoming-animal, a process that is predetermined to fail, although one that attempts to bring them to life. This attempt reaches across an interspecies divide and allows for this very material technology to produce an immaterial magnetism or affect. It is here perhaps that the affective charge might resonate or leave traces of an animality in the theatrical encounters. Although I am wary of words like "magnetism," Lipitt's sense of how it might provoke actions sticks with me: "Defined as the capacity to effect concrete changes in the material world through an immaterial or fantastic medium, magnetic power, like that of dreams, transforms the traditional rapport between action and reaction. With magnetism, reactions, in the sense of affective responses, can be said to cause actions."52 Although unmediated by electronic or digital technologies, the onstage human-puppet-animal evokes in me enough of an affiliation with the notion of animality to write this essay. The horse puppet had the potential to touch others and "cause action." 53 Viewers are drawn to these human-operated puppet technologies, and I identify in them the necessary first steps toward alliance: between performer and animal and between animal and viewer. And in this alliance is perhaps the ability for transformation and action with living animals.

How notions of *affiliation* and *alliance* will continue to play out is yet to be seen, but these are terms increasingly being taken up by artists through not only performance, art, and animal studies, but also in fields like posthumanism, eco and environmental studies, and object studies. While the notion of *collaboration* is inevitably human-driven, with the increasing visibility and interest in animal studies, more attention is being paid to how interspecies encounters can influence art and performance practices. Artists, such as Kira O'Reilly, Rachel Rosenthal, Luc Petton, Societas Raffaello Sanzio, Deke Weaver, Marcus Coates, Kathy High, and others, are fostering interspecies encounters in performance and art practices.⁵⁴

Reappropriation

The replacement of *War Horse's* puppet bodies by the onscreen animal "actor" reinforces a capitalist turn that relies upon star power and here has revolved around the horse's animal body. However, although the emotionally driven scenes in the film were played by horse-actor Finder, Joey was actually played by a team of thirteen (or

⁵⁰ Lippit, Electric Animal, 166.

⁵¹ See "Handspring Puppet Company." See the video at 2:21.

⁵² Lippit, Electric Animal, 166–67.

⁵³ During the Queen's Diamond Jubilee Celebration in the summer 2012, horse puppet Joey ran out through the rain and from the top of the National Theatre reared up in "salute" to the Queen, provoking a big smile from across the Thames. For footage of the moment, see http://www.youtube.com/watch?v=75blE32]goU (accessed 10 February 2013).

⁵⁴ Additionally, animal studies is a growing academic field, and increasing numbers of students are interested in its interdisciplinary connections with performance studies. I thank my PhD students Austin McQuinn and Mariel Supka, whose excellent projects on the animal voice and nonnative species continue to expose me to more work and inform my own thinking in this field.

fourteen, depending on the source) horses, representing the various ages and conditions that the horses are in throughout the film; the star power is perhaps lost in our inability to tell the horses apart. ⁵⁵ Lest I seem to be facilitating the disappearing animal's reappearance as and through technology, I think rather that in a cinematic technologization (and a sentimental one at that) of animals, there is a danger in the slippage between bodies that allows for a complete reappropriation of the animal body. I suggest that the circuitry of performance from stage to film has resulted in a replacement of the *overtly* mediated animal, created through Handspring's affective puppetry, by an *obliquely* mediated (but real) animal on film that has allowed for a reappropriation of the animal body without leaving room for us to think about the animal in any way that is not overly sentimentalized. The technologization of the puppetry is overt, in that it is not concealed or pretending to be what it is not; it does not seem to memorialize the animal because it is not a horse, but rather a puppet evoking the/an idea of horseness.

The use of real horses in the film version does not facilitate an experience of the real animal, but, instead, the cinematic apparatus both reproduces and reappropriates the animal, giving us an equine actor caught within human-driven capitalist production. And, in fact, this is borne out by the film's production itself: these living horses are already so mediated that we do not even realize when they revert back to machines or are rendered through CGI. One of the film's most distressing scenes takes place in no man's land, historically the space between the fighting factions that is filled with barbed wire in which horses could easily become snagged and injured. In the film, this scene is digitally rendered so that when Joey gallops alone through the war-torn landscape and trips, falls, and is caught up in the barbed wire, first CGI and then an animatronic horse were used so as not to pose any risks for the equine actors.⁵⁶ These precautions are now standard procedures taken by the American Humane Society in order to provide its "No Animals Were Harmed" seal of approval at the end of a film. Its website explains the process during *War Horse*:

Special effects supervisor Neil Corbould built a breathtakingly real, full-size Joey for the scene. "He was fully animatronic and sitting on his knees. We dug a 1.5-meter hole, and we had four or five puppeteers basically buried beneath the ground, operating the horse," explains Corbould. However, for the close-up of Joey's face in that scene, Spielberg brought in Finder—the real horse who starred as Joey—to get to the depth of Joey's innermost feelings. Toby Kebbell, who plays the British soldier who helps to free Joey, recalls: "The animatronic horse was so realistic. It had the ability to blow air from the flair of its nose and to jolt its head!" ⁵⁷

In this scene, because the human hand is so hidden, unlike in the theatrical puppet horses where the initial awareness is of the human actors underneath the moving legs of the horses, the animal becomes unable to escape a loop of capitalist technological

⁵⁵ While in terms of aging, *War Horse* does not differ from the human practices of having a child actor portray a young version of the starring role, the multiple Joeys playing the horse's conditions throughout wartime and our inability to tell the difference among them differs considerably from customary human-casting practices.

⁵⁶Adam B. Vary, "'War Horse': How Steven Spielberg and His Team Got Such Astonishing Performances from the Horses," Inside Movies, 27 December 2011, available at http://insidemovies.ew.com/2011/12/27/war-horse-training-horses-joey/ (accessed 10 February 2013).

⁵⁷ For details on the treatment of the horses on the set of *War Horse*, see "On the Set of *War Horse*" in the American Humane Society's "No Animals Were Harmed" website, available at http://www.americanhumanefilmtv.org/on-the-set-war-horse/ (accessed 10 February 2013).

production in an animal-capital exchange that produces only sentimental response. Animatronics are intended to appear life-like, but as mechanized puppets, they are akin to robotics. Unlike the traditional puppet form in which the human is acknowledged as collaborator and is often visible, in this instance, the human is hidden and the animatronic horse replaces the actual horse.⁵⁸ In this scene, Joey is trapped by capitalism at the moment that he is trapped by the wire fencing, which is also a technology of capitalism by privatizing portions of land to render them productive.⁵⁹ The mediation draws viewers in to a point where the horse takes on human sentiment, and the materiality of actual horse bodies becomes a stylized effect rather than the purported reality.

The making of War Horse as a film might be usefully read in parallel to the historical turning point it records. As the film highlights the transition from animal to technological use in warfare—by World War II, horses were largely used for transport though no longer in battle—War Horse occurs in an era in which film production on gelatin-based film stock is turning to digital production. 60 However, reportedly other than the no-man's-land scene, War Horse was shot on film. As Shukin is eager to point out, rendering's double entendre is at the heart of cinematic history:

At the turn of the twenty-first century . . . rendering no longer popularly evokes the industry that breaks down animal hides, bones, blood, and offal but instead invokes the new culture industry that traffics in 3-D images of life assembled out of algorithmic bits of code. Digital capitalism appears to have successfully spirited away the bad affect associated with the boiling down of animal remains, reinventing rendering as an aesthetic notation for the field of computer-generated images. The reinvention of rendering by digital capitalism arguably depoliticizes both industries, associating ongoing traffics in animal material with technological virtuality, on the one hand, while identifying computer-generated graphics with biological stock, on the other. Render farm, the name given to facilities that cluster together processors in order to amass the "horsepower" needed for computer-generated imagery, provocatively articulates virtual with biological animal capital to coin a new mode of technological production.61

⁵⁸ The distinctions between *animatronics* and *robotics* are increasingly negligible, although animatronics, which is generally considered as life-like mechanized puppets, is often linked to the entertainment industry, while robots are more generic machines designed to replicate human tasks. However, with robotic advances like the Hiroshi Ishiguro Laboratory's robotic actor "Geminoid F," it is decreasingly necessary to make distinctions between the terms. See http://www.geminoid.jp/en/index.html (accessed 7 June 2013).

⁵⁹ The debate between "The Farmer and the Cowman" in Oklahoma explicitly raises the issue of the privatization of land:

Will: (Scornfully; singing) He come out West and built a lot of fences!

Curly: And built 'em right acrost our cattle ranges!

See Richard Rodgers and Oscar Hammerstein II, Six Plays by Rodgers and Hammerstein (New York: Modern Library, 1955), 52.

60 For information on this digital turn, see, for example: Jamie Stuart, "From 'Drive' to 'Melancholia': Here's Why 2011 Marked a Shift in the History of Cinematography," IndieWire, 28 December 2011, available at http://www.indiewire.com/article/from-drive-to-melancholia-heres-why-2011-marked-a-shift-inthe-history-of-cinematography; Alexander Ballinger, "Cinematography: Is Film Dead?" Moviemail.com, 5 October 2012, available at http://www.moviemail.com/blog/cinematography/960-Is-Film-Dead/; and Edward Davis, "'Old Fashioned' Steven Spielberg Says Film Processing Labs Could Be Gone in 10 Years: Pleads with Audiences to See 'War Horse' on the Big Screen," IndieWire, 29 November 2011, available at http://blogs.indiewire.com/theplaylist/old-fashioned-steven-spielberg-says-film-processing-labs-could-be-gone-in-10-years-pleads-with-audiences-to-see-war-horse-on-the-big-screen (all accessed 10 February 2013).

61 Shukin, Animal Capital, 61.

This blurring of virtual and biological animal—capital tends to eliminate the space in which to remember the animal. Considering how often animal ontologies are appropriated and emptied out by human practice and industry in order to be replaced by their machinic, mediated representations, performance examples like Handspring's horse puppets might provide room for intervention, for traces of the human and animal to materially affect each other. This essay, for example, emerges from the dissatisfaction in seeing the living horses represented in War Horse the film. As I watched it, I returned over and over to the images in my memory of the War Horse puppets and began to examine why I felt that they were more successful in telling this story. Neither, however, could replace my own embodied memories of the horses I had as a young adult, but for some reason, in the puppets, I could sense their flickering ears, hear their neighs, and even begin to recall their smells. While this might not be as possible for someone with less or no experience of actual horses, it seems to me that a more authentic sense of the horse was created through the puppets. In the affect-laden space of the overtly mediated horse puppet—the space of theatre—I was allowed the space to think of the horse itself; its absence points to its absence and then, paradoxically, back to its presence.

The ontological trajectory of bodies that I trace here began, but really ends with the hummingbird-turned-war-technology, a reappropriated animal body divorced from its animality—"it does not eat nectar." It emerges from the animal as a living war technology that is first replaced by a machine, and then reappropriated as a machine. Within the trajectory of *War Horse*, the story of the actual horse is first mediated by puppets, and then replaced and rendered by the actual horse in a cinematic representation. I have posed the possibility that it is with the horse puppet, the prototype for the real horse of the film, that a becoming-animate is produced in which there are possibilities for human—animal affiliations and room for political understandings that might intervene in the sentimentalized relations with living animals. It is in the theatrical space where the ability to "touch" might provide a provocative encounter; film seems too embedded in cycles of capitalism and reproduction. The theatre creates a paradox then: it allows this space, but is unfortunately subsumed in its own ongoing relations with capital (*War Horse* continues in the West End and touring); yet, perhaps it continues to show its seams, to interject a pause, and to make viewers "face" these encounters.

Collaborative Considerations

In their March 2011 TED talk, Handspring's Kohler and Jones begin by showing their hyena puppet created for their *Faustus in Africa* (1995) (fig. 5), which was directed by William Kentridge.⁶² It is a small, four-legged beast with movable legs and tail and a molded hyena face. In the piece, the Hyena had to play checkers with Helen of Troy, so it needed an articulated front paw to play the game. This puppet, a frame with articulated limbs covered in translucent material, became the prototype for their later work—specifically, a large giraffe for their production of *Tall Horse*, which was seen by Tom Morris of the National Theatre. Morris approached Kohler and Jones to ask if they could design a horse, and the rest is *War Horse*'s history. As I followed the various threads of this research, looking at the images from Hyena, to the horses, to the hummingbird and other robotic animals, I happened upon an image of DARPA's "Cheetah," which in March 2012 set a new speed record of 18 miles per hour, making it the fastest legged robot so far (fig. 6). As I looked back and forth from (puppet)

⁶² Adrian Kohler and Jones, "Handspring Puppet Company."



Figure 5. The Hyena from Handspring Puppet Company's Faustus in Africa (1995). (Photo: © Ruphin Coudyzer.)



Figure 6. DARPA's Cheetah robot. (Photo courtesy of DARPA.)

Hyena to (robot) Cheetah, I was struck by odd similarities. Although the cheetah is made of metal spiky legs and a tangle of wires for a body, the two forms bear an unlikely resemblance, except for a key feature: namely, the cheetah has no face. What the two forms side by side triggered in me was a deeply troubling question of violence, of the ethics of this technological "species." In these parallels between animals and machines, the cheetah's lack of face denies it any ethical possibility of coming face to face with an "other"—it is after all a war technology. It has only a human agency, programmed to move as a robotic form does and lacking the possibility of an alliance; whereas the hyena, with its expressive, communicative face and movement capabilities requires an alliance with a human, thus exposing the seams in the animal–capital loop and suggesting the need for a collaborative interchange.

Human investment in the animal body is deeply complicated and, increasingly, as with the cheetah, uses then eradicates the traces of the actual animal. The transition in the production of *War Horse* from sentimental stories based on real animals, to their puppet incarnation, to their replacement as living animals rendered into film traces a shift from a parallel relationship between animal and machine to the replacement of one by the other. As this gap is closed, it is critical to search for the seams and spaces in which to reflect upon how animal bodies are used and controlled, how they are slaughtered, and how they are treated. While the horse puppets of *War Horse* began to reanimate a sense of the horse through the human, animal, and technological exchanges, what is lost when the living animal is sentimentalized and captured on film is often largely the animal itself. Yet, what these *War Horse* examples and their commercial success indicate is a desire to reconnect with and rethink our relationship with these animals.

The triangulation necessary to become-animate and investigate the multidirectional interspecies possibilities that are balanced can perhaps best occur in collaborative art and performance contexts, for as Haraway writes, "once 'we' have met, we can never be 'the same' again . . . once we know, we cannot not know."63 While cinematic representations have the ability to move us, it is in the space of theatre that we might begin to "meet" the animal. And we can strive to strike the right balance between ethics and sentimentality, between magnetism and action. In The Postmodern Animal, Steve Baker argues that, in fact, "[s]entimentality matters; its formal expression is a problem. Artists rightly fear appearing to be sentimental because it will be taken to indicate a lack of seriousness—a very proper concern."64 Artists, such as those mentioned above, explore interspecies alliances with animals by constantly working to find these balances. In works by artists such as Olly and Suzi, whose art works in collaboration with wild animals foreground the animals' environments, the encounter attempts to be on the animals' terms. The artists paint in natural materials before introducing the paintings to the animals to encourage an interaction. 65 Artists like Bryndis Snæbjörnsdóttir and Mark Wilson examine what they have called an "interspecies threshold" in their collaborative art pieces engaging with animal-human encounters, describing their work as setting out "to challenge anthropocentric systems and thinking that sanction loss through representation of the other, proposing instead, alternative tropes of 'parities

⁶³ Haraway, When Species Meet, 287.

⁶⁴ Baker, The Postmodern Animal, 177 (emphasis in original).

⁶⁵Ibid., 10–11. See Olly and Suzi's website for additional information, available at http://www.ollysuzi.com/.

in meeting."66 Bridging the duality of sentimentality and seriousness may begin in time to cross these thresholds that keep humans so far from animals.

The theatrical production of War Horse positions itself between these two poles; within a highly sentimental story, the horse is taken seriously. Despite the complicated history of animals as technologies of war/capitalism, the theatre begins to unpick that relationship. Handspring and the actors both allowed the actual horses to drive their creations, resulting in a serious collaboration among human, animal, and technology that brings the animal to the fore. Collaborative exchanges are increasing in the cross-disciplinary field of animal studies. Art and media scholar Lisa Jevbratt teaches an "Interspecies Collaboration" class at the University of California, Santa Barbara and suggests that "the technologies that have been emerging (or have become more ubiquitous) over the last 20 years have done a tremendous amount to prepare us for interspecies collaboration."67 We can no longer afford a human-centric position in the face of climate change, extinction, and global environmental problems, and we need to work, as she tells her students, to "examine the world together with animals." 68 A world with animals will hopefully increasingly mean a world of interspecies collaboration. It is our human challenge to remember the animal in these exchanges, and this is what the complicated triangulations of War Horse serve to bring to the frontline.

⁶⁶ Bryndis Snæbjörnsdóttir and Mark Wilson, Uncertainty in the City. Berlin: The Green Box, n.d. See also Snæbjörnsdóttir and Wilson's website, available at http://www.snaebjornsdottirwilson.com/uncertainty. php (accessed 10 February 2013).

⁶⁷ Lisa Jevbratt, "Interspecies Collaboration—Making Art Together with Nonhuman Animals" (2009–10), available on her website at http://www.interspeciescollaboration.net/ (accessed 10 February 2013). 68 Ibid.