

DNA in a suitcase: Border Transmissions and Hybrid Bio-Collaborations in *BioHome: The Chromosome Knitting Project*

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The scope of this presentation

Taking the topic of Border Transmissions, we will present a range of documentary footage from our collaborative project *BioHome: The Chromosome Knitting Project*, a performance installation that blurs the boundaries between home and laboratory, nature and biotechnologies, by placing live wet biology products in a biotech ‘display home’.

A discussion of the theories and methodologies behind the work will include:

- International and state border implications of biotechnology in art works.
- There will be a discussion on the Steve Kurtz (Critical Art Ensemble) case of biological wire fraud, as well as cases of ‘border crossings’ with bio-products for the sake of art – frog cells in jocks, or DNA in suitcases!
- We will explore branding/intellectual property considerations, including creating an international corporate branding style and sponsorship for *BioHome*, as well as getting sponsorship from international biotech companies and the ethics of biotech sponsorship.
- Crossing borders between forms: the hybridizing of sound, wet biology and performance.

Introduction

At present nature is being manipulated and changed rapidly by biotech science. This transformation of nature, as we experience it today, seems dramatic mainly because of the accelerated rate of scientific and technological developments, as opposed to the slower pace of evolutionary change. The post-natural transformations occurring in the environment include amongst others: genetic modification of organisms through recombinant genetic technologies (GMO), cloning, stem cell technology, ‘pharming’ of live animals to create pharmaceutical products and growing tissue cell cultures such as skin for therapeutic and cosmetic uses.

The rapid incorporation of biotechnologies and life-science products and procedures is blurring the borders between nature and technology, as well as creating a sense of both excitement and fear in the media and society. This resulting social and legislative anxiety, exploited through the media, forms one basis for *BioHome*.

Sarah Franklin suggests that cloning, genetics and the changes that flow from them:

Affect the human condition in its every aspect, the food we eat, to the ways we define health, to our national economies, to our understandings of the human, the future and ourselves... genetics is reshaping the basic concepts through which knowledge about ourselves and our world is produced. It is for the same reason that these engender conflicting feelings of excitement and anxiety. [Franklin: 2]

An exploration of the social and natural environment transformed by developments in biotechnology forms the basis for *BioHome: The Chromosome Knitting Project*. The work explores genetically engineered, modified and transformed natures: how we react to accelerated change, how we create myths and stories to deal with them, how we respond creatively to the ethical lines around genetic modification and cloning and how we respond to popular science depictions of these amazing scientific feats.

Hybrid Collaboration

BioHome: The Chromosome Knitting Project is a hybrid performance/installation incorporating live 'wet biology' practices in a contemporary biotech display home. It was first presented at the University of Wollongong in August 2006. The installation features video, interactive sound, live performance and text. Wet biology procedures such as plant DNA extraction and live insect cell culturing are used to explore reproductive futures and biotechnologies. In the context of this performance, 'wet biology' is the term used for working with live plant or animal material in the life science field, including genetic modification of organisms and the creation of bio-products.

Visitors are welcomed to the *BioHome* installation by a plasma screen video introduction at the entrance (Fig. 1). When the audience enters the installation space they hear a recorded voice outlining laboratory safety instructions over ambient but unsettling music. This music creates a sense of an insulated environment, a world that might exist just beyond our current reality, in which home and laboratory intersect. Upon entering the gallery the audience sees several domestic spaces: a kitchen tabletop, a bassinette, a chair with knitting and a bed with a screen. It is only when they inspect more closely that this domesticity is disrupted by the intriguing and uncomfortable presence of biotech products, including live caterpillar cell cultures, salmon DNA fibres, pea seedling DNA and IVF hormone products.

Figure 1: *BioHome* welcome screen video. Image: Gregory Clout, Robert Dinnerville, Jessica Ellis.

The blurring of lines between laboratory and domestic procedures aims to heighten the awareness and discomfort the audience may feel about incorporation of biotech products in our daily lives. They are encouraged to investigate and interrogate these technologies and their impact on human, social and environmental futures and contemporary kinship systems.

The performance includes a number of characters: a naïve and eccentric housewife who invites newcomers into the biotech display home, exploring objects and products with a domestic simplicity and innocence; a scientist who demonstrates laboratory procedures for extracting DNA from snow pea seedlings, and shows how to knit with a sticky white fibre extracted from salmon DNA (Fig. 2); as well as a storyteller who recounts a fable about

The Woman Who Knitted Herself A Child.

Knitting is a central metaphor in the performance, highlighting the similarities between the use of patterns and stitches in knitting to the basic techniques of biotechnology or genetic engineering, i.e. working with DNA as the ‘building blocks of life’. It is also a metaphor for human reproduction. For the interactive sound installation, a number of standard pattern stitches used in knitting are represented as patterns in sound. These sequences are realised using inharmonic timbres based on band patterns that result from a technique used by molecular biologists to analyse DNA known as gel electrophoresis.

Figure 2: Knitting salmon DNA. Image: Russell Emerson.

The work has been developed by writer/performer Catherine Fargher in collaboration with composer Terumi Narushima. The collaboration has come about as a result of the artists’ participation in a biotechnology workshop run by SymbioticA, The Art and Science Collaborative Research Laboratory based in the School of Anatomy and Human Biology, University of Western Australia. Various stages in the development of *BioHome* have involved hands-on support from the School of Biological Sciences, University of Wollongong. Further collaborative work was done with New Media/Design students Greg Clout, Robert Dinnerville and Jessica Ellis at Wollongong University to develop a branding style, website and promotional video for *BioHome*. Fictional trademark names of *ChromoKnit doll*TM and *BioHome*TM were also created.

Sponsorship

Sponsorship from international biotech companies has been a key source of in-kind support for the *BioHome* project. For instance, our performance has been made possible thanks to sponsorship for salmon testes DNA and sf9 cell products, as well as laboratory equipment from international biotech corporations Invitrogen, Sigma Aldrich South Pacific, as well as Eppendorf South Pacific. Acquisition of biotech products from such corporations raises ethical concerns, and on the whole independent artists are not able to acquire these products without collaboration with a university biology department. As there is increasing privatisation in the area of biotech production, there is also increased legislation and corporate control around the area of biotech property rights. In the case of Steve Kurtz, bio-terror investigations were commenced at his home studio/laboratory following the death of his wife. Kurtz’s collaborator, a university science academic, received a charge of ‘wire fraud’ in relation to acquisition of bio-products for Kurtz’s artworks.

Steve Kurtz is Associate Professor in the Department of Art at the State University of New York's University at Buffalo and a member of the internationally acclaimed Critical Art Ensemble whose artwork educates the public about the politics of biotechnology. Their most recent project included a mobile DNA extraction laboratory to test grocery bought food for possible transgenic contamination. It was this equipment along with common research bacteria to be used in another project that triggered a bizarre chain of events after his wife's sudden death on May 11th from cardiac arrest. Kurtz called 911 but when the police arrived and spotted his art supplies including test tubes and Petri-dishes they called in the Joint Terrorism Task Force and the FBI. He was detained, the house cordoned off,

his art, library and computer impounded. Only after the Commissioner of Public Health for New York State tested samples from the home and announced there was no public safety threat was Kurtz able to return home and recover his wife's body. Yet the FBI would not release the impounded materials that included artwork for an exhibition at Massachusetts Museum of Contemporary Art that opened without the group's work. Then, on June 15th, a grand jury in Buffalo, N.Y. will convene to decide whether or not to indict Steve Kurtz on charges (which have yet to be officially announced) stemming from the FBI's apparent confusion of Kurtz's artwork with "biological weapons." Yet, there is likely an underlying political aspect to this story. Adele Henderson, chair of Kurt's department at the State University at Buffalo, was asked by the FBI on May 21 why Kurtz's organization (the art ensemble) is listed as a collective rather than by its individual members and how it is funded. Meanwhile, several members of the Critical Art Ensemble have been subpoenaed to testify in the case.

The case has recently been dismissed in the US courts after several years of litigation. These matters are discussed in an article by Anna Munster, "Why is Biopolitics not Bioterrorism?" [Munster: 45].

Border Crossings with Bio-products

Transporting bio-products across borders also becomes a significant issue for bio-artists whose work is travelling interstate or internationally. As there are transport restrictions for bio-products, especially products that are considered hazardous, artists are required to go through painstaking red tape, and in some cases choose simply to smuggle bio-products in their luggage undeclared. Products can not be moved across state and international borders without rigorous checks. For example, salmon testes DNA required for *BioHome* performances is transported in a refrigerated school lunch bag with freezer blocks when I move it within the state, say from Sydney where I store it in my home fridge, to Wollongong University, where I presented my first performance. However when the performance has taken place in Adelaide, Perth or Melbourne, I was forced to hide it in my luggage disguised as a regular cosmetic, and asked the airline staff who were checking the luggage in, whether there would be temperatures so high in the hold that it would cause chocolate to perish, because I knew the salmon testes DNA product was adversely affected by heat.

I have also heard one story about a vial of fresh (non frozen) frog cells which were purchased in France and had to be transported across an international border in a male bio-artist's jockey pants to keep them warm!

While these are the sort of actions which – if Steve Kurtz case is any sort of precedent – could lead to the risk of being accused of bio-terror if discovered, there are not many alternatives to this sort of deception for under-funded independent artists at present, unless there is full co-operation from sponsor companies to transport the biological products to the destinations required.

BioHome: The Chromosome Knitting Project will be presented in October 2008 at the Experimental Art Foundation in Adelaide, Australia, as part of the Art & Biotech 08 exhibition.

References

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