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## **An Impetus for Biological Research in the Arts: A Practitioners Statement**

Although today's environmental problems are daunting and complex, I find inspiration in the current ecological arts movement, where practitioners often work in collaboration with communities towards 'real-world' outcomes. In many of these projects, the role of the artist, scientist, activist and educator over-lap, questioning the established boundaries between art and science. Many of these practices engage the audience by asking philosophical questions about human approaches towards non-human life and our role as species in the greater biosphere.

### **Intention**

As an artist and activist, I believe art can contribute to society by inspiring and engaging people. In my practice, I participate in primary research biology that includes students and the public to conduct both field and laboratory studies. The intention is to inspire people to learn more about their local ecology and participate towards protecting it. The focus revolves around the conservation of amphibians and other groups of animals such as fish and insects- species not normally associated with a 'value' in the economic sense, but are enormously valuable in their own right and essential to the majority of the earth's eco-systems.

### **Towards an Art of Amphibian Conservation**

*The frog does not drink up the pond in which he lives.*

-Native American Proverb

Frogs, toads, newts and their kind are bio-indicators and often called the environmental canary in of global coalmine. Of the over 5,000 species of known species, about one-third of them are in decline or already extinct. Deformities (extra-limbs, missing limbs, and others) among populations have been found on six continents and may be increasing. In North America some sites studied recently had an 80% abnormality

ratio. No one knows for certain what is causing all the different types of abnormalities. Currently there are a number of hypotheses being investigated; parasitic infection, increased ultra-violet radiation, chemical pollution, selective predation or cannibalistic activity or a synergistic combination. Amphibians are an ancient group of animals that survived several past mass-extinction events. Something now is causing their rapid disappearance. We may be responsible for many of the causes. To solve these complex problems, it will take a massive collective effort, where artists may play a significant role.

It is through my art practice and scientific inquiry that I express my concern for the global plight of amphibians. My primary scientific focus for more than a decade has been determining the percentage of deformities and potential causes. Though collaboration with other North American researchers such as Stanley Sessions, Peter Warny, James Barron and others, we have found dozens of locations where deformed frogs are present. In the summers of 2006/07, field-surveys were conducted in Yorkshire in collaboration with naturalist Richard Sunter<sup>1</sup> and the public at Yorkshire Sculpture Park. As a result, we discovered large numbers of deformed English toads with a wide range of development deformities (including missing limbs, limb segments, truncated limbs, and others). To the team's understanding, this remains the largest recorded sample of the deformities among UK amphibian populations historically.

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<sup>1</sup> Naturalist and Recorder of Reptiles and Amphibians for the Yorkshire Naturalist's Union, Wakefield, England



Yorkshire Sculpture Park Public Amphibian Survey, Wakefield, England, Summer 2008

The following summer, the team established a public bioart laboratory installed at the Yorkshire Sculpture Park to investigate potential cause(s). The lab created a platform for public discussion, debate and through experiments we began to unravel an environmental mystery. Scores of visitors participated directly in the scientific studies. The research was submitted for scientific publication and is currently being developed into an upcoming ecological art installation. In this way, the community, helped to research and uncover the cause for local amphibian deformities and may help researchers better understand mechanisms responsible for abnormal frogs found globally. Also, through future art exhibitions this new knowledge will be disseminated to a wider audience.



Public BioArt Laboratory, Yorkshire Sculpture Park, Wakefield, England, Summer 2008

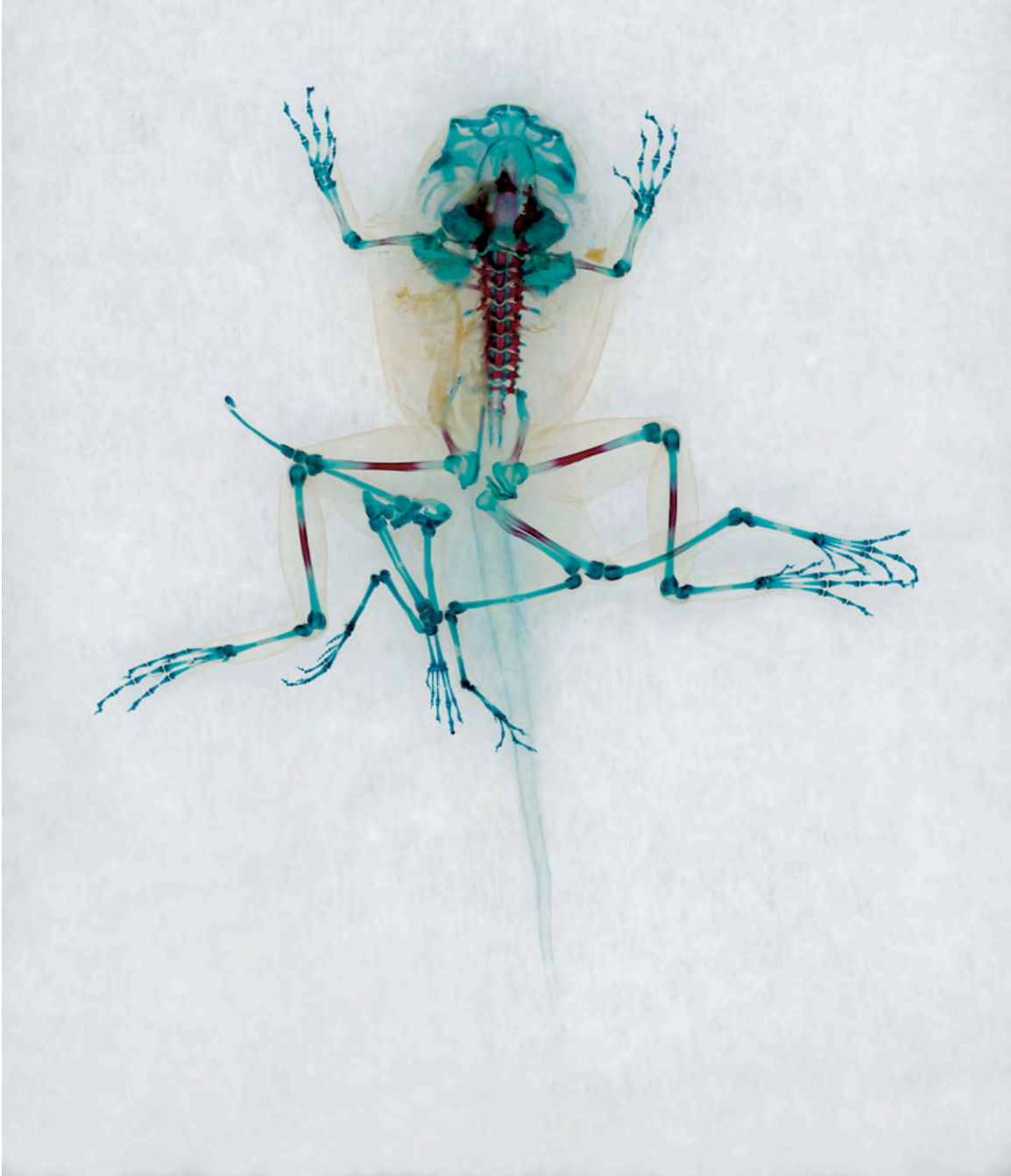
My artistic response, “*The Malformed Amphibian Project*” or “*Malamp*” (1996-current), employs multi-components such as drawings, web-cast experiments, photographic prints and the sculptural series “*Styx*”. The photographs are created by chemically altering the abnormal specimens ‘clearing and staining’<sup>2</sup>. This process intends to obscure direct representation- I do not want to exhibit large images of deformed frogs, which I believe would be frightening and bordering on exploitation. This is followed by high-resolution scanner photography. Each specimen takes hours sometimes days to be scanned, until the image is an artwork beyond scientific documentation. Using the scanner enables the creation of water-colour ink prints (IRIS) with tremendous details. The frog is the center of the pictorial scene floating in what appears to be water or air. This otherworldly quality is reinforced by the titles given by

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<sup>2</sup> Clearing and staining is a laboratory technique where preserved vertebrates can be chemically cleared using digestive enzymes leaving tissue semi-transparent and stained by dyeing specific tissues (IE bone and cartilage) vibrant colors for easy identification. For more information please see [www.greanmuseum.org/malamp](http://www.greanmuseum.org/malamp)

the poet KuyDelair. Each frog is named after an ancient character from Greek mythology based on each individual's deformed anatomy. They are scaled so the frogs appear approximately the size of a human toddler, attempting to invoke empathy in the viewer instead of detachment or fear; if they are too small they are dismissed but if they are too large they become monsters. As each photograph is intended to engage the viewer, simultaneously, each print is intended as a reliquary to a short-lived life. Each finished print is unique and never editioned, to recall the individual animal.





*DFA 83, Karkinos*, H 47.5 inches x W 35.5 inches, 2001/07  
Courtesy the Artist and Archibald Arts, NYC

Named by KuyDelair after the legendary river from Greek mythology that moved between the worlds of the Living and the Dead, *Styx* is a sculptural expression of the complex sensations derived from finding the abnormal frogs in nature. Each illuminated glass dish houses a precisely mounted actual cleared and stained specimen, attempting to recall stained-glass windows from places of worship or precious gems. The specimens sit

motionless outside of time, sculpted examples of our changing environment. Each variation of “*Styx*” is site-specific and made in response to the shape and size of the exhibition venue. Likewise, the specimens displayed are also related to the region the museum is in or the context of the exhibition. Each variation is different and never re-shown.



GALLERY 400, THE UNIVERSITY OF ILLINOIS AT CHICAGO, CHICAGO,  
“BIOLOGICAL AGENTS”, FALL 2008



## **Why Look at Insects?**

*“Something in the insect seems to be alien to the habits, morals, and psychology of this world, as if it had come from some other planet: more monstrous, more energetic, more insensate, more atrocious, more infernal than our own.”*

-Maurice Maeterlinck, 1933

Arthropods are one of the most misunderstood groups we share the planet with. They are remarkably diverse, cladistically complicated, many are considered environmental indicator species and like much of the world’s biodiversity may be suffering from overall population declines. From the scientific perspective they are a wealth of evolutionary knowledge and are essential to the survival of most of our familiar Holocene eco-systems. From an environmental activist standpoint they are largely unnoticed yet because of their habitat diversity offer a unique opportunity for new campaigns. In current western visual art practice their role is that of mixed importance ranging from appropriated biological material (often dead) to cherished ‘other’. They have a lot to teach us if we take the time to look.

*Love Motel for Insects* is an ongoing series of outdoor installations intended to construct situations between humans and non-human life-forms with open-ended opportunities for activism. The works use ultra-violet lights on enormous blank canvases to attract insects and creates an opportunity for public interactions with nocturnal arthropods, which are not often seen. These works have become the backdrop for community picnics, graffiti jams, political rallies, scientific investigations, musical event, and even local film screenings relating to local species. At each site, the insects gather leaving pheromone traces on the canvases and collaborating members of the public are invited to participate in activities they have a part in creating.



*Love Motels for Insects: Bavarian Variation*  
Kunstverein Ingolstadt, City Centre, Ingolstadt, Germany  
Black Ultra-violet light installation, 2 by 5 meters by 2  
June-September 2005  
Photograph by Thomas Neumaier

This series of works began in Central America in 2001, as an investigative reaction to the intense arthropod diversity found within Neotropical rainforests. Attempting to attract insects, I set-up primitive structures made from black (ultra-violet) lights and bed-sheets placed in the forest floor. Within moments hundreds of flying visitors came to the piece- fluttering moths, blood-sucking Hemipteras, clunky beetles, delicate caddisflies, ants, lacewings, and many more- the diversity of colors, shapes, and sizes was amazing! Female moths released chemical pheromones to attract mates and consequently "painted" the piece, beetles hungrily lumped one upon the other while releasing vibrant colored eggs and primordial fluids- a kind of arthropod rite of Bacchus and abstract expressionism.

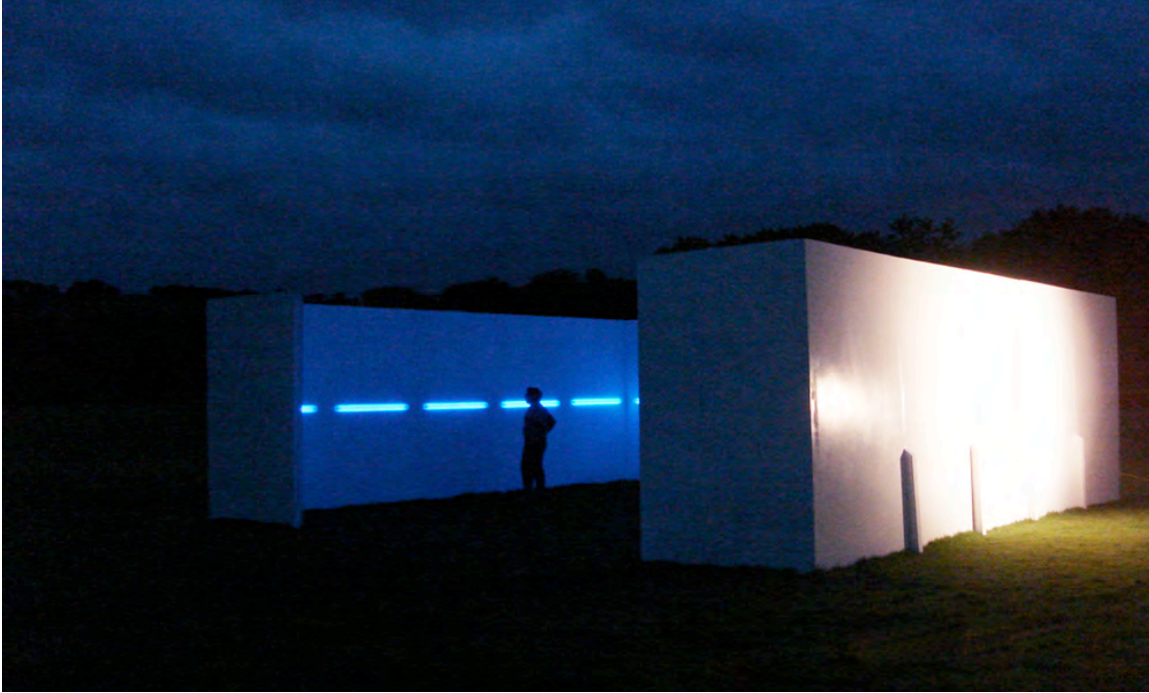
On the second night, spiders laboriously decorated the sculpture with their own form of geometric abstraction. Attracted to movement, other predators such as tarantulas, mantids, scorpions, bats, and amphibians followed. I counted, photographed, recorded predator/prey relationships, created a biotic index and attempted to identify species that

interacted with the sculptures. Students, other researchers and the public were invited to watch and photograph the insects. Fascinated and inspired by this initial experience, I began creating black-light sculptures and public nocturnal field-trips around the world. To date versions have been in Asia, Europe and the Americas.



*Love Motels for Insects: Kung Ju Variation*  
Kung Ju, South Korea  
Black Ultra-violet light installation, 1 by 3 meters  
August 2004

These works have been set-up in a variety of environments including Tropical Rain Forests, inner-city bus-stops, London roof-tops, industrial environmental remediation ‘Brownfield’ sites, public schools, Scottish highlands, German city centers, Venetian boats and others. Each work is site-specific, temporary and unpredictable.



*Love Motels for Insects: YSP Variation*  
Yorkshire Sculpture Park, Wakefield, England  
Black Ultra-violet light installation, 3 x 8 meters double-sided by 3 walls  
June-October 2008  
Commissioned by Yorkshire Sculpture Park

With Global variations these projects have created unexpected results that reflect the open-ended intention of constructing situations between species. In South Korea local entomologists used the artwork to find, describe and catalogue insect species not previously described. In Germany, environmental groups used the works as a public platform for presenting a petition to get local government to change outdoor lights that were killing insects. In the UK painters and graffiti artists worked with children and the public to create encountered insect drawings. In the US local eco and social activists groups gathered with musical groups to create an insect festival where independent press and music were distributed from a bus-stop courtyard turned public stage. Each Love Motel is a performative experiment, which allows for human and arthropod interaction with open results.





*New Haven Love Motel for Insects Picnic*  
Situation between urban insects, Yale University research scientists, local musicians, graffiti artists and political organizations  
5 August 2006  
Photograph by Will Baker

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In conclusion, through these practices, collaborations have been formed between numerous scientists, students and the public to conduct laboratory procedures and environmental field-surveys. As an Eco-artist participating in primary biological research, this practice is an extension of artistic investigation and challenges traditional boundaries between disciplines. Through hands-on field trips and workshops with local participants in specific ecosystems, this work, attempts to become a transformative catalyst towards increased environmental awareness.

Brandon Ballengée  
February 2009  
New York, New York

## Biography for Brandon Ballengée

Exploring the boundaries between art, science and technology, Brandon Ballengée creates multidisciplinary works out of information generated from ecological field trips and laboratory research. Since 1996, Ballengée has collaborated with numerous scientists to conduct primary biological research and Ecological Artworks. A particular area of study is the occurrence of malformation and global declines of amphibians. These activities were outlined in "Ecoventions", a book published in 2002 by the Contemporary Arts Center of Cincinnati.

These projects have appeared internationally on ABC's World News Tonight, BBC's Today Show and in Audubon Magazine, GENEWATCH, ESPACE Sculpture The Guardian, MIT's LEONARDO Journal, The Journal of Experimental Zoology, The New York Times, Newsday, The New Yorker, Orion, Sculpture Magazine, The Sciences, The Village Voice, and others. His work has been included in several books including the new Art in Action: Nature, Creativity and our Collective Future, published by Earth Aware Editions supported by the United Nations.

His Artworks have been exhibited in Australia, Asia, Europe and the Americas. Recent solo exhibitions of his work were held at The Arsenal Gallery in Central Park (NYC), The Peabody Museum of Natural History (Yale University), Archibald Arts (NYC), and Kunstverein Ingolstadt in Ingolstadt, Germany. Upcoming solo exhibitions are planned at the Williams Center for the Arts, Easton, Pennsylvania and the Shrewsbury Museum in Shrewsbury (the birth city of Charles Darwin) in 2009. He participated in the 2004 Geumgang Nature Art Biennale in Kung Ju, South Korea the Waterways Project, which was installed at the 2005 Venice Biennale, Biennale for Electronic Arts Perth 07 in Australia, film screenings as part of the 3<sup>rd</sup> Moscow Biennale in Russia, and *Biotechnique* at the Yerba Buena Center for the Arts in San Francisco.

Ballengée has been awarded several artist grants including funding from the Puffin Foundation, Maxwell Landau Foundation, Nature Conservancy, New York State Council on the Arts, and others. He also has attended several artist/ researcher in residency programs. In 2003, he was an artist in residence at the Natural History Museum in London, Gunpowder Park and [space] in London in 2007, and the Société des arts technologiques [SAT] in Montreal, Canada and the Yorkshire Sculpture Park, in Wakefield, England in 2008.

In 2001, He was nominated for membership into Sigma XI, the Scientific Research Society. His theoretical article, "The Origins and Application of Artificial Selection" is included in the 2004 anthology "*Biomediale*" published by the National Center for Contemporary Art in Kaliningrad, Russia. In January of 2002 and 2006, he co-taught ecological art and neotropical evolution courses in Costa Rica for Hartwick College. In addition, he regularly conducts ecology/ field biology/ genetics and digital imaging workshops open to the general public at urban parks, zoos, petstores and fish markets.

He serves on the board of directors for the Peoples Museum of New York. He currently is a Candidate for a Ph.D. at the Hochschule für Gestaltung in Zürich, Switzerland. A forthcoming book on Ballengée's work will debut in 2009 published by the Arts Catalyst, London England.