

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

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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 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.

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 (Figure 1). When the audience enters the installation space they hear a recorded voice outlining laboratory



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

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



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

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.

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 (Figure 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.

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. The 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. 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. For example, salmon testes DNA required for *BioHome* performances is transported in a refrigerated school lunch bag with freezer blocks. There have also been stories of frog cells transported in a male bio-artist's jockey pants to keep them warm while crossing international borders!

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.

Franklin, Sarah. 2001. "Culturing Biology: Cell Lines for the Second Millennium." In *Health* 5(3). <http://www.camp.lancs.ac.uk/sociology/papers/Franklin-Culturing-Biology.pdf>

Munster, Anna. 2005. "Why is Bio-art not Bioterrorism? Some Notes in the Networks of Informatic Life." In *Culture Machine Journal* 7, *Biopolitics Issue*. www.culturemachine.net