

## **The Semi-Living as Agents of Irony**

**By Oron Catts & Ionat Zurr**

This is an examination of the performative aspects of the Semi-Living (and objects of Partial Live) grown by the Tissue Culture & Art Project (TC&A). The Tissue Culture & Art Project, among a growing number of artists and collectives are involved with the presentation of manipulated living systems in an artistic context. In contrast with art that deals with the representation of life through established artistic strategies, TC&A's type of engagement with living systems generate an experience which is closer to live/performance art. The phenomenological experience of the audience (as well as the artists) is of major importance for the TC&A. In much of TC&A's work the audience are 'forced' to actively participate in or be implicated with the alteration of the life cycle of problematised, technologically dependent fragments of life.

As part of the TC&A we look at Semi Live Art (where humans and Semi-Living are unequally collaborating) as an attempt to challenge people's perceptions of life. Like performance or live art, TC&A is interested in the presentation of the subject rather than its representation. The audience is confronted by the existence of the Semi-Living through the different performative and aesthetic strategies of TC&A, but first and foremost by the fact that Semi-Living are sharing the time and space of the engaged audience. By presenting something that is 'sort of alive', that could only exist because of us and is dependent on us, TC&A lay bare the hypocrisies created to deal with the paradoxes in human relationships with other living beings.

## **What is TC&A? What are the Semi-Livings?**

Since 1996 our artistic collective, The Tissue Culture & Art Project has questioned conventional notions of human relations with other living systems (whether human or non human, living or partially living) and their anthropocentric assumptions. This is done through the use of living tissues from complex organisms<sup>1</sup> as a medium to create Semi-Living sculptures. We are investigating our relationships with the different gradients of life through the construction/growth of a new class of object/being – that of the Semi-Living. These are parts of complex organisms which are sustained alive outside of the body and coerced to grow in predetermined shapes. These evocative objects are tangible examples that brings into question deep rooted perceptions of life and identity, concept of self, and the position of the human in regard to other living beings and the environment. We are interested in the new discourses, ethics, epistemologies and ontologies that surround issues of partial life and the contestable future scenarios they are offering us.

The Semi-Livings are constructed of living and non-living materials; cells and/or tissues from, one or more, complex organisms grown over/into synthetic scaffolds and kept alive with an artificial support. The Semi-Livings are both similar and different from other human artefacts (homo-sapiens' extended phenotype) such as constructed objects and selectively bred domestic plants and animals (both pets and husbandry). These entities consist of living biological systems that are artificially designed and need human and/or technological intervention in their construction, growth and maintenance<sup>2</sup>.

Semi-living and partial life can be seen as interchangeable terms. There are however some nuances; The Semi-Livings entities are usually shaped to forms that are not recognisable as being part of any Body in particular, partial life can be recognised as parts (i.e. an ear) of a whole of a living being. In the words of, one of France's leading philosophers and historians of science, Canguilhem: 'The introduction of cell theory in the biology first of plants (around 1825) and later of animals (around 1840) inevitably turned attention toward the problem of integrating elementary individualities and partial life forms into the totalizing individuality of an organism in its general life form.'<sup>3</sup> Symbolically, in the continuum of life, the semi-livings entities are nearer the non-living part of the scale, while objects of partial life are approaching the fully living.

### **Who is the performer? What is being performed?**

In TC&A's work, we, the artists, position the Semi-Living entities on centre stage, while all the surroundings, including ourselves, become parts of the *Techno-Scientific Body*. In the context of Semi-Living a Techno-scientific Body is the artificial environment that sustain (and in some cases stimulate) the growth of living fragments of bodies. The Techno-scientific Body includes the components such as a bioreactor, incubator, specialised nutrient solutions and other biological agents, as well as the human operators.

TC&A draws on the Semi-Living as an attempt to subvert and develop a new discourse regarding the manipulation of living systems. However, this is difficult to transmit solely through live installations. TC&A, in most of our

installations/performances, tries to shy away from portraying ourselves (including our own bodies) or the technology (which usually serves a utilitarian purpose rather than fetishist one) as the focal point. Yet, in many cases the existence of the Semi-Living within the installations seems to be almost hidden by the bodies and technologies that already have a well established contextual discourse. One can argue that that the main reason for this is that the Semi-Living represent a condition/situation that lacks articulate cultural discourses and tools to respond to its existence, so most people will tend to ignore it, and focus on the familiar (both in terms of objects/subjects and discourse). Furthermore, the Semi-Living purposely subvert binary positions such as human/animal, life/death, nature/culture as well as performer/performed. Another explanation might be that the Semi-Livings, though constantly changing, growing, mutating, and dying, are doing so in a scale of time and space which is not easily detected by humans. All these dynamic processes of the life cycle are either too small or too slow to be absorbed instantly and can only be noticed over a period of time. We realised that even when we employ performative and interactive strategies, the audience who are faced with the Semi-Livings must exercise a leap of faith to believe that they are 'really' alive and not a hoax. Here the issues of performative space, time and scale are being stretched and played with: a durational performance of a Semi-Living can take months in a space that is smaller than a matchbox.

The Semi-Livings are dependent on artificial support for their survival. They are living fragments which were stripped of their 'host' body (whether living or recently deceased) and its immune system. As a result they have no way to resist infection when exposed to the external environment; they must be contained in sealed and sterilised vessels in order to survive. It means that every physical interaction with the

Semi-Living is mediated through technology; in the form of a bioreactor, a pipette, and a sterile hood. Furthermore, in order to maintain the life of the Semi-Living we have to build a fully functioning tissue culture laboratory that provides the appropriate conditions and enables the procedures involved in caring for the Semi-Living. The presence of a laboratory and other technological apparatuses, we realised, made the audience so overwhelmed that it overshadowed the actual players in the show– the Semi-Living. In this context the Mise-en-scene, which is both functional and theatrical, takes precedent over the Semi-Living performer.

In our post-capitalist, techno-fetishist and anthropocentric society the performer is often viewed as either the technology or ourselves (who maintain the routine work in the laboratory) while the Semi-Living which are both process and outcome are seen as only a by-product. Needless to say, this phenomenon defies the whole notion of the TC&A project. Therefore we had to devise some ways of ‘helping’ the audience to ‘escape’ from their comfortable position of dealing with the work down the path of least resistance (resorting to known discourses). To move the audience into a realm where the subject/object on stage, although an assault to many of our pre-conceptions about life, death, identity and our environment (both natural and cultural) cannot be ignored, we developed the phenomenological rituals of Feeding and Killing.

### **TC&A’s Rituals- Performative and Interactive Strategies to Deal with the Semi-Living:**

One way the viewer/participant can observe and appreciate the aliveness of the Semi-Living is by revisiting them over an extended period of time in order to see, with

human eyes, the phenotypic changes. For those who can not do so we devised our rituals:

The rituals are performed for practical reasons - maintaining the life and growth of the Semi-Living sculptures - as well as for conceptual reasons; by celebrating and terminating Semi-Living art forms, we trouble the conventional art viewer's autonomous reflective space (as does all performative art). Our installations involve performative elements that emphasise the responsibilities, as well as the intellectual and emotional impact, which results from manipulating and creating living systems as part of an artistic process. The Feeding Ritual – is performed routinely. Here we raise questions about the caring, tending and nurturing needed for all engineered and manipulated life forms, including Semi-Living sculptures/entities. We invite the audience to view the process of feeding which is done in a laboratory situated within the gallery as an integral part of the artistic experience. Initially we emulated the zoo inspired ritual of the set feeding times. The audience have been informed about a set time every day in which the feeding will occur. That presented some problems for us; it seems that by linking (in one's mind) this activity to the familiar zoo ritual, people were expecting to see some tricks performed by the entity to be fed. When that did not happen, we, the feeders, become the spectacle. We decided to change it so that the feeding happened when it was needed rather than at an arbitrary set time. We found this strategy to be more effective as it represented more of a transgressive intervention into the way art is being seen in the gallery context. As most of our exhibitions takes place in a visual arts context – our coming unannounced to tend to the Semi-Living made us more (in the eyes of the audience) of an unscheduled maintenance crew looking after something which is 'kind of alive'<sup>4</sup>. In this case the audience who happens to be present in the space at the feeding time is confronted

with the ‘liveness’ of the Semi-Living - much less of a spectacle than in the case of the set feeding times. In many cases the dialogue which is formed between the performers/maintenance crew was also less formal and therefore more revealing than the more constructed routine of the feeding times.

We also shied away from the pristine white laboratory coat and its associated connotations and designed our own. It is a hybrid of a laboratory, chef and a mechanic coat and is grey in colour<sup>5</sup>, as our practice can be associated with different professions and locations such as the scientific lab, the domestic kitchen or the backyard garage.

In her thorough survey of the use of animals in art and entertainment Thornton<sup>6</sup> has divided the use of life in popular culture and as it is represented in art in this way: Living systems in Zoos and Menageries are represented as objects, in circuses and animal acts as performers, in sacrifice, factory farms and fighting as victims and in cultured pearls, honey bees, free range farms etc. as co-creators. It is difficult to position the Semi-Living entities within these constructions; to a certain extent they are co-creators who we collaborate with. We have limited control over the eventual shape and fate of these entities. However it is not an equal collaboration and we, the human artists have much more power. They are also partly objects; can we say they perform or are they victims of circumstances which are forced upon them? Basically they are a collection of cells, outside of the context of their host bodies that people tend to anthropomorphise.

At the end of every installation, or in a situation when we cannot stay for the duration of the show, we are faced with the ultimate challenge of an artist – we have to literally

kill our creations. The works have to be killed for practical and conceptual reasons. For this we devised the Killing Ritual. The killing is done by taking the Semi-Living sculptures out of their containment and letting the audience touch (and be touched by) the sculptures. The fungi and bacteria which exist in the air and on our hands are much more potent than the cells. As a result the cells get contaminated and die (some instantly and some over time). The Killing Ritual enhances the idea of the temporality of life and living art, and our responsibility as manipulators of these new forms of life. The Killing Ritual can be seen as ‘violent and pitiless act’<sup>7</sup> of transforming the Semi-Living back to a ‘sticky mess of lifeless bits of meat’ (as we as a society prefer to examine collection of cells disassociated from their organism, i.e a steak in a butcher shop) or as an essential display of compassion; euthanasia of a living being that cannot care for itself and has no one to care for it. We also make a point of inviting the people who invited us (curators, gallery directors, etc.) to participate in the killing, as they also are responsible for the well-being of the Semi-Living sculptures presented in their show. On more than one occasion people from the audience have approached us after the ritual and told us that only by killing our sculptures did they realise they were alive.

### **The *Pig Wings* Installation, Adelaide Biennale for Australian Art 2002**

One interesting experience happened the Art Gallery of South Australia as part of the Adelaide Biennale for Australian Art 2002, where we presented our *Pig Wings* Installation. The gallery management and staff knowing that we were presenting living tissues and constructing a functional wet laboratory in the gallery were worried and wary. The ironic title of our work – *Pig Wings* – was not very helpful. As a result



of pressure on the gallery from the curators of the show, as well as our credentials as artists working in scientific institutions and constructing and operating laboratories in artistic and public places, we were able to build a small (claustrophobic) laboratory. The laboratory contained a sterile laminar flow cabinet, a small fridge that hosted the cells nutrient media and an incubator for the microgravity Bioreactor that hosted the 'humble' Semi-Living *Pig Wings* constructs. These are three sets of wings made out of pigs mesenchymal cells (bone marrow stem cells) grown over/into biodegradable/bioabsorbable polymers (PGA, P4HB). The wings measure 4cm x 2cm x0.5cm each and they were never intended to be implanted onto pigs.

As agreed with the gallery we would come to perform the Feeding Ritual every day at a set time for ten days. By the end of this period the *Pig Wings* would be killed and presented as dead relics for the rest of the duration of the show. Being a conservative art gallery, which contains only 'dead art', the staff were concerned about the fact that the work is alive, that it changes over time, and that we will be coming in every day to move it around (from the bioreactor to the sterile hood and back again). One can understand the anxiety they must felt having such a piece in their gallery. The added layer of a heavily scientific and technological overlay that was 'imposed' on the installation created a somewhat Frankensteinian fear that something will go 'horribly wrong'.

The gallery did not employ invigilators for the show but rather private security guards who were very nervous about our installation. Furthermore, they were not sure if looking after our laboratory was covered under their contract with the Gallery. After a private meeting with the relevant personnel we assured the staff that they were not

allowed into the laboratory and should not perform any task associated with our installation including turning on/off computers and lights. Throughout the time that the *Pig Wings* were alive, these reluctant staff, witnessed every Feeding Ritual and observed first-hand the growth of the Semi-Livings. They were there when we talked about our fears that the *Pig Wings* will be contaminated, and realised the level of investment in time and emotion that goes into keeping them alive. When it was time to kill the wings, a couple of the security guards, who initially were very apprehensive, approached us and asked us to train them to look after the *Pig Wings* as they had grown attached to them and “did not want them to die”. Unfortunately it was not possible to do so (mainly due to health and safety regulations) and the *Pig Wings* were killed.

Peter Sellers, the Artistic Director of the Adelaide Festival, was invited to participate in the Killing Ritual. Visibly emotional, wiping a tear from his eye he told us how each time he has to turn off the Bill Viola installation he feels how the artwork ‘dies’ (until the next day when the video projection is turned on again) but he never thought that he would literally kill an artwork just by touching it.

### ***Extra Ear – 1/4 Scale, National Gallery of Victoria, Melbourne 2003***

We had a very different though related experience with the partial life *Extra Ear – 1/4 Scale* (in collaboration with Stelarc). This was the first time we created an object of partial life that resembled a human organ – a 1/4 scale sized ear.

*Extra ear – 1/4 Scale* is about two collaborative concerns. The project presents a recognizable human part. It is being presented as partial life and brings into question notions of the wholeness of the body. It also confronts broader cultural perceptions of ‘life’ given our increasing ability to manipulate living systems. TC&A deal with the ethical and perceptual issues stemming from the realization that living tissue can be sustained, grown, and is able to function outside of the body.

We are interested in the ear as a stand-alone signifier of an independently existing part of the body, and less interested in the eventual attachment of the ear to the body. Even so it seems that this piece has managed to evoke reactions that none of our other works did. The religious view of the human body made in the image of God, motivated some of these extreme reactions. While the State Gallery of South Australia (where we presented the *Pig Wings Project*) raised difficulties in regard to presenting living art, The National Gallery of Victoria (where we presented the ear in September 2003) was even stricter in its requirements. From a performative perspective there were three very significant issues that were sticking points in our attempt to realise the project in the context of this very traditional art venue. The first was their refusal to allow us to use human tissue for this installation. The second was their somewhat strange request for us to declare that the work does not raise ethical issues, and the third was their refusal to allow us to perform the feeding and killing rituals during opening hours.

According to the curators of the NGV, about two weeks before the show was about to open they realised that the gallery had no policy in regard to presenting living tissues. The Gallery Director instructed the curator to seek clarification in regard to the

project including a statement from us that the work does not raise ethical issues in general and in the biomedical community in particular. We could not reassure the gallery that this is the case as we see the primary aim of our work to act as a tangible example of issues that need further ethical scrutiny, and to critically engage with the biomedical industry. This was stated as our aim when we applied for the human research ethics clearance from the University of Western Australia (UWA).

Disregarding the fact that this installation received ethical, safety and health clearances from UWA, the NGV decided to cancel the installation, only to later 'compromise' and allow it to go ahead on the condition that we did not use human tissue. The compromise of using non-human animal cells, while keeping the proposition of the piece, enhanced the non-anthropocentric stand of the *Semi Livings* and *partial lives*.

Our attempt to deal with the human form, in the context of a performative partial human life, received an interesting twist in our dealing with the art establishment. Much of the attention we received was a strong reaction against the disfigurement of the body with both the suggestion of implanting an ear onto Stelarc's body, and the distinctively recognisable human body part (an ear). This seemed to trouble the NGV, as on a number of occasions they cited a previous controversial piece exhibited in 1997 in the gallery, 'Piss Christ' by Andrew Serrano. Much concern was about the possibility of the same religious group that vandalised *Piss Christ* and threatened staff<sup>8</sup> attacking the *Extra Ear ¼ Scale*. However, no such threat eventuated and it was only the NGV that made the connection between the *Extra Ear ¼ Scale* piece and blasphemy by correlating perceived modification to the human form with disfiguring the image of God.

In addition, as mentioned above, the audiences were not allowed to see us tending to the ear. The notion of care and life was reduced to a little ear shaped object floating in a reddish liquid in something that looks like a modified microwave oven. Even so, we received a couple of concerned phone calls from the gallery to inform us that the ear looks somewhat different from when they had seen it last and wondered if something had gone wrong. “Such is life” we replied.

### **The Victimless Series – Bringing the Victim Closer**

Usually people who oppose our project find it difficult to articulate the source for their disapproval and react more from a knee-jerk impulse. We believe this is a result of the TC&A forcing people to reassess their perceptions of life by presenting life at its visceral and somewhat abject form as manifested by the Semi-Living.

All animal life<sup>9</sup> is involved with exploitation of other lives in different degrees and for that humans have devised different mechanisms to be able to justify this exploitation ethically and morally. In the Victimless series installations/performances we are dealing with these issues by destabilising the human power structure governing relationship between different living systems.

Firstly, we considered the possibility of eating victimless meat by growing Semi-Living steaks from a biopsy taken from an animal while keeping the animal alive and healthy.

This artwork deals with one of the most common zones of interaction between humans and other living systems, and probes the apparent uneasiness people feel when someone ‘messes’ with their food. It also deals with one of the most hypocritical zones in the anthropocentric tyranny of humans on this planet. The project offers a form of symbolic ‘victimless’ meat consumption. As the cells from the biopsy proliferate, the ‘steak’ in vitro continues to grow and expand, while the source, the animal from which the cells were taken, is healing. Potentially this work presents a future in which the killing and suffering of animals destined for food consumption will be reduced. However, by making our food Semi-Living – we risk making the Semi-Living a new class for exploitation. In addition, the nutrients in which the steak is bathed contain animal derived products. The distance from the victim sometimes makes us forget that almost any form of diet involves victims- no matter how processed, engineered or organic the food is<sup>10</sup>.

Our own research into this project began as part of our residency at the Tissue Engineering & Organ Fabrication Laboratory at Harvard Medical School in 2000. The first steak we grew was made out of pre-natal sheep cells (skeletal muscle). We used cells harvested as part of research into tissue engineering techniques in-utero. The steak was grown from an animal that was not yet born.



© AXEL HEISE PHOTOGRAPHIE > SYMBIOTICA / TC&A "Disembodied Cuisine", le lieu unique, 2003.

*Disembodied Cuisine* Installation, from L'Art Biotech Exhibition, France 2003,  
The Tissue Culture & Art Project 2003  
Photography Axel Heise

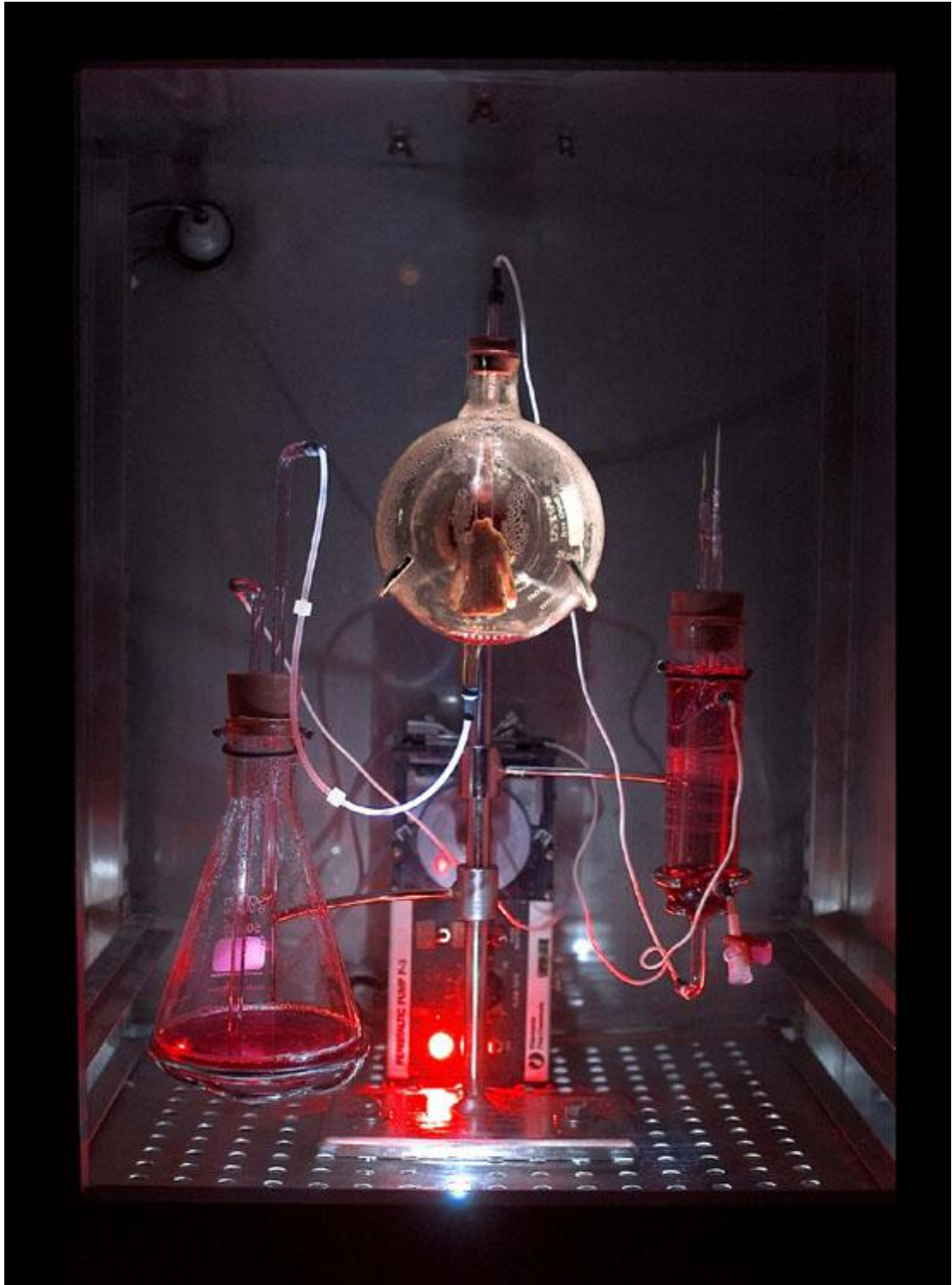
We finally were able to present and perform this project in 2003 as part of L'art Biotech exhibition in France. We titled the installation *Disembodied Cuisine*, playing on the notion of different cultural perceptions of what is edible and what is foul. We grew Semi-Living frog steaks, with the intention of raising questions about the French resentment towards engineered food and the objection of other cultures to the consumption of frogs. To our delight, we found a source of cells that did not require inflicting an injury to an animal. We ended up using an immortalised cell line (cell lines are either modified or cancerous cells that have the ability to grow and divide indefinitely and can be seen in the context of our work as a renewable resource). The cell line we used was developed using non mutagenic techniques and according to the advice we received was considered safe for consumption. These cells were developed at a Japanese laboratory in the late 1980s from the skeletal muscle cells of a tadpole of

an aquatic toad, *Xenopus laevis*. We grew these cells over a biopolymer scaffold for potential food consumption. Throughout the three months of the exhibition we tended to our steaks, feeding them every two days and protecting them from possible harm (like bacterial infection). On the last day of the exhibition we had the ultimate Nouvelle Cuisine style dinner to which members of the public and invited guests joined us to eat the two coin sized steaks. Some of the eight diners found the steaks too hard to swallow.

Although the 'dinner' functioned as a Killing Ritual of the Semi-Living it was also a symbol for the extension of life (as the animal from which the cells were taken continued to live). In Huxley's words: 'Not a necropolis, but histopolis...not a cemetery, but a place of eternal growth'<sup>11</sup>.

We collected the bits that were spat out for our follow up piece - *The Remains of Disembodied Cuisine*. We presented these spat out bits, on a dining table along side a three screen video installation that documented the project from the lab and farm through the exhibition to the final dinner.





*Victimless Leather- A Prototype of Stitch-less Jacket grown in a Technoscientific "Body",*  
The Tissue Culture & Art Project 2004  
Medium: Biodegradable polymer connective and bone cells  
Dimension of original: variable

In a later project in this series- *Victimless Leather* - we grew a miniature stitch-less jacket out of immortalised cell lines which formed a living layer of tissue supported

by a biodegradable polymer matrix. The *Victimless Leather* project is concerned with growing living tissue into leather like material. This artistically grown garment confronts people with the moral implications of wearing parts of dead animals for protective and aesthetic reasons and further confronts notions of relationships with living systems manipulated or otherwise. An actualised possibility of wearing 'leather' without killing an animal is offered as a starting point for cultural discussion. Saying that however, the production of the 'leather' was not totally victimless – we still used animal derived ingredients in the nutrients we provided the tissues with. Hence our reference to the 'victimless' is an ironic one, and is seen by us as a critique of the type of technological mediated promises of 'utopia'. This piece also presents an ambiguous and somewhat ironic critique of the technological price our society will need to pay for achieving 'a victimless utopia' as the stitchless jacket that was grown as part of this project could only survive within a techno-scientific body – a bioreactor.

As part of the 'victimless series' two new projects are in the pipeline. These projects are about to take the victimless utopia to somewhat extreme levels of absurdity. *The DIY De-victimizer Kit Mark One (DVK m1)* is set up to allay some of the guilt people feel when they consume parts of dead animals (either for food, aesthetics or any other purpose) or cause an accidental death to a living being (by a car, a lawnmower or any other piece of technology). The kit can maintain and in some cases even proliferate and extend the life parts of the deceased bodies, at least until the guilt (stemmed from the accidental killing) recedes. The *DIY DVK* utilises off the shelf items to construct a basic tissue culture facility, some specialised nutrients are needed – some of which contain animal derived material – but it is so far removed from the end user that for most people remorsefulness is not usually an issue.

*Reliving Roadkill* will make use of the *DIY DVK* for a performative installation in which we will experiment with bringing back to life (literally) parts of road kills. By ‘re-life-ing’ the victims of our technological-fetishistic society, the TC&A will further explore our relations with other living systems, whether living or Semi-Living, whether human or not. What is then the status of life generated by something that we mostly take for dead? What is the point in reliving roadkill? This piece will let us take a somewhat ironic view on the interplay between the made and the biological, the constructed and the visceral, the simulation and the ‘real’ by extending parts of life of which our technological-fetishistic society is responsible for their premature death. *Reliving Roadkill* will explore the technological mediated victimless utopia through a phenomenological experiment with the effects of our technology – in this case our cars – over biological systems – road kills. We will attempt to partly reverse the ‘destructive’ effects of human technology by re-life-ing its parts of its victims. In this participatory project the audience will take an active role in the experiment by collecting the fresh corpses, assisting us in caring for the fragments of life and making different ethical decisions in regard to their eventual fate.

### **Closing Notes**

Artists can play a role in exploring these issues and spawn ‘philosophy in action’. There is a growing discrepancy between our cultural perceptions of life and what we know about life scientifically and what we can do with life technologically. Our work deals with the tension between caring for living systems on the one hand and instrumentalising life on the other. We believe that live art is best situated to confront

such a paradox in ways that constructively raise philosophical and epistemological issues.

Henry Harris writes about the biological phenomenon of cell fusion which is described as ‘violating the most fundamental myths of the last century’<sup>12</sup>:

Any cell - man, animal, fish, fowl, or insect - given the chance and under the right conditions, brought into contact with any other cell, however foreign, will fuse with it. Cytoplasm will flow easily from one to the other, the nuclei will combine, and it will become, for a time anyway, a single cell with two complete, alien genomes, ready to dance, ready to multiply. It is a Chimera, a Griffon, a Sphinx, a Ganesha, a Peruvian God, a Ch'i-lin, an omen of good fortune, a wish for the world.

Harris interpretation of this phenomenon may seem fairly positivist and somewhat romantic, however, it might be seen as a prelude to TC&A notions of the Extended Body: The living fragment becomes part of a different order that includes all living tissues regardless of their current site and they are cared for by the Techno-Scientific Body.

In many ways, the performative aspects of the TC&A artists (as opposed to the living performance of the Semi-Living entity) are rather the operation of the techno-scientific body. Ironically, we have created the Semi-Livings to ‘make’ us perform, in front of the audience, our care for them. The excessive act of engineering a ‘new sort of life’ made us perform a ritual which emphasises our subordination to its

needs/demands. These Semi-Livings have made us part of their techno scientific body - as much as they are the creations/extensions of our bodies, we are theirs.

There is an inherent paradox to the Semi-Living performers: Seen as yet another apparatus of society increasing instrumentalisation of life they are also ironical agents that reveal to us, humans, our (sometimes reluctant) submissiveness to the actuality of being an unseparated part of the greater life continuum.

### **Bibliography:**

1. D. Bulatov, Ed *BioMediale: Contemporary Society and Genomic Culture* (The National Publishing House “Yantarny Skaz”, Kaliningrad, Russia, 2004).
2. O. Catts, Ed. *Aesthetic of Care* (SymbioticA Press, 2002).
3. O. Catts and I. Zurr, Growing Semi-Living Sculptures, *Leonardo* 35:4 (MIT Publishing, 2002): pp. 365-370.
4. A. Heathfield, Ed. *Live: Art and Performance* (Tate Publishing, 2004).
5. J. Huxley, the Tissue Culture King in *Great Science Fiction by Scientists* Ed: Groff Conklin (NY: Collier Books, 1962) pp.158-159.
6. H, Landecker, *Building “A new type body in which to grow a cell.” Tissue Culture at the Rockefeller Institute, 1910-1914*, (NY: Rockefeller University Centennial, November 2000).
7. C, Millet, Ed. *Art Press 276* (France: 2002). pp.38-49.
8. L. Poissant and E. Daubner, Eds. *Art et Biotechnologies* (The University of Quebec Press, 2005).
9. P. Virilio, *Art and Fear*, Translated by Julie Rose, (London, NY: Continuum, 2003).

10. P.R. White, *The Cultivation of Animal and Plant Cells*, (NY: Ronald Press, 1954).

11. I. Zurr and O. Catts, The Ethical Claims of Bio-Art : Killing The Other of Self-Cannibalism in Australian and New Zealand Journal of Art : Art & Ethics 4 :2 (AAANZ : 2004).

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**References:**

<sup>1</sup> The way we obtain our raw materials is important for us to note; we are scavenging leftovers from scientific research and/or food production.

<sup>2</sup> For more see O. Catts and I. Zurr, Growing Semi-Living Sculptures, *Leonardo* 35:4 (MIT Publishing, 2002): pp. 365-370.

<sup>3</sup> G. Canguilhem in Delaporte Francois Ed. *A Vital Rationalist: Selected Writings from* <sup>3</sup> *George Canguilhem* (NY: Zone Books 1994) pp.84-85

<sup>4</sup> It happened that security was called upon us, suspecting us as intruders.

<sup>5</sup> The grey colour is referencing the laboratory where the first successful tissue culture experiments were performed in 1910. This lab hosted the “Experimental Surgery” Group, led by Dr. Alexis Carrel of The Rockefeller Institute for Medical Research. In a 1954 book titled *The Cultivation of Animal and Plant Cells*, P.R. White refers to Carrel’s lab and the results of his practice: ‘The grey walls, black gowns, masks and hoods; the shining twisted glass and pulsating coloured fluids; the gleaming stainless steel, hidden steam jets, enclosed microscopes and huge witches’ cauldrons of the ‘great’ laboratories of ‘tissue culture’ have led far too many persons to consider cell culture too abstruse, recondite and sacrosanct a field to be invaded by mere hoi polloi!’ Dr. Carrel is a controversial figure in the history of Bio-Medical research. He was the first to develop tissue culture techniques. Yet he is considered an eccentric

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mystic and fascist (or at least a Vichy- collaborating eugenicist. For more see TC&A paper in the *L'Art Biotech* Exhibition Catalogue, le lieu unique France ISBN2-914381-52-2 pp.20-32, 2003.

<sup>6</sup> K D Thornton, The Aesthetics of Cruelty vs. the Aesthetics of Empathy in *Aesthetic of Care* Ed: Oron Catts (SymbioticA Press, 2002) pp.15-21.

<sup>7</sup> In *Art and Fear* Virilio use the terms 'pitiful' and 'pitiless' to describe living/presentative art. He associates 'pitiful' with compassionate and symbolic representational art and 'pitiless' with merciless, disfiguring presentative contemporary arts. For more see: P. Virilio, *Art and Fear*, Translated by Julie Rose, (London, NY: Continuum, 2003).

<sup>8</sup> For more: <http://www.artslaw.com.au/Publications/Articles/97Blasphemy.asp>

<sup>9</sup> Beside the anomaly of the Symbiotic flatworms that as described by L. Margulis and D. Sagan 'are such good providers that the worms have atrophied mouths; the close-mouthed green worms "sunbathe" rather than seek food, and the endosymbiotic algae even recycle the worm's uric acid waste into food.' from *What is Life* (Berkeley and Los Angeles: University of California Press, 2000) p.120.

<sup>10</sup> As any farmer know any type of commercial and semi-commercial crop growing involves the killing or disturbing of animal life; from mice to worms and caterpillars as well as the plant life itself which has much more agency and order than the Semi-Living.

<sup>11</sup> J. Huxley, the Tissue Culture King in *Great Science Fiction by Scientists* Ed: Groff Conklin (NY: Collier Books, 1962) pp.158-159.

<sup>12</sup> H. Harris, Roots: Cell fusion in *BioEssays* 2: 4 (Wiley Periodicals, Inc., A Wiley Company, 1985) pp.176 - 179