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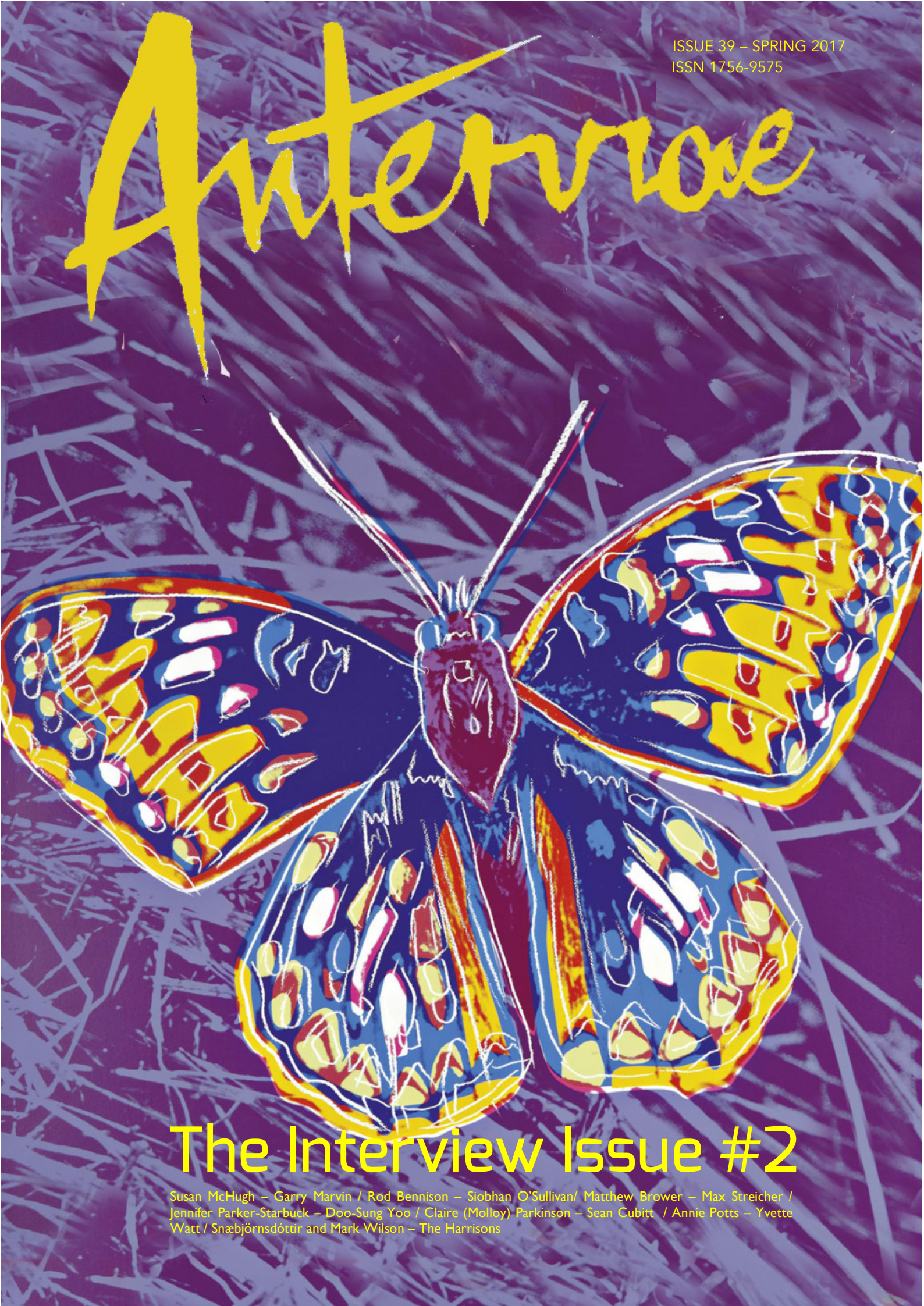

## The Interview Issue #2

Susan McHugh – Garry Marvin / Rod Bennison – Siobhan O'Sullivan/ Matthew Brower – Max Streicher / Jennifer Parker-Starbuck – Doo-Sung Yoo / Claire (Molloy) Parkinson – Sean Cubitt / Annie Potts – Yvette Watt / Snæbjörnsdóttir and Mark Wilson – The Harrisons

# ANTENNAE

The Journal of Nature in Visual Culture


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***Antennae*** (founded in 2006) is the international, peer reviewed, academic journal on the subject of nature in contemporary art. Its format and contents are inspired by the concepts of 'knowledge transfer' and 'widening participation'. On a quarterly basis the Journal brings academic knowledge within a broader arena, one including practitioners and a readership that may not regularly engage in academic discussion. Ultimately, ***Antennae*** encourages communication and crossovers of knowledge amongst artists, scientists, scholars, activists, curators, and students. In January 2009, the establishment of Antennae's Senior Academic Board, Advisory Board, and Network of Global Contributors has affirmed the journal as an indispensable research tool for the subject, now recommended by leading scholars around the world and searchable through EBSCO.


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# INTERVIEWEE: **DOO-SUNG YOO**
# INTERVIEWER: **JENNIFER PARKER-STARBUCK**

*For a long while, Jennifer Parker-Starbuck has been one of the most interesting voices on the international scene of performance and Human Animal Studies. Never shying away from challenging subjects involving experimental approaches to representation, Parker-Starbuck has raised important questions about the role non-human actants play on stage. In this interview she addresses some of these issues through an interview with Korean, new media artist Doo-Sung Yoo whose work prods the boundaries between nature and technology, science and art, human and non-human.*

**Text and Questions by Jennifer Parker-Starbuck**

I discovered Doo-Sung Yoo's work as I was continuing to develop my own ideas around the ever-present triangulation between humans, non-human animals, and technologies as understood through art and performance practices. Yoo's work not only reaches across human, animal and technological divides, but also exists at an interdisciplinary crossroads between art, performance, and science. This work is challenging; neither fully utopic nor dystopic, it stretches and permeates borders asking viewers to question what human-animal-techno futures might become.

Yoo's work immediately captivated me, first with his "Robotic Pig-Heart Jellyfish", part of his Organ-Machine Hybrid series that is just that, a hybrid figure that seemed a perfect example of what I was theorizing as "becoming-animate" a mode of reanimating the non-human animal within its human-technological relationship. In the pages below he asks relevant questions for considering these interrelationships in this time called the Anthropocene: "Might it be possible to reassess traditional relationships and reinterpret animals in new relational stages alongside advanced technology? Could we create two-way communications rather than stubbornly holding on to one-way relationships with animals?"

More recently I have been compelled by his piece "Lie," a series of wagging robotic cow tongues, which has helped me form an argument for technologized animalities as having potential to stage a Rancierian "dissensus." What I was manifesting theoretically, Yoo was manifesting practically. When I initially reached out to him to ask a clarifying question for a paper I was giving, his detailed and considered response made me want to understand the impetus behind his work even more. When posed with the opportunity to interview someone for this special issue of *Antennae*,

there was no question that I wanted to delve further into his though processes. I have found that I have endless question for Yoo, and although his answers are detailed and precise, they lead me to even further conversations and questions. This interview has taken place over many months of email exchanges, and I feel it is only a beginning.

**Jennifer Parker-Starbuck: Although I am interested in your early experiments with media and human bodies, for this interview, I want to focus mainly on the work you've done with what I would consider 'animality', which I would describe as a consideration of animals for themselves, as they relate to humanity, and how they manifest as a condition in society. With this in mind, how and why did you become attracted to using animals in your work?**

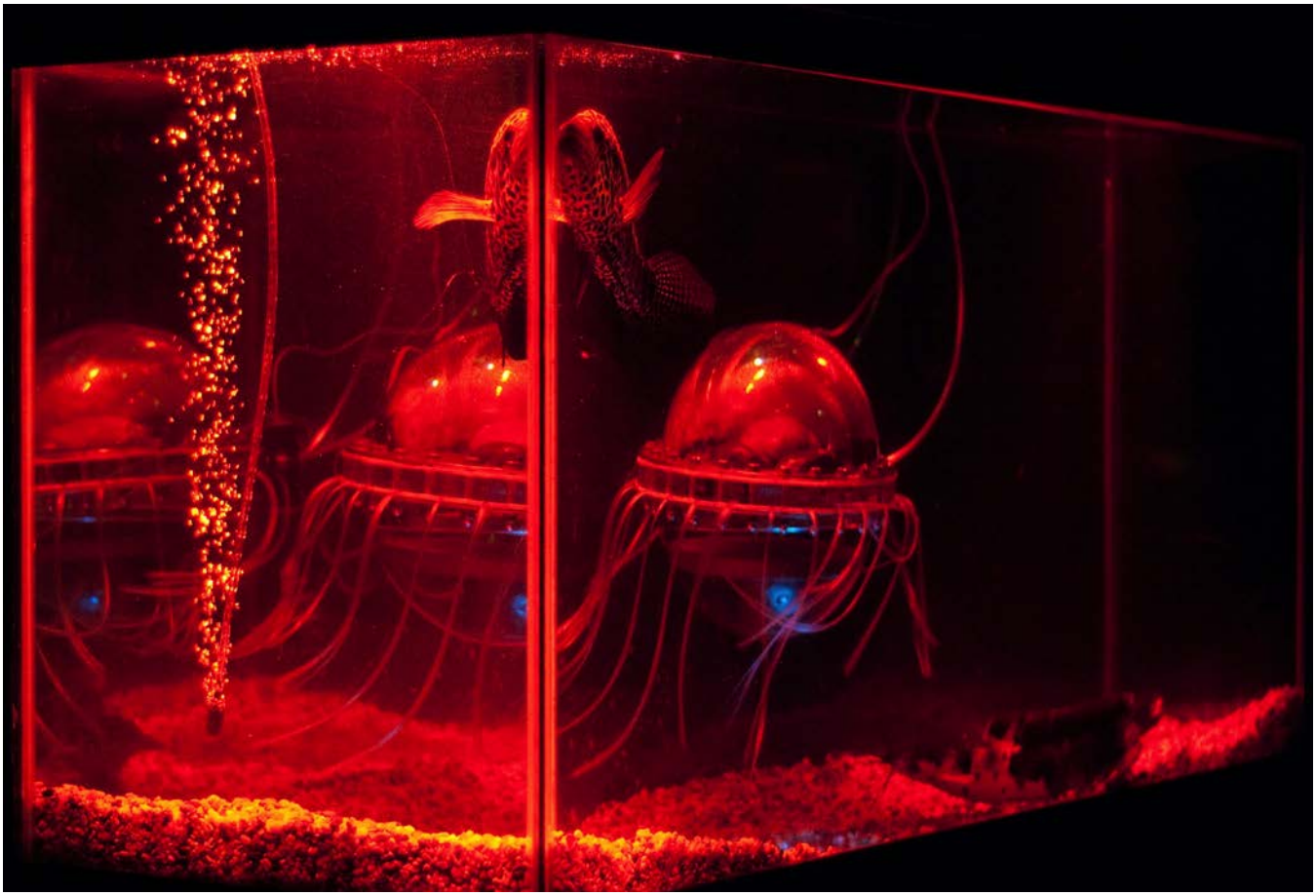
**Doo-Sung Yoo:** Instead of using animals as mere objects in my art, I materialize animals as ontological equivalents with humans and machines – they all become materials that balance with each other. Since I have been engrossed in calculating an equation of intersection between human body and technology in my early work, I have now added one more constant, 'the animal', to the equation. For me, like mathematics sets (such as a sub set, complement set, and empty set), these three objects/subjects (human, machine, and animal) allow me to interpret their mutual relationship to my artistic practice to determine what artistic possibilities can be articulated or derived from these correlations.

Human beings always discover benefits from animals and from nature. My *Organ-machine Hybrid* series illustrates scientific trends, such as when medical science, for instance, utilizes pig bladders for regenerating human skin tissue or develops xenotransplants from animal to human, or robotic organ transplantation as well. I believe that the meaning of 'animality' has fluctuated in history and culture, and is subject to change when influenced by technological innovations. Involving animals in my artwork not only motivates me to reinterpret 'animality and humanity' in the technological environment but also allows me to interweave and find harmonies between the three. Many questions are ongoing in my art: what is shared, and importantly, what traits or values are not shared, at the intersections between 'human and animal', 'human and machine', 'machine and animal', and the three sets, 'human, machine, and animal'; how can we apply those constant values of the equations to artistic avenues and artistic interfaces. Respecting Donna Haraway's sense that we can look ourselves in the 'animal mirror', I would like to find humanity in the animal and other living non-human organisms. Simultaneously, I like to probe how technology can be a bridge between animality and humanity.

**J.P.S.: I became interested in your work initially through the Organ-Machine Hybrid series, beginning with the *Aqua001.c02: Robotic Pig Heart-Jellyfish* and have since also been writing about the piece *Lie: Robotic Cow Tongues*. What intrigues me is the hybridization of the actual animal part and a technological component to create a new hybrid 'species'. In response to my own discussions of your work (at conferences, for example), the use of animal parts is sometimes critiqued. How might you respond to questions of the use of animals to facilitate new affiliations between animals-humans-technologies? And to follow up, how important is the use of the actual animal in the work you develop?**

**Doo-Sung Yoo**

*Pig Bladder-clouds in downtown Columbus*, 2009, electronic devices, helium-filled plastic trash bags, and pig bladders.
Photograph © 2009 Cameron Sharp



**Doo-Sung Yoo**
*Aqua001.cO2: Robotic Pig Heart-Jellyfish*, 2009, robotic devices and pig hearts, Photograph © 2009 Cameron Sharp

**D.S.Y.:** Although I have used live animals, such as fish and leeches, in some of my work, I have mainly used parts of flesh and organs from edible and discarded parts of domestic animal bodies (mostly cows and hogs) that are easily purchased at butcher shops, groceries, and slaughterhouses. This application of 'animal' parts in my artwork differs slightly from other artists who might use the whole animal. The disembodied parts of animals--the meat and organs--are also in the context of food and the waste of animal industry. I am not an animal activist, but in comparing 'art animals' and 'industry animals', it is worth remembering that numerous animals are killed and trashed on machine belts, and the surplus from slaughterhouses is used for processing food and producing further commodities in clothing, cosmetics, ointments, and so on. These are equally disrespectable and disgusting practices behind the scenes of industries that most people are not aware of, or willing to pay attention to when thinking about food. My works remind people that we use animals in our everyday life and position them in art where they can be hybridized with humans and machines for further artistic and scientific benefits, not just traditional nutritional or industrial 'benefits'.

Although I do not agree with, for example, Tinkebell's self-justified killing of her cat to turn it into an art object in *My Dearest Cat Pinkeltje* (2004), and I would not like to drink or eat the human breast milk and cheese from Jess Dobkin's 'The Lactation Station' (2006) and Miriam Simun's 'The Lady Human Chees' (2011), I applaud the artists' challenges to think about a new vision: how can we do

**Tinkebell**
*My Dearest Cat Pinkeljet*, 2004

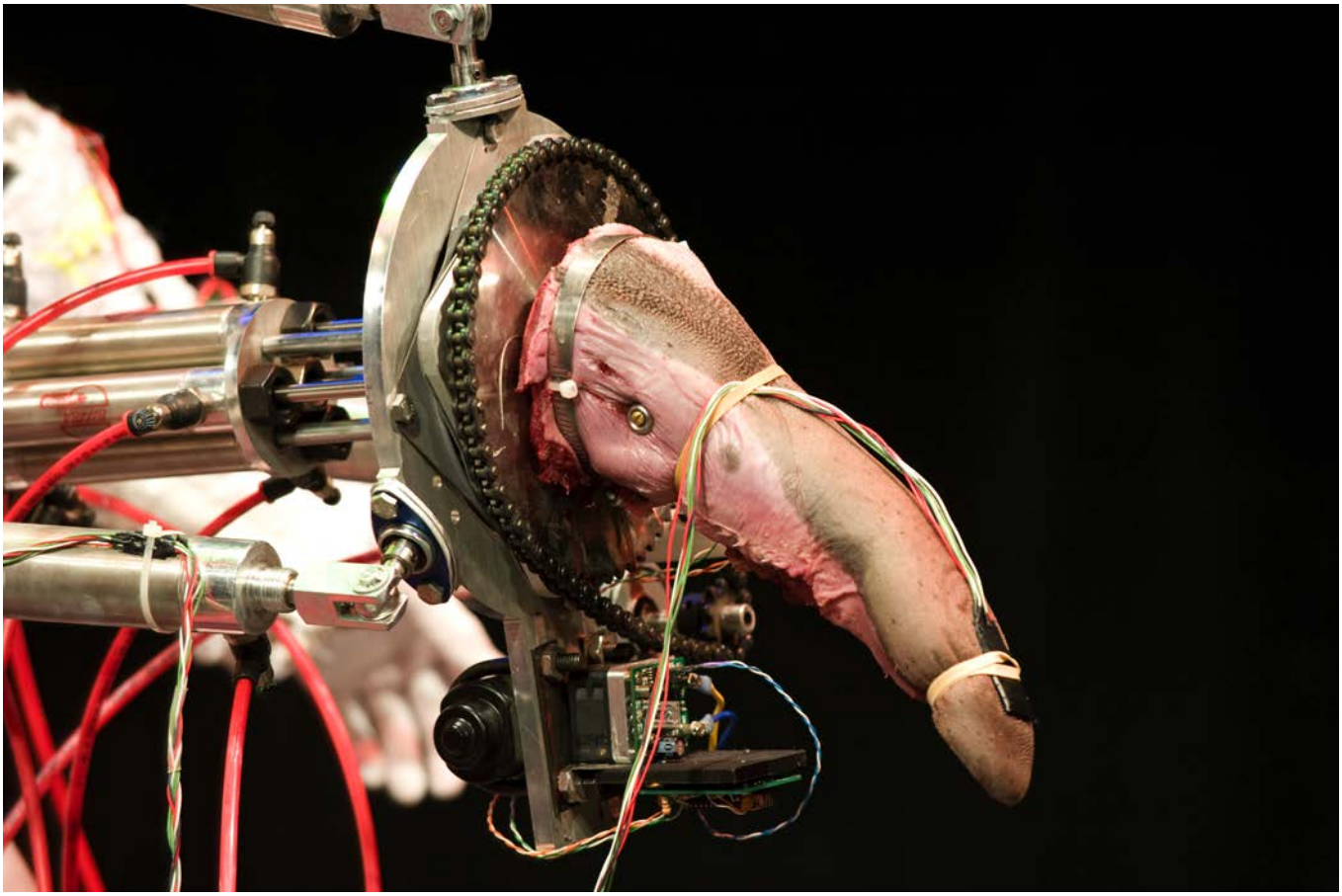
away with stereotypes in order to better understand consumable animals? How can human bodily substances become items for human consumption beyond the baby-mom-oligopoly or physical human-organ transplants? There are many things right in front of us that we do not notice, and we should rethink and reassess our understanding of these systems. Artists (including myself), scientists, engineers, and researchers are able to show these invisible opportunities and possibilities to ask: How can we view the increasingly multifaceted issues of using animals and then shift our relationships with them based on these new views?

As for the strategy of using animal parts in my work, the actual flesh and viscera as materials are powerful attractors, and create a certain 'shock value.' Moreover, combining the animal pieces with mechanical devices in my hybrid series enables an uncanny reaction, a feeling of unfamiliarity when looking at lifelike appearances, following Japanese roboticist Masahiro Mori's *Uncanny Valley* theory (1970). I use these aesthetic and scientific controversies as leverage to attract attention to my conceptual art creatures: human-animal-machine hybrids. For me, using the actual animal alongside or attached to mechanical components is not only important for a work of art in terms of the aesthetic values of animals, object, and subject, but also is significant for articulating both repulsion and beauty within the scientific endeavors of new media art.

**J.P.S.: You describe your Organ-machine Hybrid series as a series of 'characters'. Can you tell me a little more about these characters (and their titles) and why you consider them as such? (Is this a kind of personification and why is this important?)**

**D.S.Y.:** When I was naming my art hybrid creatures, they seemed to be characters in speculative fictions, such as technological versions of legendary creatures born in science labs and creatures of cryptozoology. The names are similar to Shotaro Ishinomori's nine cyborg characters, '001' through '009', in a manga series *Cyborg 009* (1964), which was one of my favourite TV cartoon animation series in the early 1980s when I was in elementary school in South Korea. I created five different characters and nine different versions in the *Organ-machine hybrids* series (2007-2009) and the *Vishtauroborg* project (2011-2012). Two characters have their own names, while others were named after the titles of topics and themes in the series. *Aqua001.c02: Robotic Pig Heart-jellyfish (2009)* is a jellyfish-robot that enables a pig heart to pump artificially and is submerged in a fish tank. The jellyfish-robot (*c02* – child #2) is one of the 'child' robots from a sea anemone-robot (*Aqua001*) that I initially designed in preliminary sketches and drawings.

*Vishtauroborg001.OMH5* is a technically advanced character that enables two cow



**Doo-Sung Yoo**
*Vishtauroborg Version 2.6*, 2012, robotic devices and cow tongues, Photograph © 2012 Tony Shumski

tongues to generate computational sound/music, and mechanically collaborates with a human performer's choreographic gestures in real-time reactions, as a part of the human performers' robotic prosthetic arms. The compound name *Vishtauroborg* is formed from 'Vish-' (Vishnu), '-taur-' (Minotaur), '-robo-' (Robot), '-org' (Organ), and '-borg' (Cyborg). '001.OMH5' means the first human-animal-machine hybrid and the fifth character in the *Organ-machine Hybrids* species.

My art hybrids point out the possibilities that machines will eventually replicate and even replace human abilities and function, and might be more interlinked with the organic creatures in the future. I am interested in ecologist Kinji Imanishi's notion of species-society in holistic systems and chemist James Lovelock's Gaia hypothesis, in which all constituents in nature (even inorganic and chemical environments in Gaia) are interconnecting, interacting, and evolving through autonomous maintenance [1] Based on those views, I imagine that we are connected with all other inorganic and organic components in a huge invisible system or matrix, but we cannot see all invisible connections because not all connections are understandable or visible within human cognition and parameters. Technology, as one of the entities in the system, further interconnects with the organic realms, whether through symbiosis or encroachment. My art hybrids illustrate this invisible system into demonstrably small examples of visible and physical phenomena.

Personifications and anthropomorphic frames help us easily map the invisible systems or other worlds, and engage other entities'

existences through our own sense of the world. Anthropomorphism, however, can also obstruct our attempts to know inherent and indigenous traits of non-human animals and other creatures when we put human characteristics and convention into animal contexts. Concepts of personification can be key solutions for a hybrid-friendly work, in which a viewer is shielded from the psychological and technological unfamiliarity of artificial living things (the uncanny valley). However, for artificial creatures in art, I believe that effective personification requires balancing the scientific plausibility of the hybrid's existence with viewers' suspension of disbelief and cognitive empathy. My art hybrids explore conceptual and fictional narratives of personification and technical realism and convert the feelings of unfamiliarity from the hybrid characters into the positive feelings of curiosity for comprehending the human-animal-machine coevolution.

**J.P.S.: Are there limits to your work? Do you feel that it is important that the use of these animal parts in your artworks be considered 'respectful' in any way? Why or why not? (Are there ethical questions around this use of animals?)**

**D.S.Y.:** When we collaborate with other artists or other people, we try to be respectful and accepting of co-workers' differences in order to forge successful relationships. I do likewise when I use animals, even parts of dead animals because they are my core collaborators in my art. The limit here is that I do not harm or kill them. For me, it would be an act of betrayal. This is the reason why I prefer using animal parts and edible flesh and organs that are already contextualized as food, which does not strain my guilt for using their bodies for my art. Since I have started using animal parts in 2007, and after witnessing hundreds of farm animals being butchered in slaughterhouses when I was collecting the discarded body parts, I have changed my diet to be a vegetarian. This choice is one of my personal deferential attitudes toward my art collaborators--the unknown dead livestock--who unintentionally participate in my work.

**J.P.S.: Animals are regularly 'technologized' in industrial nations and increasingly it feels as if most humans are further from any understanding of 'nature' or animal life and living conditions. Does your work attempt to address this condition? Your piece *Pig-bladder Clouds in Rainforest*, in which a group of bare-footed dancers release bunches of pig-bladder balloons into the sky, seems intricately interwoven with narratives of environmental concern, nature and the natural (thinking about the history of modern dance and its attempt to be more 'natural'), and also with organic rather than human-made or synthetic materials. Do you hope to respond to what is being called the Anthropocene through your work?**

**D.S.Y.:** Technology dramatically increases the productive value of animals as technologized objects for human desire. Our increasing knowledge about animals is actually helping us further commodify them, which then empowers anthropocentrism. This animal subjugation is biased toward extorting resources and enhances our disconnection from the natural coexistences in the ecosystem.

Human feelings of superiority over other living creatures position the animal as having an inferior consciousness available to be exploited. Might it be possible to reassess traditional relationships and reinterpret animals in new relational stages alongside advanced

**Doo-Sung Yoo**
*Pig Bladder-clouds in Rainforest*, 2010, electronic devices, helium-filled plastic trash bags, and pig bladders, six dancers, Photograph © 2010 Cameron Sharp

technology? Could we create two-way communications rather than stubbornly holding on to one-way relationships with animals? We might think about how humans and animals have coexisted before humanity's increasing dominance in nature, but it would be impossible to restore the animal condition in the primitive forest before the Neolithic Age, in which humans began managing animals and plants. How could we build different or new perspectives of the animal outside of the anthropocentric stance?

My *Pig-bladder Clouds in Rainforest* (2010) is a sort of response to the Anthropocene. The project illustrates the post-aboriginal rainforest beyond the animal dystopia. When I launched the project, involving dancing performers and flying hybrid characters, I was imaging the environmental atmosphere in a far-future rainforest, set post-apocalypse, where genetically modified animals and the next human generation mingle with new animal-machine hybrid species. The inventor (me) and two other visual performers are engineers working on the assembly line to create organ-machine hybrid species alongside the celebrating ceremony performance of the six dancers, who represent the post-human generation. These epic scenes metaphorically portray a fantastical ideal that I use as a probing of a techno-utopia, in which humans, animals, and machines beneficially co-exist and hybridize. The dancing performance transmits technology that allows the perpetual life, reincarnation, and transmigration into artificial life from the metaphor of technologizing animals (death) and assembling hybrids (rebirth) performances. The performance's narrative about the relationship between human, animals, and machine engages audiences to think about the companionship between them through alternative applications of technology. Technology is a good tool for forging optimistic approaches in which we support animals and other creatures' sustainable improvements and comfort, rather than using our tools to dominate them.

**Doo-Sung Yoo**
*Vishtauroborg* characters: version 1.2, version 2.0, version 2.6, version 3.1, 2012, robotic devices and cow tongues, Photographs
©2012 Tony Shumski, Cameron Sharp, Justin Luna

**J.P.S.: Based on your explanation about *Pig-bladder Clouds in Rainforest,* in the piece, if animals are hybridized and their body parts used and assembled as your performances imply, how is this beyond an animal dystopia? Is a techno-utopia one in which we hybridize animals, or is this actually a techno-dystopia?**

**D.S.Y.:** Obviously, there is no such thing as a true or perfect utopia and dystopia. These notions are ideal states and cannot be achieved in the real world. (Actually, the etymology of utopia means "not" + "place" and this can be interpreted as synonymous with "fantasy" or "not real" which is how I use "utopia" in my work.) We have seen so many different attempts at utopia in our historical, political, economic, cultural, ethical, and religious circumstances that have caused much suffering. The real problem is that once we choose a system of thought for utopia, we act towards the achievement of the ideal and forget about the consequences of our actions. We have a delusional, self-righteous confidence that we are right and that we are helping others. There are many instances how pursuing utopia has created a dystopia that coexisted in the cause and consequences. For example, John Gast's painting *American Progress* (1872) illustrates the idea of Manifest Destiny, in which constructing an American utopia stands on the other side of exterminating American bison and destroying the Native Americans' commissary and other life necessities, so as to provide food to construction workers on the Western railroad, and entertain hunting excursions.

I am using utopia and dystopia as metaphors and tropes to signal certain ways of thinking about relationships between humans, animals, and technology. I allow these ideas to play and dance in my performances. Then, audiences can think about how animals relate to humans and technology in a utopian or dystopian context. Humans and animals, for

**John Gast**
*American Progress*, 1872

instance, can enhance each other through biological and genetic symbiosis, and machines can be powered by organic material and hybrids, such as biofuel (animal fats for biodiesel) and neurorobotics. We cannot fully escape our human condition to eat and use animals due to the human's intrinsic instinct to feed and kill its prey as a natural predator. Accepting this fundamental human trait, we can acknowledge that the animal-utopia is not possible within the human world.

Articulating my fantasy world is neither a true animal-utopia nor classical human-utopia, but it would be a sort of secular-driven proposition of utopia, an approximation or resemblance of a utopia in which the anthropocentric attitude for utilizing animals still inevitably exists at the level of survival and sustainability, but in a situation of minimized influence from humanity. My performances create a secular ritual mood, which tries not to disrespect animals, but rather to elevate them through the atmospherics of performance. This ritual does not need to be religious, but the devotional mood encourages respect in the audiences' feeling for the sacrificed animals, such as edible animals and laboratory animals, which in my work are technologized and genetically reincarnated into an artificial life. This simultaneous existence of ideal (imaginary) and real states in my performing contexts is "a kind of effectively enacted utopia"[2] of Michel

Foucault's notion of heterotopia, which is "simultaneously mythic and real". [3] My techno-utopia would not be on either side of the argument – *for* or *against* animals, instead, my emerging techno-utopia involves binary oppositions with ambiguous boundaries: where forms are mixed and interlinked without traditional norms (like in Foucault's heterotopia); where whole things are interconnected and where we balance between nature and force as a perspective in Taoism; where we deconstruct classical utopian ideology of traditional humanism as a perspective of posthumanism. My techno-utopia stands on the point of ideal balance between utopias of anthropocentrism, ecocentrism, technocentrism, and others (heterotopia) rather than a single dominating utopia. All of those discourses question how "utopia" can be reinvented and reassessed without the binary opposition split. The 6th century philosopher and Zen master Seng-ts'an sums up my conceptual position, "If you want the truth to stand clear before you, never be for or against. The struggle between for and against is the mind's worst disease".[4]

**J.P.S.: How might a greater interspecies awareness impact the contemporary anthropocentric condition?**

**D.S.Y.:** I believe that the notion of interspecies can shift the paradigm in our understanding of animals away from anthropocentrism. Western culture's dichotomous way of thinking, such as human and nonhuman animal, and high consciousness and low consciousness, has enabled the exploitation of animals and the managing of nature as a mere resource of industrialized human society. However, nature has already given us some warning signals before a future environmental catastrophe. Abnormalities, malformation, and other environmental deterioration by human pollutions and industrial damages are proof and phenomena of our damaging approach and thought, which is the price of human arrogance and will be more costly if not reversed. These problems can and will backfire on us over and over.

The scientific trends of interspecies research, such as human-animal hybrid embryos, and the notion of transhumanism are good trials to deconstruct the binary logic and merge the dual identities into hybrids. However, anthropocentrism is still alive in the destructed boundaries where our industries only benefit human welfare. For the mutual benefit of both species then, we should think about what ideal forms of interspecies relations might be, and how interspecies communication could be used to understand other species' signals. We might also think about which interspecies forms might biologically and environmentally contribute to the health of the natural world. Some criteria for ideal interspecies development include symbiotic mutual benefits that are sustainable for both species; understandable intercommunications between species (with technology); a preservation of both partner species rather than a reduction of either; the prevention of any biological and environmental deterioration; a contribution to the biodiversity value of nature.

The first step of the interspecies process is that we respect other creatures and embrace them. Accepting animals, embracing animals, becoming animals (and becoming cyborgs) is based on the premise that we are willing to change our persevering anthropocentric certitude. I imagine that we can have a less anthropocentric attitude toward our world if we are integrated with different species through technological interfaces. The notion of interspecies might enable us to realign our minds and everyday efforts to support interdependence in our coexistence.

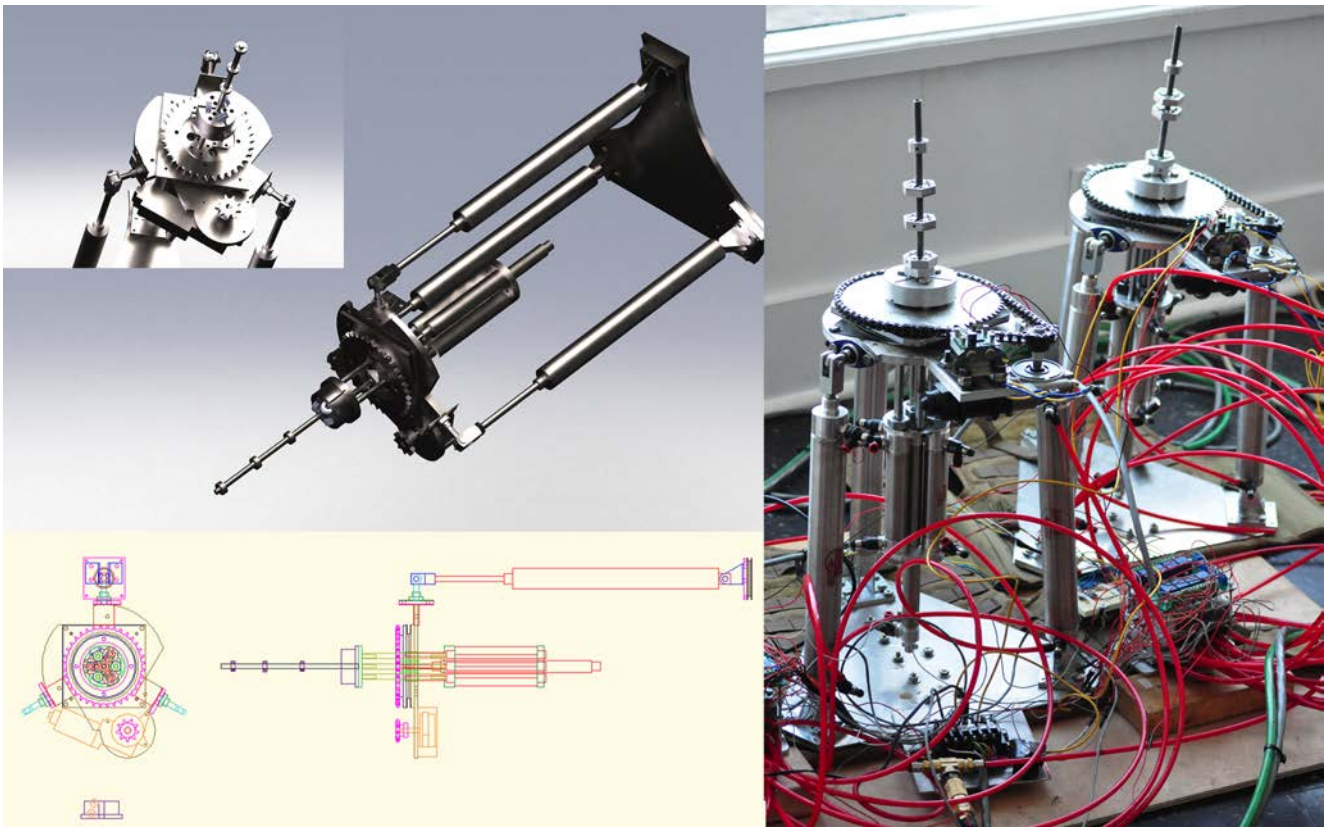
**J.P.S.: In your early interactive work you explored cyborgean concepts, for example, using the living performer to dance with an animated robotic heart in your 2002 performance in Seoul, *The Dynamic and Vital Media*. You describe this on your web site as illustrating 'the expanding humanization of media'. Do you feel media has been increasingly humanized or has it done the opposite--mediatizing humans? How has this early fascination with the cyborg developed as you've incorporated animality into your work?**

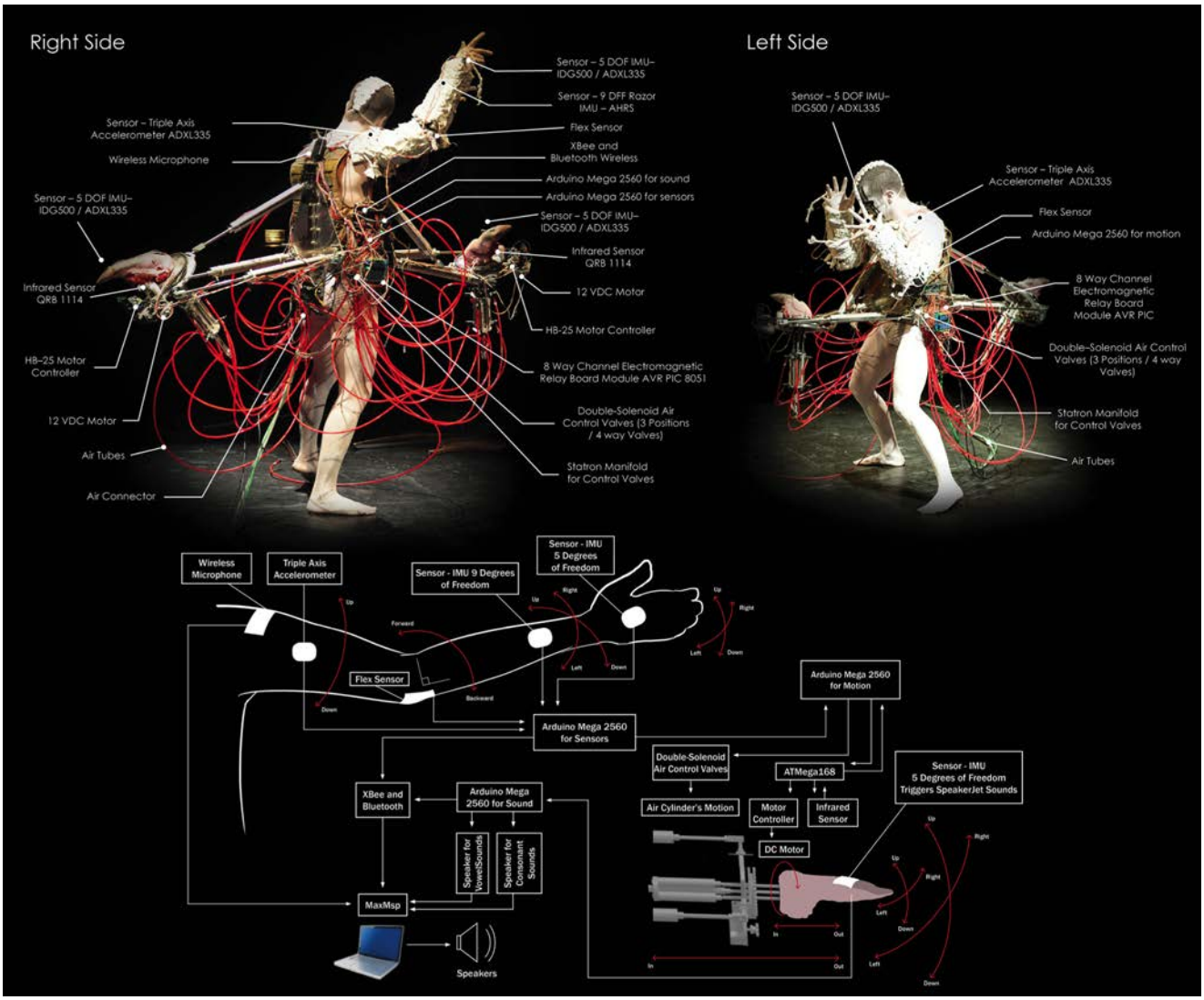
**Nam June Paik**
*TV Bra for Living Sculpture,* 1969

**D.S.Y.:** Technology and humanity are like the two sides of a Mobius strip: while they are interconnected and actually part of the same thing, they are still separate. We control and are controlled by technology in a never-ending loop. Media (technology) has been increasingly humanized. The current Body Area Network (BAN) and Internet of Things (IoT), such as wearable and mobile technology on human bodies, are good examples that show how media has become an intimate interface for human use. When we return to the starting point on the strip, however, we are faced with the other side in which we are subordinated by technology. Technology is also a powerful interface to mediatize humans in politic, capitalistic, social, and cultural agendas.

I admire video artist Nam June Paik's standpoint toward humanizing technology, which suggests to us how we view technology's confrontation between 'control' and 'controlled'. In the globally broadcasted video, art via satellite, *Good Morning, Mr. Orwell* (1984), Paik denied George Orwell's dystopian vision that Big Brother's (telescreens) omniscient power dominates and mediatizes every citizen in a novel *Nineteen Eighty-Four* (1949). Rather, Paik celebrated that humans positively use media to interact with all global communities, which is now much more common in the current world of social media. Moreover, Paik has suggested we can intimately objectify media through humanistic approaches of using technology in his video sculpture series, including *TV Bra* (*TV Bra for Living Sculpture*, 1969), *TV Garden* (1974-2000), and *TV Bed* (1972-1991), which look like origins of current BAN and IoT. I agree with Paik's vision that technology's capability positively enables us to 'liberate people from the tyranny of TV' [5] [which I would broaden to include the categories of media, technology, and power], although are we still in the Mobius strip when encountering different controversies about capitalistic, political media tyranny, such as Apple's iPhone Backdoor security and National Security Agency (NSA)'s global surveillance. Likewise, technology can be developed and applied for good or bad by humans' desires and greed in the endless strip; the duality of the strip reflects the duality of humanity.

Technology, however, can embrace and






**Doo-Sung Yoo**

Top: *Vishtauroborg robotic devices – CAD, 3D modeling, fabrication,* 2011, Auto CAD (2D), SolidWorks (3D), robotic devices, photograph ©2011 Bottom: *Vishtauroborg Version 2.6's* motion & sound system, 2012, robotic devices and cow tongues, photograph and Image © 2012 Cameron Sharp and Doo-Sung Yoo

link to other interfaces with different living organisms. Based on these conceptual contexts, my art demonstrations have evolved into a cyborgian concept, which is where I imagine the next version of human-animal cohabitation within the progress of techno-civilization. My cyborg concept was also based on some technical hybridization hypotheses including zoomorphic forms, gestures, behavioural patterns, and motions of animals that would be applicable to the design of the cyborgs' features, capabilities, and characteristics. Additionally, I worked on creating a programmed mechanical system that could cooperate with somewhat unpredictable animality (behaviours) in a relational algorithm. All of those correlations are mediated by technological systems. Balancing triangular relationships between humanity, animality, and machinery is essential to the design of my cyborgs.

**J.P.S.: There has been a lot of discussion and debate over the term 'post-human' from Katherine Hayles to Cary Wolfe to Rosi Braidotti, and each have their own ideas about what this term means and what its importance is. What do you mean when you use this term? What is its importance to you?**

**D.S.Y.:** The concepts of my bio-art and robotic performance are mainly based on the notions of posthumanism. When I launched the organ-machine hybrids in 2007, my art concept began with the notion of transhumanism, which asserts that technology enables humans to radically exceed their biological and physical forms and capabilities beyond the conventional limitations. My early hybrids are mainly focused on visual metaphors of augmented bodies in electronic sculpturing forms. However, in adding more technical functions for human-machine interactions in future hybrid characters I needed to further research the philosophy of posthumanism to get out of my artistic rut, where I was stuck focusing on the prowess of technology and material forms. Through looking at the meaning of posthuman, I confronted the fundamental considerations and ontological questions of re-identifying new human roles and reassessing humanism *alongside* technology, beyond the mere physical transformation in nature, or as a posthuman being in the Anthropocene. Furthermore, as an artist, I have been considering what aesthetic points artists could derive from human evolution, such as becoming a posthuman entity and entering into new relationships with other species.

I support the fundamental change of concepts about humanism within posthumanism, which have been celebrated in my art. My human-animal-machine hybrid, *Vishtauroborg*, is based on the destruction of traditional humanity by disintegrating the binary boundaries between human and animal, and human and machine. In the *Vishtauroborg* performance, the human performer is not a privileged being in the artistic collaboration with the organ-machine. Sometimes, the performer's improvisatory choreography was controlled by the organ machines reactions, and sometimes vice-versa, which created harmonized motions in real time. This equivalent relationship illustrates Katherine Hayles' positive view of human's high consciousness and intelligent machine's partnership in our ongoing development of cognition environments. Cary Wolfe's cynical views on human superiority and Rosi Braidotti's feminist technological thinking alongside multiple-identities are also significant notions which I applied to *Vishtauroborg's* visual metaphors in hybridizing human/animal-parts/machine and human performers' androgynous characteristics. Humans are no longer standing atop a hierarchy in the theatrical mise-en-scène in order to destabilize hierarchical relationships between human/robot, human/animal, and male/female.

The notions of posthumanism will continually guide me in how I can view and understand humanity and humanism through the lens of technology. My artistic work will share Wolfe's wariness of the 'intensification of humanism', in which technology can only be used for human being's augmentation.[6] In my work, I use technology for new paradigms of humanism outside of the anthropocentric stance. Following those posthumanists' concepts, I would like to continually probe what new human roles are, what new human responsibilities are, what new human life-forms are, and to discover new norms and standards in the coexistence of living entities and technology.

**J.P.S.: Much of your work, the *Pig-Bladder Clouds*, or *the Vishtauroborg001.0MH5* for example, sits at a border between performance and installation art. How important is the human aspect of performance in your work?**

**D.S.Y.:** In my art, a performing human is a sort of moving object in the installation aspect, and moving objects (not just humans but other objects) are also performers and actors in the performative sense. For that assumption, I believe that live animals, robots, and other artificial motions as moving objects can be actors and they can collaborate with a human performer beyond being mere props and objectified elements. I simultaneously consider the visual metaphors of moving objects, their action roles, and their interrelationships with counterparts.

For my performative contexts, I have been considering and probing that the ideal human-performer would intervene as a leader, guider, mediator, trigger, and connector in art collaborations with nonhuman living things and intelligent machines. A human performer's consciousness might moderate animal-performers' wild, atypical, and instinctive behaviours or machine-performers' mechanical patterns, foregone conclusions of arithmetic operation, and mechanical movement. A human performer's intuition might prevent animal overreactions and machinic mechanical and computational errors and inconsistences. A human performer is able to draw the reactions from the nonhuman counterparts in order to create relational roles in performance. A human performer might help the audience to interpret nonhuman performers, and above all, a human performer's management is not dominant within my art, making it fundamentally differ from, for example, a circus with animals and props.

However, advanced technologies with intelligent systems require new interrelations of human performers' expressions, roles, management, and other capabilities, which are being probed in my ongoing project and will be investigated in my future work. Intelligent robots with machine learning systems could require more dexterity from human performers. Also, the new programmable algorithms make approaches to intercommunications and interactions with nonhuman living things more possible in performance environments. For those new technological aspects in performance art, I utilize computational systems to explore new possibilities of enhancing human expression through digital means and extend to accommodate new surroundings with nonhuman animal counterparts. Human performers in my art perform within those spectrums and will explore further aesthetic possibilities.

**J.P.S.: You originally studied in Seoul, South Korea before moving to the U.S., are there specific cultural influences upon your work?**

**D.S.Y**.: I imagine that some of my memories and experiences relate to my artistic concepts and ideas. Buddhism might influence my childhood because my parents are Buddhists.

**Doo-Sung Yoo**
*Vishtauroborg Version 3.1*, 2012, robotic devices and cow tongues, Photograph © 2012 Cameron Sharp

(However, I am not a Buddhist, I am an atheist.) I have many good memories of my childhood with my parents who frequently brought me to Buddhist temples and worship. I still remember spectacles of some Buddhist religious events where people were releasing captive creatures, such as fish, turtles, and birds as an act of virtue. Buddhists believe that life release showing compassion to animals will benefit their current and afterlife. According to my mom's traditional oral folk tale, once upon a time, a monk had rescued dying fish in a dry puddle and released them into a river. Then, the fish were able to be reborn as humans later on. The monk said that all living things used to be humans and they (and we) are transmigrating into other species so that we cannot just harm and kill them. Although I don't believe Buddhism and Hinduism's Karma and Samsara, I am interested in the concept of transmigration and reincarnation, which is also similar to the ancient Greek's notion of Metempsychosis, which is being illustrated in current genetic engineering endeavours to realize rebirth cycles in genetic cloning research.

One day, my mom told me that I was crying at one of the animal releasing ceremonies when I was at the preschool age (although I don't remember this). According to my mom, I said, crying, 'The animals will die without our care and food. Mom, don't send them away. We have to take care of them…' Animals are contextualized in anthropomorphic characters in most kids' toys and cartoon animations, so I guess that I referred to the

animals as weak beings like babies or pets that need human care. Actually, many released animals from human habitats are unable to survive in different environmental conditions and native animals also are exterminated by these invasive species. Religious activities of releasing animals don't impact on ecosystems. But this cause and effect dynamic represents how human beings disturb the natural world and negatively impact biodiversity. Humans are always killing the goose that lays the golden eggs.

I am already familiar with embracing animals and becoming aware of correlations with animals in life from these childhood memories with my Buddhist parents. Moreover, the views of Buddhism about the relationships between humans and animals (and nature) remind me that there is no human supremacy or subjugation of other living creatures in the living world because every soul is capable of moving to different bodies in the repeating cycle of birth, life, and death. This idea is partially related to posthumanism's attempt to disintegrate and merge binary oppositions (between animal and human), and to the idea that human consciousness could transcend the physical boundaries and transfer to different entities, even into cyber circuits. Those Buddhist experiences may subconsciously influence my artistic concepts involving the coexistence of humans and animals**.**

**J.P.S.: You curated what sounded like a fascinating exhibition in Amy Youngs' The Museum for Insects at the Peabody Essex Museum called the *Telepresent Animal Hall of Fame* in 2013-14.**

**In your intro to this exhibit you ask several crucial questions to artists exploring animals, insects, and technology and I'd like to turn some of these back to you if I might: What form of embracing animality in new media art and performance (and in your work specifically) might work to create greater awareness about environmental damage, habitat, or the species themselves? How can artistic work be more proactive in this prevention (is it possible)? In what ways does 'redesigning' animality help viewers to better understand the animality that exists?**

**D.S.Y.:** Yes, the *Telepresent Animal Hall of Fame* was the cricket-size miniature exhibition in Amy Youngs' anthropomorphic art installation, *The Museum for Insects* (2013-2014). The web and mobile-based telecommunication system in the cricket house made entertaining environments where audiences not only could see the live crickets and art exhibitions, but also operate the camera's angles, speakers, and lighting setup at both the Peabody Essex Museum and online. As the exhibition curator, I invited a number of prominent artists whose works involve animals and issues of bio-art and juried the selection of students' art works that focused on communicating and contributing to the crickets' environments with artistic avenues. My curatorial work focused on inviting and selecting artists around specific sub-topics. For example, for the topic of 'Human-animal co-creation', I was interested in how artists involve animals as a collaboration partner into art contexts that create and symbolize political and social metaphors. The invited artists' works are printed out on cricket-size images that exhibited inside of the museum-inspired cricket house for visiting audiences and online visitors to view.

To answer these questions myself I would say that my animal parts symbolize animality, but also serve as cultural symbols as objectified and technologized animals. Involving those contexts in my art forms, I have articulated that we might

use technology to reassess animals as ontological equals in our living world rather than subsumable (and consumable) entities.

However, frankly, promoting public awareness of understanding of those conceptual agendas is not easy. So, my goal is to attract more public attention to these issues in my research. I believe that more participations and interactive activities for audiences could help remind them to think more about our potential issues with animals and environmental damages. Artists could suggest new ways of thinking, better and more ecological forms, prototypes, and interfaces with implementing technology that eventually enables people to reinterpret animality. Through those materializing technological interfaces, audiences would be aware that technology is not solely for expanding our realm and our territorial aggrandizement, but to mediate co-existence and symbiosis between animals and humans for mutual interdependence. So, general audiences could become more humble in their attitudes towards the use of technology towards animals, and embrace animality.

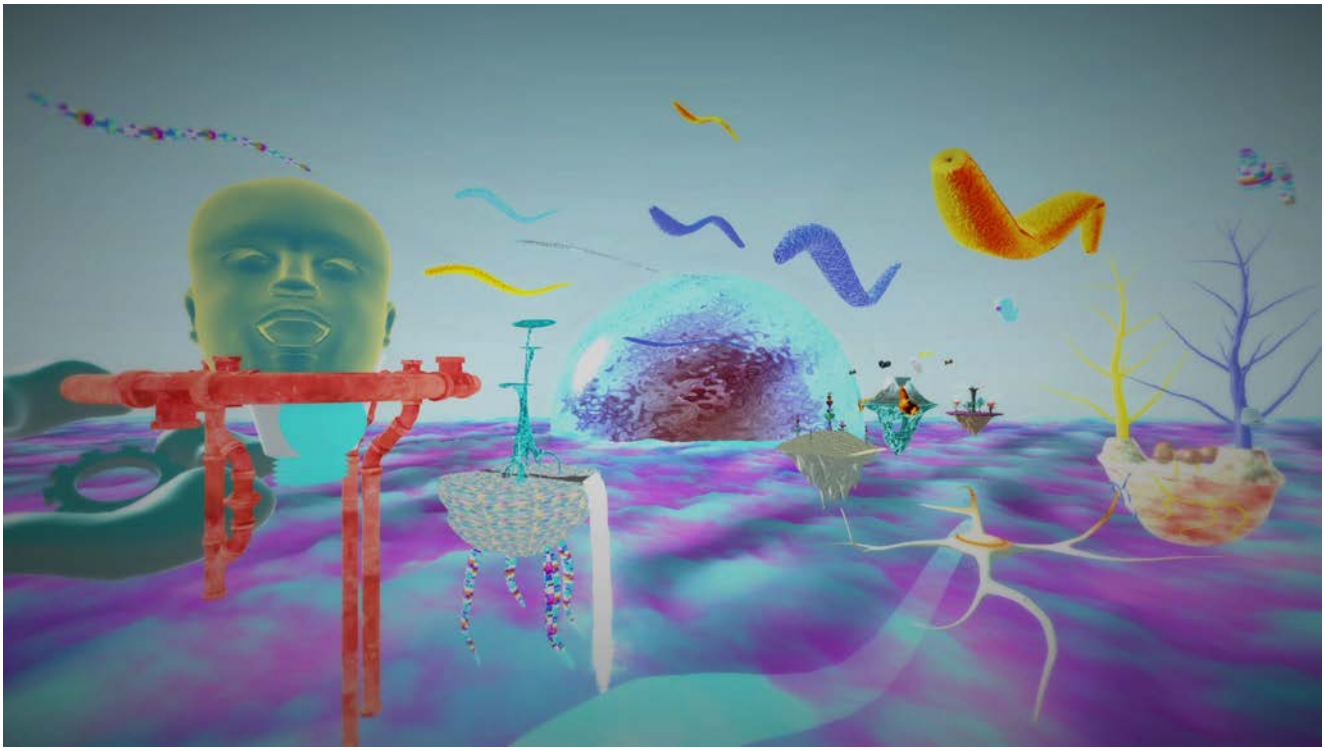
We are always redesigning animality for human benefit. But we need paradigm shifts towards mutual benefits, symbiotic relationships, and interspecies existence. We might use technology that could attract animals' expressive signals into the technological integration system, but the issue is how we do not damage the instincts of this animality. My designing of interspecies and technical hybridization hypothesizes that animals can become slightly more cultural and humans can become slightly more animal. For instance, the cooperation of the human performer and programed mechanical system could moderate, draw, and bridge animality into artistic contexts.

Defining animality and humanity is still an ongoing process. A way of thinking about animality is how we think about ourselves. So, art could show more interconnected forms through interactivity with tools from science and technology. In the Anthropocene, we as posthumans need to learn about and involve animality to solve our environmental issues. As artists, our responsibility is to educate audiences about animality – and that is part of the process of 'redesigning' animality.

**J.P.S.: Finally, it would be great to hear a bit about what you are currently working on?**

**D.S.Y.:** My new project is a performance-based, long-term series that involves leeches to continually explore the confluence between biological, technological, and artistic collaborations between humans and nonhuman animals. The new project features a three-episode series that ultimately leads to the final version which takes place during a performance situated within a video game context. In the first episode, as a theatrical performance, I am creating a cyborg that involves a robotic device that is controlled by the live leeches' behaviors through machine detection. This robotic prosthesis can deliver blood from on-board storage to feed the leeches. In the second episode, I am creating an experimental virtual reality (VR) animation, in which virtual leeches and humans have a symbiotic relationship and help each other to survive in a post-apocalypse scenario. Finally, the two episodes will interlink in a narrative where the human performer and live leeches connect to the avatars from the artificial world.

The project pairs live leeches' sense of augmented vision with the machine and computer vision system in the robotic and VR performance. Leeches have ocellus, simple eyes, which are not sensitive compared to the other sensory organs and chemical receptors on their bodies. However, the performer's VR headset shows multiple sights and images from a leech's



**Doo-Sung Yoo**

Top: *The Inaugural Performance of Leech Project – "I've come that they may have life, and have it abundantly"*, 2015, robotic devices, leeches, cow intestine, liver, and flesh, photograph © 2015 William Randall Bottom: Virtual Reality Animation of Leech Project – *"I who speak to you am he"*, 2016, 3D Animation, photograph © 2016 Doo-Sung Yoo

perspectives, which are created by the data from the computer vision system, the wearable machine's mechanical motions, and the human performers' reactions. The VR illustrates an ideal fantasy, where the human avatars co-exist as equals with the nonhuman animals' avatars as interdependent companions.

Leeches are very beneficial animals for

medical purposes and were used by ancient physicians for bloodletting over 2500 years ago. Modern medical science and genetic engineering utilize the anticoagulant substance, hirudin, which is extracted from leeches' saliva. Hirudin is a more powerful anticoagulant than heparin, which is extracted from cow lungs and pig's intestines and livers. Despite those medical benefits for human therapy, leeches are publicly considered one of the more disgusting animals, because they are bloodsuckers. My new project is going to remind people that leeches are beneficial animals, and will re-contextualize and convert the feeling of unfamiliarity into artistic beauty.

## *References*


[1] See Kinji Imanishi, *A Japanese view of nature: the world of living things*, ed. Pamela J. Asquith (London: Routledge Curzon, 2002), xxxvi, 61-62, Environment and Ecology online, "Gaia Hypothesis", http://environment-ecology.com/gaia/70-gaia-hypothesis.html, and James Lovelock, *Gaia, a new look at life on earth*. (Oxford: Oxford University Press, 1979), 10 for more information about these ideas.

[2] Michel Foucault, "Of Other Spaces, Heterotopias" in Diacritics, Spring 1986, pp.22-27

[3] Ibid.

[4] Jonathan Haidt, "The moral roots of liberals and conservatives", TED2008 Filmed March 2008, https://www.ted.com/talks/jonathan_haidt_on_the_moral_mind/transcript?language=en#t-942000

[5] Art Institute of Chicago, "About This Artwork - Family of Robot: Baby": http://www.artic.edu/aic/collections/artwork/117190

[6] Cary Wolfe, *What is Posthumanism?* (University of Minnesota Press, 2010), xv.



**Doo-Sung Yoo** is a Korean new media artist who works in the United States. He explores hybrid art, synthesizing natural and unnatural technology within artwork, interweaving interdisciplinary media between arts, science, and technology, and finding and discovering the aesthetic possibilities for interactions between human and technological nature, and interspecies communication between human and nonhuman creatures. He is actively searching beyond the conventional parameters of the natural world to reassess human roles and interdependences with nature and technology, which are illustrated in his artwork, the human-animal-machine hybrids. His hybrids articulate the integration of biological organisms and inorganic technological systems in order to communicate with the nonhuman world and create environmental interactions.

His experimental hybrids have been shown in many exhibitions and art festivals, such as *Prospectives.09* (USA), and *Ingenuity Fest* 2012 & 2016 (USA). He presented his works in the *3rd Biennial Living with Animals Conference* 2017 (USA), *Art And Speculative Futures International Conference* 2016 (Spain), *International Symposium on Electronic Art* 2012 (USA), and the *College Art Association Annual Conference* 2013 (USA). His artistic hybrids in sculptures and performances were nationally and internationally reviewed and published in *Borderlines IV: Resisting, Persisting, Performing* 2016 (UK), *Bodies on Stage: Acting Confronted by Technology* 2015 (France), *Intertekst* (Poland), *Evolution Haute Couture: Art and Science in the Post-Biological Age* (Russia), *Wi: Journal of Mobile Culture* (Canada), *Media-N: Journal of the New Media Caucus* (USA), and *NY Arts Magazine* (USA).

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