

The Art of the Semi-Living and Partial Life: Extra Ear – ¼ Scale

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The use of animals and humans parts for artistic and ritualistic purposes is as old as human history. The knowledge needed for successfully keeping fragments of complex organisms alive outside their original body is at least ninety years old¹. The work of The Tissue Culture & Art Project (TC&A) is the first attempt to explore the prospect of combining the techno-scientific knowledge of tissue culture and related technologies with an artistic practice.

In this paper we will use the term tissue art in order to distinguish the particular practice of using living tissue as medium for artistic expression from other biological art practices. There are growing numbers of artists and artistic collectives who have either begun to explore tissue art or express interest in doing so². It seems that now is the appropriate time to re-examine some of the issues concerning the public presentation of such work in an artistic context. This paper will attempt to review some of the issues concerning tissue art through the subjective examination of the work of TC&A, and in particular the collaborative project with Stelarc- *Extra Ear ¼ Scale*, that was recently exhibited as part of the Art in the Biotech Era, Experimental art Foundation, Adelaide International Arts Festival 2004. We will also use this opportunity to respond to some of the arguments used by Paul Virilio in his book "Art and Fear"³ against such artistic practices while questioning the autonomous space of the artist who work with the technologies he/she criticizes.

As part of our discourse in the TC&A we are emphasising our critical and non-positivistic approach to tissue engineered sculptures, which might be seen ironical in the light of the idea of artists as domesticating new technologies: Petran Kockelkoren (2003)⁴ talks about the role that artists have always played in technological mediation, by appropriating new technologies in order to create a new visual language and the delivery of new meanings. He claims that artistic engagement with new technologies created greater public acceptance and helped to domesticate these new technologies. By that he questions the notions of the autonomy of the artists and their practice. He does, however, also claim that the whole human existence is mediated by technologies, "People are 'naturally artificial'" he says and adds, "Technology cannot alienate people from their naturalness, because they are already alienated by virtue of their very condition. Language, technology and art teach people how to articulate and even celebrate their ineradicable alienation".⁵ Human existence is and always been mediate by artificial constructs from language to all modes of technology. As new ways of seeing and interacting with the world around us develop so do the forms that mediate between humans and "nature". Virilio (2003) is warning us of the current extent of technological mediation and predict that the alienation caused by biological technologies will usher new kind of suffering, one in which the old forms of eugenics will be replaced by much more sinister oppression and elimination the other (human)⁶.

As biological technologies are becoming more prevalent and excusable, some of their production techniques can now be mastered by non specialists. At the same time the political and ethical issues raised by the introduction of biomedical and biotechnological products into mass culture are demanding urgent attention. Biological technologies have one fundamental difference to anything preceding them; both the products and the processes are dealing with life. The very existence of some of the outcomes of biotechnologies brings into question deep rooted perceptions in regard to life and identity, concept of self, and the position of human in regard to other living beings. Art has a long history with dealing with issues; however, some artists seem to believe that mere representational engagement with these issues is not enough⁷.

The Work of the Tissue Culture & Art Project can be seen as a prime example of what Virilio refer (in a somewhat derogatory manner) as presentative art.⁸ TC&A engages with a particular technology, or more precisely a specific method of fragmenting and manipulating life, as both its medium and subject. The work itself is not merely a representation of the remanence, relics or result of the process but is the actual process, and the living, manipulated, growing entities created solely for artistic ends. In *Art and Fear* Virilio use the terms pitiful and pitiless to describe art, he associates pitiful with compassionate and symbolic representative art and pitiless with merciless disfiguring presentative contemporary arts. It is interesting to note that it seems that Virilio concentrating almost solely with the disfigurement of the human body when he refers to pitiless art. He finds the idea of defining “a new relationship between species”⁹ in the light of scientific knowledge unacceptable, inhuman. The Tissue Culture & Art project is indeed interested in creating a platform for the rethinking of our relationship with life. We do not see our work as technologically deterministic as in following an unavoidable linear direction of technology, but rather TC&A presents alternative directions of engagement with the knowledge as a way to generate greater questioning of the current power structures hold on knowledge and its applications.

TC&A had the opportunity to present its living tissue engineered entities for the first time in an artistic context at the Ars Electronica Festival 2000. We had to decide on the best strategy to deliver the notion that these entities are alive and need care while also problematising the technology used and the process of creating these semi-living artistic entities. We wanted our work to be, among other things, pitiful (to borrow Virilio’s term) and to emphasise the compassion and care one has to exercise in regard to other (and The Other) living (and semi-living) being. The solution was to construct a fully functioning tissue culture laboratory in the gallery space. In the case of Ars Electronica the laboratory was enclosed by a clear “bubble” of vinyl. The caring for the semi-living was presented by publicly performing the procedures needed to sustain the entities alive as part of the piece. We maintained this strategy with our following installations while exploring different levels of engagement and relationships with

both the semi-living entities and the laboratory designs. The installations designs included references to history of science and popular culture, while also addressing issues of visual hierarchies and performative concerns.

The Tissue Culture & Art Project have made three major decisions in regard to its work; the first was not to kill animals or inflict suffering in order to obtain the cells and tissues, the second was not to directly refer to the human body or its parts, and the third was to always construct a fully functioning tissue culture laboratory when we present our semi-living creations. We have done so in order to focus the discourse on the existence of this new kind of object/being – that of the semi-living; Shying away from references to the human body was an attempt to establish a reference to a new kind of body- that of the complex organism - a meta-body - THE BODY. In the context of our work once a fragment is taken from A BODY it becomes a part of THE BODY. The living fragment becomes part of a higher order that engulf all living tissues regardless of their current site. We see it as a symbolic device that enhances the bond humans share with all living beings. The semi-living are fragments of The BODY, nurtured in surrogate body –a techno-scientific one. The laboratory is part of the extended body, but the care can only be performed by a fellow living being- us, the artists. We hoped that by direct observation of the semi-living the viewer would encounter an entity too subtle to become a monster and too fragile to be of threat; a benign, dependent being that needs tending if it is to survive. Our intention was to create a platform for a new vision that will challenge cultural perceptions of life and the relationships we have with living systems. We wanted the viewers to be confronted with a presentation of an evocative object that could not be experienced through the mediation of a representational medium or an existing discourse. The direct phenomenological experience was crucial for the viewer to meditate on the (artificial) nature of life.

As with any such ambitious plan the results were mixed. Some people seemed to be overwhelmed by the techno-scientific body; the mere existence of technological artefacts in the gallery seemed to mask, for them, the existence of the semi-living. Many people referred to the work as genetic art, and confused the use of non molecular biological tools with gene technology and its associated discourse; unable or unwilling to be confronted by the totally different issues and problems poised by the existence of partial life forms- the semi-living. Others were so anthropocentric that the generic references to tissue types that we used in the description of our work, such as skin, muscle, bone etc. was enough for them to focus on the human body. The monster was pointed out. And rather than be seen as act of caring and compassion, of maintaining life that strives to exist, our work was in many cases been described as an act of violence, a pitiless art that should be rejected. Virilio explains:

“[we] need to categorically reject negationism of art- by rejecting this ‘art brut’ that secretly constitutes *engineering of the living...*; this ‘eugenics’ ...is gearing up all the same to reproduce the abomination of desolation,

not just by putting innocent victims to death but by bringing the new HOMUNCULUS *to life*".¹⁰

Why is that the prolonging the life of parts of the body seems so morbid and abject? In his 1926 story 'The Tissue Culture King' Julian Huxley tells the story of a biologist who finds himself captured by an African tribe with highly ritualistic and religious culture. This scientist is gradually transforms rituals to do with the tribe's worship of their king and ancestors into the worship of their living fragments, sustained alive by the use of tissue culture techniques. The temples are being transformed to laboratories specialising in extending the partial life. In the words of the scientist; "Not a necropolis, but a histopolis, if I may coin a word: not a cemetery, but a place of eternal growth".¹¹ The work of TC&A is about life and caring for it; prolonging life of fragments of the body was not necessarily a violent act. It might be an assault on some cultural sensibilities, but that is often the case when cultural inconsistencies and hypocrisies are challenged and exposed. The semi-livings are the in between. Their existence challenges the comfort zone of our cultural/mediated perception of the nature of life.

The actual existence of the semi-living is still very much questioned as in the case of Steve Grand:

"As a general rule, if you take an organism to pieces you do not end up with pieces of an organism. All you get is a sticky mess of lifeless bits of meat... It is possible to remove part of a creature and 'keep it alive', but only by providing artificially all the systems to which it previously had access from being part of whole. There is no such thing as half an organism. A once living thing suddenly reduced to a collection of non-living things."¹²

Following Grand's logic, one can ask; does the engagement with the detached parts of an organism constitute violent act? Is it real violence or is it simulated, symbolic act?

Some aspects of the artistic process of transforming parts of The BODY into the semi-living are undeniably violent. Extracting the raw materials, the parts, from the body can easily become one of the worst forms of violence- an act of cruelty. However, as it was our decision not to inflict suffering in order to obtain the cells and tissue for our work, we opt to forage leftovers from scientific research and meat production. The actual body has being pronounced dead, and it is culturally accepted as "a sticky mess of lifeless bits of meat".

Most people will tend to agree with Grand that a piece of meat cut out of a fresh corpse is not alive. But is that really the case? Since Mary Shelley articulated the fear that reanimated tissue could become a living monster, Western society has embraced the unloved creation of scientific hubris as the icon of man made monstrosities. The fear becomes more intense once the piece of flesh is of human origins. So, although our society perceives meat as being dead, once it is placed in a different context people are willing to consider it somewhat alive and

more importantly it is being perceived as potentially dangerous. In other words; if it is hanging from a hook at the butcher –it is food, when it is at the science lab, supported by the techno-scientific body – it generates feeling of unease and fear, and when it is presented as an artistic entity it is of extreme danger. Frankenstein’s monster is often used as a symbol when new knowledge is employed in a way that challenges deep-rooted perceptions of life. The reference to Frankenstein usually also implies the one feasible solution - killing the monster.

The most pronounced act of violence in the work of TC&A is that of the public release of the semi-living from the techno-scientific body by the end of the exhibition, this act results in the death of the tissue and is known as the killing ritual. TC&A durational installations usually culminate with that public action in which the organisers of the event as well as the wider community are invited to touch the exposed semi-living and by that hasten their death. The killing only takes place when we reach a point when no one can take care of the semi-living any longer, either because we could not stay around for the rest of the exhibition or when the exhibition ends and we can not take the semi-living with us. The killing ritual can be seen as either the ultimate pitiless act, as an essential show of compassion; euthanasia of a living being that has no one to care for it, or just returning it to the cultural accepted state of “a sticky mess of lifeless bits of meat”.

During 2003 TC&A developed two major projects, *Disembodied Cuisine* and *Extra Ear ¼ Scale*. Both projects represent a shift in the type of engagement and discourse of TC&A’s ongoing exploration of the relationships we formed with the semi-living entities we created. While *Disembodied Cuisine*¹³ kept to the guiding principles of TC&A installations as outlined above, it played heavily on the perceived utilitarian uses of the semi-living. The creation of a semi-living steak and its consumption as a performative act of eating by the end of the exhibition was significantly different from previous TC&A projects. Up to *Disembodied Cuisine* the installations of TC&A were concerned more with the formal and symbolic aspects of the existence of the semi-living and the performative portion concentrated at the care needed to sustain the semi-living. *Disembodied Cuisine* was different, although it was the longest we ever kept of semi-living alive in the gallery, the piece was the most performative and durational based. Once TC&A dealt with what can be seen as the ultimate form of exploitation of one living being by another, that of consumption as food, we felt that we could then transgress the rules that we set to ourselves and explore the references to the human body while phasing out the laboratory. We can then refocus our work from the semi-living entity to an object of partial life. Collaboration with Stelarc provided us with such an opportunity in the form of The *Extra Ear ¼ Scale* project.

One of the events that triggered our interest in Tissue Engineering was the footage reel of the mouse with the human ear on its back (1995). We were amazed by the confronting sculptural possibilities this technology might offer. The ear itself is a fascinating sculptural form,

removed from its original context and placed on the back of mouse; one could observe the ear in all of its sculptural glory.

When Stelarc approached the school of Anatomy and Human Biology in the University of Western Australia with his Extra Ear project in 1997 we were at the beginning of our residency working on fairly basic tissue technologies. In 2000-2001 we were invited to work in the Tissue Engineering & Organ Fabrication Laboratory, Massachusetts General Hospital, Harvard Medical School. We worked with Dr. Joseph Vacanti who is considered the founder of the field of tissue engineering and was one of the leading scientists working on the ear on the mouse project. We have learned some of his techniques and observed his researchers trying to master the techniques of growing spare body parts. We found out that growing a full-scale human ear using tissue engineering is still somewhat unattainable. The engineered cartilage tissue seem to lose its structural integrity and the whole form tends to collapse on itself.

When we met Stelarc again in 2002, we decided to explore a way in which we could use our knowledge in tissue engineering and our fascination with the semi-living and partial life as a parallel discourse to Stelarc's interest in the prosthetic as an architectural study of obsolete body. Stelarc recent projects and performances are concerned with the prosthetic. For him the prosthesis is seen not as a sign of lack, but as a symptom of excess. Rather than replacing a missing or malfunctioning part of the body, these artefacts are alternate additions to the body's form and function. Stelarc refers to his body in performance as The Body, the obsolete human body penetrated and modified by technology. The idea of creating an object of partial life from this body complimented our concept of the META BODY to which all tissues belong. The living, exact (scaled down) replica of Stelarc's ear - three dimensionally scanned and printed and seeded with living cells, grown in the gallery - can be seen as a stand alone soft prosthetic that does not need a body to claim its own existence.

Extra ear – ¼ Scale is about two collaborative concerns. The project represents a recognizable human part. However, it is being presented as an object of partial life and brings into question the 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 are dealing 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. Stelarc, ultimately, is concerned with the attachment of the ear to the body as a soft prosthesis. Extra Ear - ¼ Scale is partial life form – partly constructed and partly grown - waiting to become a soft prosthesis.¹⁴ The semi-living extra ear cannot hear (and probably cannot listen) but it can definitely evoke subversive future scenarios in regard to humanity and its relations to the partial-life entities and other alternative living systems. In the eyes of cultural reactionaries like Virilio this project can be seen as the most extreme example of pitiless art. As will be describe

later in the paper, the aesthetics decisions made in regard to the presentation of this work can be seen as standing for everything that Virilio find wrong with contemporary art practices, a shining example of what he calls EXTREME ART.

Extra Ear ¼ Scale has been presented live five times till to date. The piece was shown in quite radically different types of artistic venues and contexts. The elements of the installation were reduced each time the installation was staged. This is an attempt to see if the basic premises of the piece can be distilled while retaining that elusive artistic impact. This can not be seen in any way as an objective experiment as the other variables, such as the venue and the context of the exhibitions, are too great to ignore. As our focus was to emphasis the existence of the ear as an object of partial life rather than the process of caring for the semi-livings, we decided to keep the installation as minimal as possible. The design of the installation consisted of some references to both Stelarc's and our previous work, which resulted in an experience that was significantly different from either. At the first three shows, the ear was presented inside the artificial body that maintained it alive (the bioreactor and incubator). A camera mounted inside this new kind of body amplified the image of the ear inside the bioreactor (as a large scale projection) and the sounds of this body (fans and pumps). The result represented what Virilio finds offensive in contemporary arts and more; The actual and suggestive disfigurement of the human body- the detached organ which is easily recognizable as human - a somewhat playful reverse reference to Artaud's body without organs was in our case an organ with no body; or rather an organ with a technological body. Virilio would probably find the amplification of sight and sound, the technological mediation of the experience, the 'sonorization'¹⁵, as a distraction of the very nature of art¹⁶ an act of silencing that in his opinion contribute to the "aesthetics of disappearance" that will lead to even more horrible events than the horrors of the 20th Century.

The Extra Ear ¼ Scale Project debuted in the Kapelica Gallery in Ljubljana, Slovenia, as a solo piece in the gallery. Next it was shown at the National Gallery of Victoria as part of the Clemenger Contemporary Art Award, followed by a one evening performance at the Power House of the Midland Railway Workshops as part of the Nation Review of Live Art. In all the above installations the piece was presented in a dark space (80%gray to black) separated from the other works. The last show of Extra Ear – ¼ Scale Installation was part of the Art in the Biotech Era, where it was presented at a white space shared with works by other artists. Kapelica Gallery is internationally renowned for its ongoing commitment to present extreme art expressions and in particular works that challenge society's sensibilities of the body. It is positioned in far fringes of the established art world. It is located in a converted chapel/church (hence the name), and still retains some architectural references to its past.

As mentioned above the Kapelica installation had more components than the rest. These elements were arranged in the following manner: The incubator (with the ear in the bioreactor) was placed on a very simple pedestal (a basic metal frame) in the middle of the

space; the projection was in the centre of one of the side walls, the relics were presented inside a small glass case in a niche in the corner of space. The whole gallery was painted black and kept dark. A motion sensor in front of the incubator activated a spotlight directed at the ear in the bioreactor. The sterile hood and two small tables with the necessary lab-ware were positioned on a small stage, where the altar and maybe the pipe-organ once resided. The stage was mostly hidden by a large white curtain that was opened only when the ear had fed and killed. The original idea was to use the curtain to completely block out the view of the minimal laboratory on stage so that only when the caring performances had taken place the lab would be revealed. However, due to the architecture of the space a small gap was left on both sides of the curtain. This seemed to work really well with the audience who could not resist their voyeuristic curiosity to peep behind the curtains. Observing the viewers reactions we felt that this actually enhanced the experience by providing a “prohibited” glimpse of laboratory that was constructed solely for maintaining the ear alive. According to John Armitage, who wrote the introduction to *Art and Fear*, this type of preventative art might lead to “Taking the poetic truth out of the loop, today’s lethal presentational art of scientific voyeurism is powerless to express the actual extent of human cruelty.”¹⁷ In the context of this installation we were not so much interested in presenting the extent of cruelty, but rather playing on society’s substitution of one belief system with another without a thorough revisiting of our perception of life. The positioning of the lab at the altar site enhanced the ritualistic aspects of the nurturing act; the replacement of religious ritual with a ‘scientific’ being reminiscent of Huxley’s “Tissue Culture King”:

“If you prefer a more prosaic name”, said Hascombe, “I should call this the Institute of Religious Tissue Culture.” My mind went back to a day in 1918 when I had been taken by a biological friend in New York to see the famous Rockefeller Institute; and the word tissue culture I saw again before me Dr. Alexis Carrel and troops of white-garbed American girls making cultures, sterilizing, microscopizing, incubating, and the rest of it.”¹⁸

In both the Huxley’s story and Extra Ear 1/4 Scale the spiritual fostering of the church has transformed to the maintenance of object of partial life. The lab technician/artist has replaced the representative of the divine who gives life.

Shannon Bell, a Canadian cultural theorist who refers to herself in her writings as FF (Fast Feminism), visited the Extra Ear ¼ Scale installation in Kapelica Gallery. She Writes:

“Theory stopped for FF standing in Galerija Kapelica, Ljubljana; riveted to the tissue engineered Extra Ear ¼ Scale floating in its liquid nutrient solution inside the turning bioreactor that imitated body conditions... Theory stops when reality outstrips it in terms of horror, beauty and

possibility at the event level, when all the words of the world can not grasp the event... FF's body failed in the face of the perfect miniature partial life form; sight and hearing momentarily evaporated, incapable of willing motoricity she stumbled, reached for the curtain that could be used to close off the Tissue Culture Lab from the main installation of The ¼ Scale Ear, bringing the curtain down; an embodied physical gesture enacting what the Bioartists Oron Catts and Ionat Zurr and the Tissue Culture and Art Project (TC&A) were doing in art space. Catts and Zurr, not only brought tissue sculpture into art space but also brought the lab, bringing the curtain down on the mystique and fear of tissue engineering by not just showing the end product of a semi-living sculpture but by also displaying the means and process of its creation."¹⁹

The second presentation of Extra Ear ¼ Scale was as part of the Clemenger Contemporary Art Award, at The Ian Potter Gallery of The National Gallery of Victoria, at the heart of the art establishment. Due to the limited scope of this paper I will only comment about the NGV refusal to allow us to use human tissue for this installation and their somewhat strange request from us to declare that the work does not raise ethical issues: According to the curators of the NGV, shortly (about two weeks) before the show was about to open they realized that the NGV has no policy in regard to presenting living tissues in their gallery, the 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 particular in the biomedical community. 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 critically engage with the biomedical project. This was stated as our aim when we applied for the human research ethics clearance from the University of Western Australia (see attachment). Disregarding the fact that this installation received ethics, safety and health clearances from UWA the NGV decided to cancel the installation. Only to later 'compromise' and allow it do go ahead in the condition that we did not use human tissue.

Our attempt to deal with the human form 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 through both the suggestion of implanting an ear onto Stelarc's body, and the distinctively human body part. That seemed to also trouble the NGV as in a number of occasions they cited the Pissed Christ affair²⁰. Correlating perceived blasphemy with proposed modification to the human form, meant that in the eyes of some people we were disfiguring the image of God. This religious sentiment finds an echo in Virilio's self disclosed deep Christian faith, and demonstrate further tensions in that the project with the living human tissue ear was presented at a converted Church. The compromise of using

animal cells, while keeping the proposition of the piece, enhanced our views in regard to The BODY of which all living fragments belong regardless of species and tissue type.

The third presentation of this installation was done as a one evening performance, together with Stelarc, as part of the National Review of Live Art, Midland 2003. The surrounding of the Powerhouse in the Midland Railway Workshops affected the atmosphere of this evening; the meticulously restored turbines and the early 20th century industrial aesthetics brought into mind the stories of the modern Prometheus; while the micro-gravity bioreactor seemed to directly respond to the rotary motion of the electricity/life generator.

The performance, though, from the TC&A perspective was focused on the recital and questioning of the procedure we had to go through, in the University of Western Australia, to receive a human ethics approval to research this project as well as an approval to expose it to the subjects – human audience.

In the Art in the Biotech Ear exhibition, we have presented our work along side other artworks dealing with the thematic issue of biotech. In this case this piece was framed by the curator around the discourse of human body modification/enhancement rather than the complex ideas surrounding the issues of Semi-Living and partial life. By positioning Extra Ear ¼ Scale along side the other works a three way dialogue between the object of partial life, the audience and the rest of the show highlighted the tension this piece has generated. This tension culminated in one of the most moving killing rituals was ever conducted. In this gloomy event the audience silently touched the ear until every living cell in it succumbed to the hostile environment.

Working with the Semi-Living and Partial Life we are confronted with the question; are we creating another form of life for exploitation? Semi-Living as a replacement for meat production, leather production and other venues of cruelty/exploitation of a whole organism can be seen as ethically justified from an instrumental point of view. But more importantly for us, in the long term, they confront the viewer with the realization that life is a continuum of the different metabolising beings and in the transition from life to death and from the living to the non-living. Their existence contradicts the conventional dichotomies that govern traditional and current Western ethical systems.

We are facing a paradoxical situation in our approach at this stage: On one hand, mainly by the use of human cell or human cell lines²¹ we “better” manage to create a public dialogue in regard to the use of living material by humans. On the other hand, at the level that we interact with living systems - that of the cells and tissue - there is virtually no difference between human and other mammalian cells. We do not want to practice speciesism; and we do not want to be restricted to the use of solely humans’ tissue for the creation of a dialogue in relation to the position of humans within the living world.

We share many of Virilio's concerns regarding the directions technology is heading, and in particular technology that deals with the living as material. Our work with tissues as material is not intending to be pitiless art but rather to act as a tangible warning sign and a starting point for new boarder discourse. The constant questioning of validity of the use of the tissues for artistic ends is in the core of the work itself, it does bring to question the validity of the use of living materials for other human undertakings as well. It is the actual engagement and referral to the technology that makes art reveal the mediation as mediation, according to Kockelkoren, "but by doing so it sometimes generates images and metaphors that can overflow the banks of the mediation in question. In that case they acquire a much wider, almost transhistorical validity".²² But does that mean any kind of use and modification of living material in any context is valid or desirable? One might say that Virilio is validating these practices by merely acknowledging extreme art in his writing; that is somewhat of a ludicrous proposition for whoever read his work. But that seems to be his strategy when he looks at other, less representational forms of artistic expression. Virilio seems to engage with these works only on the level of a somewhat superficial second hand impression. A proof for that can be found in one of his latest books, *Crepuscular Dawn* (2002)²³, where in a reference to project we were involved with (*Fish & Chips*), Michel Punt is credited as the artist²⁴. Punt's only involvement with the piece was to write a review about it. If Virilio can not distinguish between a reviewer and an artist, how can he claim to understand the work enough to be able to critique it? The issue of authorship of such work is of our least concern as, our work (and in particular *Fish & Chips*) question issues of authorship in contemporary art practices. Virilio's pitiless attack against presentational art seems to stem from a reactionary and ill informed position, which is exactly what the TC&A is trying to avoid. The warnings Virilio and TC&A are sounding are closely related. Virilio does not agree that presntative art is a valid form of dissent, while TC&A believes it is possible, while being aware of the risk of domesticating these technologies. By constantly re-examining it own practice and strategies of dealing with issues of partial life, TC&A is trying to actively map this new terrain, in the hope of locating the traps which are inherently there. Autonomous art can only be, according to Kockelren, "that form of art which places a walkable platform above our constitutional lack of foundation. It can do so by testing the mediations we are require for that. In that way, art is an accomplice to the diffusion of conventional form of disciplining, but at the same time it represent a critical potential to resist them".²⁵ Virilio's is rightly concerned about what might happen when the use of the medium of living tissue becomes less critical and self referential, when it will stop testing the mediations required and become a force of domesticating rather than a resisting. What pitiless art will come out when this form of mediation will then become transparent?

References and Footnotes:

¹ For the chronology of cell and tissue culture see P.R. White, *The Cultivation of Animal and Plant Cells* Second Edtion 1964. For the history of organ culture see Carrel and Landenberg, *The Culture of Organs* 1935.

² For example; UK based artists Kira O'Reilly, BIOTEKNICA from Canada, Cynthia Verspaget from Western Australia, Stelarc and Orlan.

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- ³ Paul Virilio, *Art and Fear*, Translated by Julie Rose, Introduction by John Armitage, 2003, Continuum, London, NY.
- ⁴ Petern Kockelkoren, *Technology: Art, Fairground and Theatre*, 2003, NAI Publishers, Rotterdam.
- ⁵ *Ibid* p.27
- ⁶ Paul Virilio, *Art and Fear*, Translated by Julie Rose, Introduction by John Armitage, 2003, Continuum, London, NY.
- ⁷ Artists such as Eduardo Kac, George Gessert, Marta De-Mensez and The Tissue Culture & Art are working and presenting modified living beings as their art works.
- ⁸ Paul Virilio, *Art and Fear*, Translated by Julie Rose, Introduction by John Armitage, 2003, Continuum, London, NY, P.35.
- ⁹ *Ibid*
- ¹⁰ *Ibid*, p.52.
- ¹¹ Julian Huxley, *The Tissue Culture King (1926)* in *Great Science Fiction by Scientists*, edited by Groff Conklin, 1962 Collier Books NY, p.160.
- ¹² Steve Grand, *Creation, Life and How to Make it*, 2001, Orion Books, Ltd, London, pp.166-167.
- ¹³ In the “Disembodied Cuisine” we grew frog skeletal muscle over biopolymer for potential food consumption. A biopsy was taken from an animal which continued to live and was displayed in the gallery along side the growing “steak”. This installation culminated in a “feast”. The idea and research into this project began in Harvard 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.
- ¹⁴ From Clamenger Contemporary Art Award Catalogue National Gallery of Victoria September 2003: 30.
- ¹⁵ The artistic production of resonant and noisy sound-scapes; from Paul Virilio, *Art and Fear*, translated by Julie Rose, Introduction by John Armitage, 2003, Continuum, London, NY, p. 2.
- ¹⁶ *Ibid*, p.80.
- ¹⁷ *Ibid*, p.8.
- ¹⁸ Julian Huxley, *The Tissue Culture King (1926)* in *Great Science Fiction by Scientists*, edited by Groff Conklin, 1962 Collier Books NY, p.155.
- ¹⁹ Shannon Bell, *Fast Bodies and Cyber Human*, To be published Fall 2004, by Autonomedia (Semiotext), p.325.
- ²⁰ The National Gallery of Victoria closed an exhibition of works by American artist, Andres Serrano, on 12 October 1997 after two youths attacked the work *Piss Christ*, which shows a crucifix immersed in urine, with a hammer. (From <http://artslaw.com.au/reference/piss974/> Arts Law Australia web site).
- ²¹ Cell lines are immortal cells that can divide indefinitely when given the appropriate conditions (such as fresh nutrient medium and space). There are human cell lines that were originally derived from a human donor already in the early ninety fifties and are in use these days, long after the death of the original donor.
- ²² Petern Kockelkoren, *Technology: Art, Fairground and Theatre*, 2003, NAI Publishers, Rotterdam, p.101.
- ²³ Paul Virilio and Sylvere Lotringer, *Crepuscular Dawn*, 2002, Semiotext.
- ²⁴ *Ibid*, p.125.
- ²⁵ Petern Kockelkoren, *Technology: Art, Fairground and Theatre*, 2003, NAI Publishers, Rotterdam, p.72.

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