

**If Pigs Could Fly, Should They?  
A Sketch of Utilitarian and Natural Law  
Arguments Against “Life Science Art.”**

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# **IF PIGS COULD FLY, SHOULD THEY? A SKETCH OF UTILITARAN AND NATURAL LAW ARGUMENTS AGAINST "LIFE SCIENCE ART."**

## **Introduction**

The relationship between beauty and goodness, between art and morality, together with their relations to science engenders great philosophical perplexity. The history of philosophy affords us little more than the questions within which dialectic begins rather than a carefully articulated and sufficiently nuanced rehearsal of the problematics. Recently, these considerations have taken on a new urgency as '*new breed of artist has migrated from studio to laboratory to explore the new palette biological and medical technologies offer.*'<sup>1</sup> The line between science and art has been blurred as the materials traditionally held exclusively by the scientist are now being manipulated with supposed artistic aims. 'Life Science Artists' use living (and dead) plant, animal and human tissue in order to produce objects not (primarily) for scientific benefit but aesthetic objects designed to enchant, shock or familiarize the audience with the fanciful applications to which biotechnology can be put.<sup>2</sup> According to a *SymbioticA* web site, artists '*working in a different mental framework can bring both insights and distractions into the debates about the mechanisms, ethics and philosophy behind scientific work.*'<sup>3</sup> This paper argues that the insights this new field yields do not in fact, give balance to the distractions it creates. These distractions come in the form of serious ethical problems and it is these that will be considered in this paper.

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<sup>2</sup> *Biofeel art and biology*, accessed on 03/03/03 at <http://www.pica.org.au/art02/BioFeel.html>  
Ionat Zurr and Oron Catts, *The ethical claims of Bio Art: killing the other or self Cannibalism?* p.7. Accessed on 3/3/03 at [www.symbiotica.uwa.edu](http://www.symbiotica.uwa.edu)

This paper has adopted 'Life Science Art' as a useful term of reference for what is a field difficult to define. However this innovation is also sometimes referred to as 'wet biology art practice' or simply 'Bioart.' In this paper, the term 'Life Science Art' denotes any art project that uses emerging biotechnology or technology to manipulate living or dead human, animal or plant tissue in its display. (It is true that animal by-products have long been used in art in the form of brushes or dyes etc. It is important to note that this is not the paper's focus.)  
Ionat Zurr & Oron Catts, *The Aesthetics of Parts: humans and other animals are 'becoming' each other* accessed on 10/12/03 at <http://www.tca.uwa.edu.au/pig/parts.html>

<sup>3</sup> *What is SymbioticA?* accessed on 3/3/03 at <http://www.symbiotica.uwa.edu.au/info/info.html>

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With modernity, the traditional qualities of art, founded as they are in the realm of metaphysics, give way to art as the infinite repertoire of the world of appearance. As a consequence, there has been a break in the notion of art as encompassing a deep relationship with nature as one of the central manifestations of the good and the beautiful. The difficulties associated with ‘Life Science Art’ may be debated in many different ways. Here we will focus on two. There are Utilitarian reasons for rejecting the use of animals in ‘Life Science Art,’ just as there are Utilitarian reasons to reject the use of animals in science. Despite the fact that we will argue that ‘Life Science Art’ is morally problematic from a Utilitarian perspective, we nevertheless think that Utilitarian considerations do not capture all the morally difficult aspects of the practice. In particular, they are incapable of encompassing issues relating to the nature of the beautiful, an understanding of which is crucial to the analysis of the ‘shock’ and ‘disgust’ some people experience when confronted by ‘Life Science Art.’ Thus Natural Law arguments are also employed in order to give these issues, centered on the proper function of the crafts and the order of the natural realm and the relationship between the good and the beautiful, due consideration.<sup>4</sup> In this paper, we will not explore the ontological relationship between beauty and goodness, but hope to indicate the problems that arise when they are separated.

The common intuition that beauty and goodness are linked in some way hints at the under-developed notion that there is a metaphysical ground to the human experiences of beauty and goodness. The Greek linguistic innovation – *Kalagathos* (beauty/goodness) – reflects this intuition as it captures much more than a socio-political attribution of worth which seems the common currency of modernity.<sup>5</sup> This is the fruitful speculative kernel from which St. Thomas (or at least the Thomists) arrive at the transcendental nature of beauty and goodness. Nevertheless, the close relationship of beauty and goodness contemplated by the Greeks, spiritualized by the Victorines and achieving its apotheosis in the Thomists is not without its difficulties. Beauty and goodness come apart, and too often. Art, indeed, presents us with many

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<sup>4</sup> Deontology is excluded as a criterion for the examination conducted here since traditionally, it is heavily anthropocentric (even though it can be admitted that Tom Regan attempts to bring contemporary Deontology to task on environmental issues). Indeed, Kant thinks the only reason for not harming animals is that it may result in actions ‘bad to the neighbour.’ Aside from the merits or demerits of deontology, the scope of this paper requires the consideration of the major lines of ethical argument affecting this question.

<sup>5</sup> T. Brian Mooney and Geoff Coad, *Kalos Kai Agathos: Homeric Origins*, Unpublished Paper.

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examples of ‘infernal’ beauty. Perhaps Plato was right to seek the prohibition of art that did not service morality. However, it seems too narrow a view to suppose that an art work expressing an infernal beauty ought to be rejected as art because of its immoral content. A beautiful depiction of a rape, a torture, a paedophilic act, no matter how we might morally be repelled at the content of the acts depicted (whether in painting, literature or film) nonetheless may well represent excellences as art, and may thus be considered beautiful.<sup>6</sup> The notion of disinterestedness emphasized by the Kantians yields an account of art works as embodying aesthetic qualities independent of the morality of the subject matter. A Kantian perspective can recognize that art and morality, beauty and goodness are in principle separable. This in turn has led to the increasing abstractness of contemporary art, as art is increasingly divorced from the world of nature in which beauty and goodness are instantiated. How these considerations apply to ‘science/art’ has added a new dimension to the polemics of the ‘philosophy of art.’

Various forms of specialisation have become commonplace in contemporary life, but the blurring of the distinction between science and art revealed by ‘Life Science Art’ questions the relations between these two fields of endeavour. ‘Life Science Art’ projects utilise the skills and insights of both fields producing that which can be conceived as having either intrinsic value (traditionally aligned with art) or extrinsic value (traditionally aligned with the products of science).<sup>7</sup> Admittedly, scientists and artists have collaborated in the past to further their particular goals. Indeed, in some instances, the scientist and the artist were one and the same person: Sir Joseph Banks and Leonardo Da Vinci are two examples of this. However, the shared enterprise that ‘Life Science Art’ embodies is different in kind to former modes of collaboration. Formerly, the goals, materials and techniques of the artist and the scientist were distinct. The artist would assist the scientist by creating accurate (and in some instances extremely life like) depictions of the matter under scientific scrutiny. The

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<sup>6</sup> This need not mean, of course, that the artwork depicting rape, torture or paedophilia would be banned, but only that such depictions would occur within the context of a larger moral objective, perhaps by placing such depictions within the context of the moral disintegration of a personality.

<sup>7</sup> “Life Science Art” takes its form in conjunction with science in its pragmatic and practical dimensions and thus this mode of science is under consideration here. Pure science, which is of a different order and thus subject to different considerations in the measure of its worth is not discussed.

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key here is that the artist created *depictions* of the natural whereas the work of the scientist discovered and analysed the natural. The goal of the artist was arguably of a second order- artistic interpretation (accurate or otherwise) of the natural, (usually) imbued with meaning. On the other hand, the scientist's goal was of the first order- inseparable from the natural realm, and primarily functional. With the advent of 'Life Science Art' the nature of this partnership has changed. Not only have '*scientific tools and protocols ...become an integral part of the artistic process*' but the essence and purpose of these crafts have been confused: the artist conducts experiments and the scientist creates depictions, or distortions, of the natural.<sup>8</sup> Therefore, one of the difficulties with 'Life Science Art' is its inability to function clearly as either art or science.

To fully understand the notion of 'Life Science Art' one must not only analyse the creations themselves, but the motivating forces and goals at work in their production, and their place within the realm of the proficiencies of humanity. Thus, it could be that 'Life Science Art' is best understood with reference to the Greek term *poiesis* (making), which encapsulates a dimension of thought that modernity has been less than sensitive to. Art is but one aspect in the history of human making and the Greek term *poiesis* conveys this wider context. Works of art are examples of human making which are situated in the broader framework of the *technai* (crafts) and also intimately related to science as craft. When considered from this perspective, rather than seeing art as an autonomous realm of human activity or making with its own criteria of value, it becomes reintegrated into a less clearly demarcated field of activity, with more extensive evaluative criteria. The parallel judgment of art and science in the ancient world was made possible by the integration of these concepts under the banner of *technai*. The transdisciplinary approach 'Life Science Art' employs presents evaluative difficulties since the modern era has subdued the notion of the *technai* as bridge between art and science. Thus, moderns are compelled to assess this new field with reference to science and art as two separate disciplines having two generally distinct forms of value: instrumental and intrinsic. From this perspective, if 'Life Science Art' is defended as having extrinsic and functional value then artistic

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<sup>8</sup> Ionatt Zurr and Oron Catts, *The ethical claims of Bio Art: killing the other or self Cannibalism?* p.1. Accessed on 3/3/03 at [www.symbiotica.uwa.edu](http://www.symbiotica.uwa.edu)

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aspirations seem to be misplaced. On the other hand, if defended as having intrinsic value, the merit of the art is diminished by it being coupled with scientific objectives.

It is difficult to categorise the key elements of 'Life Science Art' practice. However, the commonalities seem generally to include three aspects: software, hardware and 'wetware.'<sup>9</sup> These terms denote the computer programming, the equipment (such as machinery, circuitry, computers and life-support apparatus) and organic matter, respectively. Further distinctions can be made within the field, between projects that employ the use of different kinds of organic matter: living or non-living tissue which can in turn be derived from plants and animals, including humans. These distinctions will become clear following the discussion of individual 'Life Science Art' projects.

Common to all of these projects is the manipulation of life forms with respect to artistic goals. As instances of 'Life Science Art,' all these projects succumb to evaluative and functional difficulties incurred by the blurring of the art/science distinction. These works also share, to different degrees, in the moral difficulties associated with 'Life Science Art.' Some are ethically problematic in terms of contemporary Utilitarianism since they seem to disregard the suffering of sentient beings, and are thus representative of the way in which some forms of life are arbitrarily excluded from moral calculus. In terms of Natural Law, these project are questionable since the production of art is a) not a 'sufficiently serious reason' to cause harm b) because they fail to fulfil the telos of either art or science and c) because they are offensive to an ontology which views the cosmos, at least in part, in terms of natural kinds.

The University of Western Australia has been instrumental to the development of the collaborations known as the *Tissue Culture and Art Project* and *SymbioticA*. In a world where organs harvested from pigs for transplant into humans may soon be commonplace, the *Tissue Culture and Art Project* asks whether the organs created by this burgeoning technology may not also take on fanciful forms. Will current tissue

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<sup>9</sup> Ionat Zurr & Oron Catts 'An Emergence of the Semi Living,' *The Aesthetics of Care, the artistic, social and scientific implications of the use of biological/medical technologies for artistic purposes*, accessed on 10/12/03 at [www.tca.uwa.edu.au/publication/THE\\_AESTHETICS\\_OF\\_CARE.pdf](http://www.tca.uwa.edu.au/publication/THE_AESTHETICS_OF_CARE.pdf)

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culture techniques evolve so that the people of the future will be able to repair paraplegia with centaur physiques, or attach the wings of angels to their backs to stay in step with the latest fashion? In "Pig Wings" pig bone marrow stem cells are cultivated onto miniature scaffolds. The scaffolds mimic the different structures of the bat, bird and dinosaur wing. The resulting '*Semi Living Structure*' thus challenges the limitations of the possibilities of the natural world, suggesting that, in the future, we may live in a reality which seems as strange to us now as the thought of pigs taking to the skies.<sup>10</sup> In one of *SymbioticA*'s more famous projects "MEART," (commonly known as "Fish and Chips") technicians and artists combine 'wetware,' software and hardware in the hope of creating an entity which in turn 'creates' artworks of its own.<sup>11</sup> Fish or rat neurons are grown over silicon chips which are wired to pencil wielding robotic arms, resulting in a 'semi living,' automated drawing device.<sup>12</sup> By this, the group wishes to explore notions of creativity and '*the biological non-human entity as an artist.*'<sup>13</sup>

Professor Eduardo Kac, an artist at the School of the Art Institute of Chicago, commandeered research techniques used by the National Institute of Agronomic Research in France in his art project the "GFP Bunny." A transgenic rabbit was created by the Institute, using a widely available technique called microinjection, as a part of ongoing research into embryo formation and to aid in the production of further transgenic specimens.<sup>14</sup> In this process, cloned jellyfish DNA, which codes for the production of the green fluorescent protein, is injected into rabbit embryos which are then implanted into a surrogate mother rabbit. When successful, the process results in a rabbit '*with the green fluorescent protein gene of a jellyfish - so that the full-grown*

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<sup>10</sup> The Pig Wings Project by the tissue culture and art project accessed on 10/02/04 at [www.tca.uwa.edu.au/pig\\_project.html](http://www.tca.uwa.edu.au/pig_project.html)

<sup>11</sup> *The current status of the research into fish and Chips*, SymbioticA research group, accessed [www.tca.uwa.edu.au/publication/SymbioticApdf+symbiotica&hl=en&ie=UTF-8SymbioticA](http://www.tca.uwa.edu.au/publication/SymbioticApdf+symbiotica&hl=en&ie=UTF-8SymbioticA)  
<sup>12</sup> SymbioticA Research Group (International), accessed on 03/03/03 at <http://www.pica.org.au/art02/BioFeel.html>

<sup>13</sup> *The current status of the research into fish and Chips*, SymbioticA research group, accessed [www.tca.uwa.edu.au/publication/SymbioticApdf+symbiotica&hl=en&ie=UTF-8SymbioticA](http://www.tca.uwa.edu.au/publication/SymbioticApdf+symbiotica&hl=en&ie=UTF-8SymbioticA)

<sup>14</sup> Libby Copeland, 'Transgenesis: A Neon Bunny Spans and Divides Art and Science,' *The Washington Post*, October 18, accessed on 03/02/04 at <http://loper.org/~george/trends/2000/Oct/78.html>

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A sketch of Utilitarian and Natural Law arguments against ‘Life Science Art.’ *rabbit glows green when exposed to blue light*.<sup>15</sup> Professor Kac wished to use the rabbit in a piece of performance art where he would interact with it in a mock living room established in a gallery, and then take the rabbit home to his wife and daughter in Chicago, to become part of the family.<sup>16</sup> By this he wished to bring to light that even transgenic creatures are as *‘much [a] part of social life as any other life form.’*<sup>17</sup> Unfortunately for Kac, his plans were thwarted at the last minute by the director of the institute, and the rabbit remained in the lab.<sup>18</sup>

Marta de Menezes uses her own cells and proteins in the creation of her artworks. In the project ‘Nucleart’, de Menezes paints the nuclei of live human cells with DNA highlighted with fluorochromes. De Menezes aims to demonstrate the pervasiveness of the now commonly accepted scientific thesis, that observation often disrupts the system being observed, since the results of her art work must be ceremonially ‘killed’ before the image can be viewed.<sup>19</sup> Such killing rituals (seemingly common in Bio Art) purportedly enhance the *‘idea of temporality of life and living art, and our responsibility as manipulators to the new forms of life.’*<sup>20</sup> However, could it be the case that this invitation to participate in a system of perpetrated and unnatural death is demonstrative of the irresponsibility with which ‘Life Science Artists’ approach their subjects?

A piece which draws its inspiration from mankind’s incursion into the processes of the plant kingdom is Amy Youngs’ project, “Rearming the Spineless Opuntia.” This cactus like plant is spineless due to experiments in cloning, the parent plant being equipped with protective spines. Amy Youngs re-arms the “Spineless Opuntia” with

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15 Such research is expected to have far reaching benefits including aiding the detection of cancer, tracking the movement of drugs around the body, or mapping the development of genetic disease.<sup>15</sup> Eduardo Kac, *Art science and free speech*, [http://www.kentlaw.edu/islt/kac\\_program.htm](http://www.kentlaw.edu/islt/kac_program.htm) 05/03/03.

16 Gareth Cook ‘Cross hare: hop and glow’, *Boston Globe* 9/17/2000 accessed on 12/02/04 at <http://www.ekac.org/bostong.html>

17 ‘Glowing Controversy’ accessed on 10/12/03 at <http://www.abcnews.go.com/sections/science/DailyNews/rabbit000918.html>

18 Cook ‘Cross hare: hop and glow’, *Boston Globe* 9/17/2000

19 Marta de Menezes, accessed on 05/12/03 at <http://www.martademenezes.com/> Please note that the use of the term ‘alive’ in relation to a single cell is not technically correct, since they are not considered living entities. This fact calls into question what De Menezes actually means or wishes to achieve by calling the cells ‘alive’ and in her killing ceremonies.

20 Ionatt Zurr and Oron Catts, *The ethical claims of Bio Art: killing the other or self Cannibalism?* p12, accessed on 3/3/03 at [www.symbiotica.uwa.edu](http://www.symbiotica.uwa.edu)



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the use of mechanical motion sensitive ‘armour’ encrusted with metal spikes, which closes when people approach the work at exhibitions.<sup>21</sup> This project may be the least problematic of those given consideration here, since it is restorative in orientation (albeit in an artificial manner) and does not infringe on any sentient being which can be argued to have interests in its own welfare, at least from Utilitarian perspectives.

As strange as these projects may seem, ‘Life Science Art’ advocates declare that they are ‘*not playing God, only evolution.*’<sup>22</sup> As Dr Stuart Bunt, of the University of Western Australia, points out, given that humanity has been genetically altering plants and animals for centuries (by manipulation of the gene pool through plant and animal husbandry) experimental and artistic work manipulating the same materials should be acceptable. The problems with this position are twofold. Firstly, it is too great a generalization to posit that since man has imposed some changes upon the plant and animal kingdoms in the past that all future manipulation should be welcomed. One would not agree, on similar grounds that since slavery was successful in some respects (for example economic) in the past, that it should be continued. The *status quo* is not above ethical reproach. Secondly, since one of the main drives behind ‘Life Science Art’ is to test our intuitions surrounding the boundaries of biotechnology, genetic manipulation, art and ethics, that is, the *status quo*, it seems odd that those engaging in this art form should wish to bring the status quo to their defence.

### **Utilitarian Arguments**

Another way in which some seek to justify ‘Life Science Art’ projects is demonstrated in the following line of argument:<sup>23</sup>

P1: We use animals in scientific experiments.

P2: It is acceptable to use animals in scientific experiments.

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<sup>21</sup> Amy Youngs, <http://www.pica.org.au/art02/BioFeel.html>

<sup>22</sup> Dr Stuart Bunt, University Of Western Australia Summer Extension Program Between Life and Death: from Prions to Cyborgs, January 15, 2003.

<sup>23</sup> This is an interpretation of an argument presented by Dr Stuart Bunt at the University Of Western Australia’s Summer Extension Program, in his talk *Between Life and Death: from Prions to Cyborgs*, January 15, 2003.

Dr Bunt posed the question to the gathered crowd: “There is nothing wrong with using animals for scientific purposes, and we value art more highly than science, so why shouldn’t we use animals in art?” It is assumed that the phrasing of the question was designed for rhetorical effect, and the point Dr Bunt was putting to his audience is treated with some charity in its reformulation here.

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P3: We now use animals and animal tissues in art.

P4: We value art more highly than scientific experiments.

C: Therefore it is acceptable to use animals in art.<sup>24</sup>

Premises one and three are uncontroversial, on the basis of practice. The soundness of premises two and four and the conclusion derived there from debatable and can be countered on a number of fronts.

That ‘it is acceptable to use animals in scientific experimentation’ is a contentious claim, for many moral philosophers do take issue with the use of animals in scientific experimentation, but the practice is tolerated on pragmatic grounds. Further, it seems that animal experimentation is seen as morally questionable by the scientific community, since experimentation is only allowed within restraints. In Australia, these restraints are made explicit in the ‘*Australian code of practice for the care and use of animals for scientific purposes*.’<sup>25</sup> This code provides for the ‘humane care’ of animals by researchers – demanding that research is justified and the pain inflicted upon animals is limited.<sup>26</sup> Crucial to this document is the demand that scientists endeavour to *replace* animals with other means of experimentation, *reduce* the number of animals used and *refine* procedures so that the impact on animals is lessened.<sup>27</sup>

But does this code of practice apply to the work of ‘Life Science Artists’? The Tissue Culture and Art projects take their form in the School of Anatomy and Human Biology Laboratory at the University of Western Australia, and Kac’s rabbit was created in a French Lab, but does this, in itself, designate these projects as scientific? This classification dilemma has caused some confusion. For example, when *SymbioticA* approached the U.W.A. animal ethics committee seeking approval for their art piece, the committee, whose members were drawn primarily ‘*from the*

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<sup>24</sup> Note, that for the conclusion to follow, the degree to which something is valued and the degree to which it can be deemed moral must be correlated, which the authors assume was Dr Bunt’s meaning.

<sup>25</sup> National Health and Medical Research Council ‘*Australian code of practice for the care and use of animals for scientific purposes*’, 1997 accessed on 12/02/04 at <http://www.health.gov.au/nhmrc/research/awc/cop.pdf>

<sup>26</sup> *ibid.* p 1

<sup>27</sup> *ibid.* p 5

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*scientific, veterinary and medical world... did not feel it was qualified to decide upon this matter.*<sup>28</sup> The work was eventually assessed in terms of scientific merit and permitted to proceed, with the assessment of other implications (artistic or moral) to be left until after public debate.<sup>29</sup>

Thus the practice of ‘Life Science Art’ seems ethically permissible if conceived of as purely a scientific venture, and thus presumably engendering some extrinsic value. However, the appeal of ‘Life Science Art’ seems to be that it allows practitioners to avail themselves of scientific materials and techniques whilst avoiding the ‘pitfalls’ or hindrance of good scientific practice. According to a *SymbioticA* web site, ‘Life Science Art’ *‘provides an opportunity for researchers to pursue curiosity-based explorations free of the demands and constraints associated with the current culture of scientific research.’*<sup>30</sup> It seems incongruent for advocates of ‘Life Science Art’ to liken it to a (supposedly) morally sound scientific field whilst, at the same time, admitting that the attraction of this art form is that it allows the evasion of the good practice they employ in their defence. The current scientific culture works within the guidelines of best practice with the aim of bringing those who involve malpractice in their work to account. The pursuit of freedom from these constraints leads to the objection that this may be considered as the pursuit of malpractice. The accusation of malpractice is cleverly avoided, however, when the name of the practice changed from ‘science’ to ‘Life Science Art’. Thus it seems that ‘Life Science Art’ is a grey area as far as best practice is concerned, which suggests that it, and other art forms using animals in their production, should conform to a code of practice designed specifically for their regulation.

Further, the claim that the use of animals in scientific experimentation is acceptable is readily countered from within a number of philosophical traditions; arguments from Utility will serve to demonstrate. Such an assertion merely exaggerates the good or benefit, in relation to the harm, that these experiments may engender, particularly if

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<sup>28</sup> Oron Catts and Dr. Stuart Bunt *The Art and Science Collaborative Research Laboratory Department of Anatomy and Human Biology, University of Western Australia*, p. 4. Accessed on 03/03/03 at <http://www.tca.uwa.edu.au/publication/SymbioticA.pdf+symbiotica&hl=en&ie=UTF-8SymbioticA>,

<sup>29</sup> *ibid.*

<sup>30</sup> *What is SymbioticA?* Accessed on 3/3/03 at <http://www.symbiotica.uwa.edu.au/info/info.html>.

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anthropocentric considerations predominate as they do in many forms of Utilitarianism. It may be argued that, harm is admissible in some cases, when balanced by a greater good, or benefit. Accordingly, whether the use of animals in art or science should provoke ethical suspicion may be gauged by the relative harm or benefit the practice affords. This calculation is not always straightforward however, since one may ask 'benefit in relation to whom?' For the traditional Utilitarian, the calculation of benefit relied only on the consideration of human interests, but some Utilitarians, such as Peter Singer, wish to expand these considerations beyond the human sphere. Even Jeremy Bentham speculated as to whether future generations would consider animals' interests in moral calculus on the basis of their ability to suffer.

The connection of sentience, defined as the ability to feel pain, with moral standing is useful in that it appears to simplify matters somewhat.<sup>31</sup> Suffering is made possible by the presence of a nervous system which science declares most animals to have and plants not to have. Humans also recognise this instinctively as animal response to stimuli mirrors our own, allowing us to detect animal pleasure or pain. It follows that those with a central nervous system and thus sentience thereby have an interest in the harm or benefit they are afforded, and thus these interests should be given due consideration within any utilitarian calculus. The ability of animals to suffer is one reason why their use in the production of art warrants examination from a Utilitarian standpoint. Nonetheless, the Utilitarian critique presents difficulties of its own. Firstly, it is difficult to weigh the conflicting interests of sentient beings (humans and animals) with any degree of accuracy.<sup>32</sup> In a case where the survival of an animal is pitted against the survival of a person, an 'ontological hierarchy' is traditionally appealed to and 'person trumps animal.'<sup>33</sup> Utilitarian calculations may be further confused when one attempts to weigh the interests of animals against each other,

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<sup>31</sup> Peter Singer *The Expanding Circle: ethics and socio-biology.* Clarendon Press, Oxford, 1981 also see Tom Regan, 'The nature and possibility of an environmental ethic', Bowie, Higgins and Michaels, *Thirteen questions in ethics and social philosophy* pp. 494-504.

<sup>32</sup> Tom Regan, 'The nature and possibility of an environmental ethic.'

<sup>33</sup> Deontologists and Utilitarians seem to appeal to this notion which lies at the heart of medieval metaphysics. For Kant this is because human beings are viewed as the only rational beings in a Kingdom of ends. In the case of Utilitarianism, it is due to the qualitative considerations employed in the calculus.

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where the fallback of an ‘ontological hierarchy’ is often of little assistance.<sup>34</sup> In a case where the person’s economic benefit is pitted against animal survival the outcome is less clear. It is possible to employ traditional Utilitarian considerations to argue that, on qualitative grounds, ‘humans trump animals’ thereby allowing certain forms of animal experimentation, if likely to produce overall human good. However this need not reject the calculation of animal interest, since even on Utilitarian grounds aesthetic appreciation may appear frivolous when calculated against animal suffering. Indeed it is in response to such considerations that Peter Singer developed the notion of ‘the expanding circle.’<sup>35</sup> Although Singer accepts the notion that human beings have ‘*faculties more elevated than the animal appetites,*’ he nevertheless suggests that ‘*the moral circle should... be pushed out until it includes most animals.*’<sup>36</sup>

Just as humans seek their own flourishing as corporeal beings, why should we not extend this notion to the corporeal flourishing of animals? Humans, such as de Menezes, can use their bodies in (what some may say is an obscenely) direct involvement in art, as a means toward facilitating an aspect of their flourishing, but how does the use of animal tissue in art contribute to the animal’s flourishing?<sup>37</sup> The works which employ the use of rat and fish neurones, pig bone marrow, jellyfish DNA and rabbits may thus be revealed as problematic.

It is true that no moral system is free of inconsistencies, and interactions between people are often fraught with double standards. The inconsistency with which animals are treated is also well documented. For example, as Gaita notes, the ‘*farmers daughter will care tenderly for her pet lamb yet at the same time eat other lambs without hesitation; but [he argues that this] ... is just a dramatic manifestation of the common fact that we care for our pets and cheerfully eat other animals.*’<sup>38</sup> Given this,

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<sup>34</sup> Value distinctions are made even within the animal kingdom, for example, rats are generally deemed to be more expendable than monkeys, rabbits more so than dogs. Whether this is a question of ontology or a recognition of likeness is debatable.

<sup>35</sup> Peter Singer ‘*The Expanding Circle: ethics and socio-biology.*’ Clarendon press, Oxford, 1981.

<sup>36</sup> Peter Singer ‘*The Expanding Circle: ethics and socio-biology.*’ Clarendon press, Oxford, 1981, pp. 117- 120.

<sup>37</sup> In ‘Human Body Worlds’ people volunteer their corpses to the before they have died and in Marta de Menezes self portrait she used her own tissue.

<sup>38</sup> Raimond Gaita, *The Philosopher’s Dog*, The Text Publishing Company, Victoria, 2002, p. 29.

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some may balk at the idea that ‘Life Science Art’ may be held to be ethically problematic at all. However, the fact that people treat animals inconsistently is no argument against the analysis of this treatment with an eye to improvement. That we generally care for the needs of our own children over the needs of those next door or in the global south is not an argument for the exploitation of the world’s impoverished. Similarly, that we care for some animals and eat others is not an argument for ‘Life Science Art’. Moreover, there seems to be a double standard in the deployment of cellular tissue depending on whether it is animal or human. If someone were to misappropriate a person’s bone marrow for the use in an art project there would be a rightful public outcry, whereas if it is taken from a pig it is viewed as an interesting, if odd, idea. ‘Life Science Art’ did not create this moral inconsistency but has brought it into sharp relief. Even so, the morally permissible use of volunteered tissues is a matter of degree. The artist who cuts off his own arm to meet artistic goals would be looked upon as depraved as would an artist stealing others’ tissue or body parts for inclusion in his works.<sup>39</sup>

Thus, given that the claim that ‘it is acceptable to use animals in scientific experiments’ has been debunked, the stage is set for the challenge to the conclusion ‘it is acceptable to use animals in art.’ Consider the projects “Fish and Chips,” “GFP Bunny” and “Pig Wings,” discussed above. If we are to base ethical consideration on sentience, the question of whether the fish, rabbits or pigs used in ‘Life Science Art’ projects are in fact sentient arises first. The mere existence of the fish neurons, which were removed for one project, suggests the presence of a central nervous system and thus the ability to feel pain. The pig that had bone marrow removed was fully grown so clearly able to suffer.<sup>40</sup> The work of Professor Kac is slightly more problematic, however, since the use of newly fertilized rabbit ovum falls into the debate surrounding the ethics of reproductive techniques, a debate too complex to broach within the current context. Nonetheless, it is reasonable to propose that any harm

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<sup>39</sup> As occurred in England in 1998, when artist Anthony Noel-Kelly stole body parts from the Royal College of Surgeons. Kelly was the first British citizen to be convicted for the theft of human remains. Andrews, “Art as a Public Policy Medium”. Chapter in a forthcoming book sent to the authors, 2003, pp. 19-20.

<sup>40</sup> In fact, the operation procedure that apparently involved the use of anaesthetic attests to this. Dr Stuart Bunt, University Of Western Australia Summer Extension Program, Between Life and Death: from Prions to Cyborgs, video clip shown, January 15, 2003.

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which may have been caused to these creatures, should they be at a developmental stage where pain can be perceived, this should be considered as part of the moral calculus, if one accepts the Utilitarian arguments resting on the notion that animals suffer. It seems that the conclusion ‘it is acceptable to use animals in art’ cannot be easily defended against Utilitarian considerations.

To move further along the argument in question, the premise that ‘art is valued more highly than science’ is also dubious. The value placed on art and science is different in kind – fine art is appreciated on a predominantly intrinsic level whereas science *generally* commends itself as instrumentally worthy. This of course must be qualified by the admission that these forms of value are not exclusive to either field: art can have instrumental significance in the case of didactic art and, in pure science, an investigation for its own sake has intrinsic worth and the simplicity of a scientific theory may be considered beautiful. The complexity of the way in which value is ascribed therefore, renders it extremely difficult to ascertain which of the two should be prized more highly. Thus, this argument sheds no light on whether the use of animals in art is appropriate.<sup>41</sup>

The juxtaposition of the merits connected with the practice of science and art may cause further conceptual problems in relation to Life Science Art. Some branches of ‘Life Science Art’ seek to find value for its practice in so far as it promotes discussion or enables the development of procedural and evaluative guidelines. This line of reasoning seems to give this art form an instrumental value (as opposed to the generally accepted view of art as intrinsically worthy). This inadvertently implies that it is ‘*replaceable by anything else that performs the same function as well or better.*’<sup>42</sup> Philosophical abstractions about the issues that ‘Life Science Art’ seeks to raise would accomplish the goals these artists strive for whilst avoiding the ethical dilemmas the art form invokes, and thus could be viewed as the better alternative,

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<sup>41</sup> Perhaps those forwarding this premise used an economic scale in their assessment of value, noting the ridiculous amounts of money spent to attain works of art. If, however, the millions of dollars spent each year on the products of science (cancer, AIDS or diabetes treatments; cars, aeroplanes, microwaves, cosmetics etc) is considered; it would seem that humanity values science more than art. So, even by this criterion, art is not clearly of such a high value as to warrant the use of animals in its production.

<sup>42</sup> Matthew Kieran, ‘Value of Art’, in B. Gaut, D. McIver and Lopez (Eds.), *The Routledge Companion to Aesthetics*, London, 2001, p. 343. p. 215.

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making ‘Life Science Art’ superfluous. Since this ‘social commentary’ may be made without the recourse to harm, it is unreasonable that harm be tolerated.

In response to this, it may be asserted that although abstract reflection or debate can raise awareness of social and ethical issues, art is a *‘particularly valuable way of conveying such an understanding, since it invokes and prescribes a peculiarly cognitive-affective response.’*<sup>43</sup> Art is in a unique position to challenge and alter our *‘cognitive-affective attitudes to, and understandings of, the world.’*<sup>44</sup> Thus, on this view, the purpose (and hence the value) of ‘Life Science Art’ seems secure; except that the cognitive-affective response that this art evokes is misdirected. The value of art is attenuated when the moral effects are so *‘crudely manifest’* as to divert attention away from the content of the work.<sup>45</sup> The audience is not prompted to contemplate the broader implications of biological and genetic technological advance, but the problems posed by ‘Life Science Art’ itself. Therefore, it is questionable *‘that it is shaping the public discourse about genetics and reproductive technologies.’*<sup>46</sup> Admittedly, by *‘imaginatively entering the world of a work, one is enabled to test one’s reactions to people who hold sets of moral views very different from one’s own.’* This is well and good when the work is fictional (such as a novel); but the trial of one’s reactions takes on a certain urgency when otherwise.<sup>47</sup> For example, the examination of sexual brutality presented in de Sade’s *‘Justine’* is permissible because it is fictional.<sup>48</sup> A real portrayal of this, however artistic, would most likely be deemed pornographic (hence not art in the received sense), and abhorrent. Art can be a vital medium in the exploration of societal values and morality, but it ceases to hold such value when its *modus operandi* is ethically amiss. Again, the means to challenging the conclusion ‘it is acceptable to use animals in art’ is easily realised.

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<sup>43</sup> *ibid.* p. 223.

<sup>44</sup> *ibid.* p. 222.

<sup>45</sup> Michael Tanner, “Art and Morality”. In E. Craig (Ed.), *Routledge Encyclopedia of Philosophy*. London: Routledge, 1998. Retrieved August 12, 2003, from <http://www.rep.routledge.com/article/M007SECT3>

<sup>46</sup> Andrews, L. “Art as a Public Policy Medium”, in unpublished, p. 8, 2003.

<sup>47</sup> Matthew Kieran, ‘Value of Art’, in B. Gaut, D. McIver and Lopez (Ed.s), *The Routledge Companion to Aesthetics*, London, 2001, p. 343.

<sup>48</sup> Berys Gaut “The ethical criticism of art” in Jerrold Levinson (ed) *Aesthetics and Ethic: essays at the intersection*, Cambridge University Press, Melbourne, 1998, p.189.



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However, advocates of 'Life Science Art' reject the idea that their *modus operandi* is amiss asking: 'we use plants in artwork so why not animals?'<sup>49</sup> There is an obvious distinction between plants and animals that has, over the centuries, seen dinner tables adorned with flowers plucked from the garden as opposed to a limb pulled from the family pet. We see a likeness to ourselves in animals that is not perceptible in plants. Comparisons can be made between humanity and non human animals, as noted above, on the basis of sentience, the ability to feel. Such a position would excuse the work of Amy Youngs' "Rearming the Spineless Opuntia" from further ethical scrutiny since this project involves the non-sentient living tissue of the cactus. However, the demarcation of ethical standing at sentience may itself seem arbitrary to some who would argue that the circle should be expanded further. If the demarcation between the moral worth of sentient and non-sentient beings is purely arbitrary, then surely it would follow that the distinction between the moral standing of human and non human animals (resting on some ill defined notion of personhood requiring rational thought for its fulfilment) is similarly arbitrary.<sup>50</sup>

Utilitarianism provides arguments which are powerful enough to highlight some of the moral difficulties associated with 'Life Science Art.' Nevertheless, Utilitarian perspectives alone do not seem to capture the sense of 'shock' and 'disgust' that many people have in respect to 'Life Science Art,' (the 'yuck factor'). Utilitarians have notoriously found it difficult to accommodate beauty into their conceptual framework, particularly when the good and the beautiful are juxtaposed. Indeed, it is at the point where beauty and goodness intersect that the Natural Law tradition seems to encapsulate the deeper intuitions some have about difficulties with 'Life Science Art.' At least in some of its guises, Natural Law ties together moral reflections with metaphysical and ontological considerations, which moves the argument beyond the relatively narrow scope of Utility. So, in what follows 'Life Science Art' will be assessed from a Natural Law perspective, with reference to ethics, the *teloi* of the crafts and the notion of natural kinds.

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<sup>49</sup> Dr Stuart Bunt, University Of Western Australia Summer Extension Program Between Life and Death: from Prions to Cyborgs, January 15, 2003.

<sup>50</sup> Tom Regan, "The nature and possibility of an environmental ethic", in Bowie, Higgins and Michaels, *Thirteen questions in ethics and social philosophy*, Harcourt Brace, Sydney, 1998, pp. 494- 504.

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### Natural Law Arguments

The foregoing discussion noted difficulties posed by the comparison of the interests of different beings, particularly in relation to suffering, and the criteria which may be employed in establishing comparison. However, the consideration of benefit and harm accorded to *one* animal by the effects of an act is similarly complex. Nevertheless, some clarity may be found if the problem is analysed from a Natural Law perspective. For example, amputating an animal’s leg is an obvious harm. If the leg was cancerous however, then this act is considered beneficial since it extends the animal’s life. This particular assessment of benefit is in accordance with the ‘Principle of Totality’: that for harmful procedures to be ethical, they must contribute to the flourishing of the creature as a whole.<sup>51</sup>

Utilitarians have often claimed that the ‘Principle of Totality’ argues that the ends justify the means. Ethical principles are rarely left without qualification however, and the traditional condition on the ‘Principle of Totality’ in the Natural Law perspective comes in the form of the ‘Principle of Double Effect’. This principle, extrapolated from Aquinas’ thoughts on killing in self defence emphasises, among other things, the importance of one’s intentions with respect to the morality of an act. As Aquinas notes, ‘*Nothing hinders one act from having two effects, only one of which is intended, while the other is beside the intention.*’<sup>52</sup> While an intended ‘evil effect’ will not be met with moral approval in this tradition (even if to bring about a greater good), it may be permitted, given that an act fulfils certain conditions. As Oderberg summarises:<sup>53</sup>

1. The intentional act, which has an unintended yet foreseen evil effect, must be ‘morally indifferent’ in so far as it may be either good or at the very least permissible from a moral standpoint.

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<sup>51</sup> This principle states that it is ‘permissible to sacrifice a part to save the whole.’ David Oderberg, *Moral Theory, a Non-Consequentialist Approach*, Blackwell, Oxford, 2000, p. 78.

By extension, it seems reasonable that it is permissible to sacrifice some smaller good with the intention of contributing to the greater good of an organism.

<sup>52</sup> St Thomas Aquinas, *Summa Theologica*, II-II, Q 64, a 7, Second Edition, 1920, accessed on 20/01/04 at <http://www.newadvent.org/summa/306400.htm>

<sup>53</sup> David Oderberg, 2000, pp. 90-91.

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2. The ‘good effect’ must be caused directly by the intended action, not by the unintended yet foreseen evil side effect.
3. The evil effect must not be intended in addition to the good effect. That is, it is permissible that the evil effect is foreseen, but not wished for.
4. The ‘Principle of Proportionality’ must be adhered to, so that the evil effect is in proportion to, or is likely to be outweighed by, the good effect gained by the intended act. That is, there must be a ‘*sufficiently serious reason*’ to warrant permission of the evil effect.

In general, when speaking of ‘Life Science Art’, artistic and scientific exploration is the intended effect, and as noted, harm seems unintended (satisfying conditions 1 and 3).<sup>54</sup> Even if images of the surgery conducted on the pig to extract tissue for the “Pig Wings” project leaves some room for doubt, harm still seems to be a foreseen yet unintended effect.<sup>55</sup> The ‘good effect,’ that is, the fulfilment of artistic endeavour, is caused directly by the intended action, not by the harm caused to the animals (which satisfies condition 2). Lastly, condition 4 must be answered: ‘was there a *sufficiently serious reason* to allow these animals to be harmed?’

Firstly, the harm caused was not offset by any benefit for the animals concerned. The ‘Principle of Double Effect’ may allow these procedures to be conducted if the intended outcome was to improve the quality of the life of pigs (by offering them the ability to fly) or fish (by satiating their creative desire) in general, but this was not the intention of these projects. Secondly, these procedures were not conducted in order to promote the flourishing of these animals but to fulfil artistic goals and raise debate, which as a *sufficiently serious reason* to inflict harm is highly questionable. As Andrews notes, ‘life science’ artists may ‘*provide a social commentary about genetic analysis, (but) at the same time their methodology itself raises social concerns.*’<sup>56</sup> Certainly it does seem that ‘Life Science Art’ may be viewed as ethically problematic from within the Natural Law tradition.

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<sup>54</sup> Dr Stuart Bunt, University Of Western Australia Summer Extension Program, *Between Life and Death: from Prions to Cyborgs*, January 15, 2003.

<sup>55</sup> These Images are accessible at <http://www.tca.uwa.edu.au/pig/harvest.html>

<sup>56</sup> Andrews, *Art as a Public Policy Medium*, in *Untitled*, unpublished, p. 8, 2003.

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On the other hand, advocates of 'Life Science Art' may claim that the *sufficiently serious reason* for the permission of harm is in fact provided by the promotion of discussion of the ethical issues associated with developing biotechnologies.<sup>57</sup> It is indeed admirable that 'life science' artists wish to raise public awareness and '*try to develop guidelines and mechanisms to evaluate the use of animals in wet biology art practice.*'<sup>58</sup> It is not necessary to partake in an activity to be able to create appropriate procedural guidelines and evaluative mechanisms. In fact, it would seem prudent to develop procedural guidelines before embarking on a project. It may even be held as irrational to assert that to discover how unethical or problematic certain practices may be, we should engage in said practices. One would not commit murder merely to form an opinion as to the moral nature of the act or to assess how best to deal with offenders. Debate on, and public awareness of the ethical implications of biotechnology could be raised just as easily by the use of thought experiment. Thus, the debate raised by wet biology art ceases to be a *sufficiently serious* reason for allowing the 'evil effects' this art form invokes.

More importantly, the wish to raise public awareness does not, in itself, satisfy the 'Principle of Proportionality.' It is difficult to argue that the harm caused to animals is readily countered by the creation of human benefits, (be it scientific, artistic, economic or otherwise) since all of these considerations are qualitatively incommensurable and thus elude effective comparison. Disregarding this, it could be argued that the good of raising public awareness of ethical issues or of furthering artistic and scientific goals becomes relatively insignificant in comparison to the *intrinsic good* represented by the life and well being of an animal.

Another good reason to question 'Life science Art' comes from the nature of the *tele* of the respective fields of art and science. In Plato's *Republic* an argument is developed on the basis of craft analogies which may be helpful when applied to the issues under discussion. Socrates argues that in the exercise of any craft there is a

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<sup>57</sup> Dr Stuart Bunt, University Of Western Australia Summer Extension Program Between Life and Death: from Prions to Cyborgs, January 15, 2003.

<sup>58</sup> *The current status of the research into fish and Chips*, SymbioticA research group, accessed [www.tca.uwa.edu.au/publication/SymbioticApdf+symbiotica&hl=en&ie=UTF-8SymbioticA](http://www.tca.uwa.edu.au/publication/SymbioticApdf+symbiotica&hl=en&ie=UTF-8SymbioticA), p. 4.

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telos to which the craftsperson is subject. The craftsperson exercises knowledgeable activity over a field for the sake of the goals of the particular craft. The importance of the argument lies in the notion that the standard of excellence in crafts is independent of the desires of the practitioner and is located in the “impersonal” sphere of whether the product of the craft achieves the goals of the craft activity. If we apply these considerations to Life Science Art we can see that at least some of the problematic features of ‘Life Science Art’ are related to the manner in which incommensurable goals become mixed. ‘Life Science Art’ neither fulfils the internal and impersonal criteria of art nor science. An argument can clearly be marshalled to foster the idea that science might employ techniques which, although morally problematic, nevertheless fulfil internal goods consistent with scientific *tele*. Thus, one might be able to use animals to help produce tangible goods for human beings by for example producing luminescent bunnies which may assist at some stage in the detection of human disease. However, if the questionable moral practice is used to produce objects for aesthetic experience then it can be argued that the *tele* of neither art nor science are promoted. It may be thought nevertheless that the telos of art is upheld in these practices. The problem however resides in the conflict between the goals of science and the goals of art. There does not appear to be a sufficiently serious reason to engage in ‘Life Science Art’ practices.

A still deeper reason for rejecting ‘Life Science Art’ resides in the religious metaphysic that undergirds the Thomistic perspective. At least some aspects of the Natural Law tradition depend on an underlying metaphysic and this is certainly the case with St Thomas. St Thomas noted that goodness is that which is desired, and that which is desired is so due to a participation in the perfect. Thus, once it is assumed that perfection is only meaningful when actual or existent, goodness can be neatly aligned with being.<sup>59</sup> From this perspective the Divine being creates a cosmos with certain definitive natural kinds. Human beings may interfere in this order through animal and plant husbandry for example but may not breach species essence. We can “create” new forms of orchid or new breeds of dog but within the species and not trans- species. ‘Life Science Art’, however, seeks to do something, (at least in some

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<sup>59</sup> St Thomas Aquinas, *Summa Theologica*, I-I, Q5, a1, Second Edition, 1920, accessed on 11/04/04 at <http://www.newadvent.org/summa/306400.htm>

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of its projects) which alters natural kinds beyond the possibilities inherent in their species nature. The argument then is that this is a frivolous intervention into the pattern of the Divinity’s handiwork which is unwarranted because it does not have a sufficiently serious rationale. In ‘Life Science Art’ the fact that the material which is being moulded was initially moulded by the Divine, makes the imperfection of the work seem abhorrent. In other words, since ‘Life Science Art’ involves the living or the ‘*semi living*,’ the contrast between the work of these artists and the work of the Divine is brought into stark relief. Thus the creation of these ‘*semi living creatures*’ is but a cruel parody of Divine order.

The aims of this paper have been on the whole fairly modest. The issues that “Life Science Art” raise are clearly ethically problematic but the field is still so new and lacking in sustained philosophical reflection that this paper is targeted at bringing some of the issues into the philosophical arena. Further discussion and reflection is required and as the range of “Life Science Art’s” projects continue to push the boundaries of our distinctions between science and art, together with their broader relations to the good and the beautiful, such discussion and reflection will require an increasing sense of urgency. Here we have focussed on some of the problems that arise when beauty and goodness come apart. In doing so we sketched some standard utilitarian considerations against “Life Science Art” mainly drawing upon the “harm” that is inflicted in some of these projects. Nevertheless, we also argue from the Natural Law tradition that there are relevant considerations of “harm” that go beyond the account presented in utilitarianism. We argue that there are ontological reasons for rejecting “Life Science Art” from a Natural Law perspective and that there are deeper issues about the relations of art and science, goodness and beauty which need further reflection and articulation.

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