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The Challenges of Producing a Piece of Bioart

The line between art and biological sciences became blurred when bioart first emerged. This manipulation of organic matter in the name of art serves to bring both art and biology under the same roof in a bold attempt to unify the two disciplines. Much as there is a lot of controversy regarding bioart, of which ethics play an important role, I personally salute a bioartist's attempt at integrating both art and biology into a piece of work. However, there are challenges in producing a piece of bioart, which I will largely generalize into two broad categories: the seen and the unseen, meaning the physical and the non-physical factors.

One unseen challenge is the relationship between the artist and the biologist when both cooperate in producing a piece of bioart. (This can mean for example, the bioartist consulting the biologist on certain techniques.) Firstly, since both are originally trained in their very different separate disciplines, they will therefore, have to face inevitable contrasts in mindsets, mentalities, and even working styles. To illustrate further, a bioartist's perception of bioart is using this media to "raise questions regarding social concepts" and giving "expression to and provide commentary on the procedures of visualization, cartography and interpretation of the actually invisible procedures of biotechnology". (Richard, 1999) It is a lot of focus on expressing ideas and views in the organic piece of work. Therefore, the mentality of a "no boundary" kind of work will

probably occur more in the bioartist as he focuses more on bringing art into life through the media of organic materials. In contrast to this, a biologist's view of manipulating organic materials is normally (though I dare not say absolutely always, but this will not be our realm of discussion) for the sake of improving quality of life, either for humans or other living organisms. He may not agree that a certain idea or view of the bioartist, however it might benefit society, is really going to improve the quality of life. The hard fact is, for a biologist, quality of life may most probably be confined to the biological aspect, and not the social. In this sense, we can see how the *motives* of both parties differ. This will affect their working relationship significantly and determine the effectiveness of their communication too.

Another major unseen challenge is the perception of bioart itself. Many view this relatively new area as "weird science". Human and animal rights activists oppose to the manipulation of life itself as an expression of art. Many people still cannot accept a rabbit that glows fluorescent green under blue light illumination, or playing classical music to a strain of bacteria to increase antibody production as a norm of science. This unseen challenge leads to physical challenges like the probability of the bioart work being refused for public display, (one example of this is that involving Joe Davis, the father of the bioart movement. One of Davis's work, "Microvenus", which involves the use of genetically engineered bacteria (*E. Coli*), was refused by US galleries for public display because no one dared to take the risk of accommodating a potentially dangerous microorganism. It was not until some time later that this work was publicly exhibited in a positive-pressured biological containment facility erected at the Ars Electronica exhibition in Linz, Austria.) and the lack of funding and sponsorship. Davis faced this

problem when he first initiated bioart. In his earlier years, Davis, despite having secured support from major universities like Massachusetts Institute of Technology (MIT), Harvard and Boston University did not receive anything more than bench spaces in their laboratories. This greatly affected the recruitment of bioartists. Adam Zaretsky, another prominent bioartist also funds his works by working as a teacher of digital imaging. Thus how people perceive bioart will inevitably affect the endeavors of bioartists and the process of producing a piece of bioart.

On the practical side, biological techniques may not be able to support a bioartist's idea. It is a sad fact that the realm of the human mind creativity does often go further beyond what technology can offer. Therefore, the limiting factor still lies in the biotechnology itself and of how feasible it is to effectively express a certain idea through the use of biological techniques. Therefore art, in bioart, can be in a sense stifled by technology as "it must make use of the means made available by the technogenetic complex, and thereby takes leave of the realm of its own genuinely artistic means". (Richard, 1999)

Although the "Discussion Group of the Virtual Self" (Donatella Bigoni, Margherita Cattera, Piero Gilardi, Pier Luigi Gregori, Bruna Piras, Federica Russo, Elisabetta Tolosano), in its contribution to the LifeSciences Internet Symposium 1999, urged bioartists to "oppose the market-oriented development (of life sciences) with the subjective perspective" and that "human needs within biological contexts which are not taken into consideration by economic interests should be worked out", there is still this intangible pressure of bioart works to exhibit the same marketability as life sciences products. Moreover, what is meant exactly by "human needs within biological contexts"?

This can be very differently perceived by the bioartist and biologist. To the former, a human need, even within a biological context may not necessarily need to reach the human masses. It may simply mean addressing a social view through biological means. But for the biologist, with his main aim of improving the quality of life, may see a human need vary closely associated with its availability to the human masses.

Despite the challenges, the process of producing a piece of bioart is part of the whole big picture of the field of bioart itself, which I find it intricately interesting. Even as Brigit Richard wrote, “The world does not change as a result of a work of art.” there is still hope for bioart nonetheless. We can never, or not yet, conclude about the fate of this field when it is merely shouting its early voice. However, there is still a need to be aware of these challenges and an effort to overcome them to allow the field of bioart to reach its full potential.

Bibliography:

Richard, Birgit “I-Biology and Fake Life Construction” in **Ars Electronica 99: Life Science**. Wien New York: Springer, 1999. P. 30-38.