

*Once again, what appears to us in the mystical guise of pure science and objective knowledge about nature turns out, underneath, to be political, economic, and social ideology.*

—R. C. Lewontin

# Introduction

## Contestational Biology

Over the past five years Critical Art Ensemble (CAE) has traveled extensively doing participatory performances that critique the representations, products, and policies related to emerging biotechnologies. When we do projects concerning transgenics, one of the most common questions participants ask is whether CAE is for or against genetically modified organisms (GMOs). The reply from group members is always the same: *We have no general position. Each product or process has to be taken on a case-by-case basis. Some appear disastrous (primarily to the environment), while others seem soundly engineered and useful. The real question of GMOs is how to create models of risk assessment that are accessible to those not trained in biology so people can tell the difference between a product that amounts to little more than pollutants for profit and*

those which have a practical and desirable function, while at the same time have no environmental impact. Making such decisions is further complicated by a general lack of understanding of safety testing procedures. For those without scientific training, the question of what constitutes scientific rigor seems to be a mystery, and reading a study on the safety of transgenic products appears to be a mountain that is too high to climb. The concerned public can be further bamboozled by specialized vocabularies. The result is that individuals are left with the implied obligation that they should just have faith in scientific, government, and corporate authorities that allegedly always act with only the public interest in mind.

The perception that science is too difficult for anyone other than a specialist to understand is socially ingrained in those separated from the discipline on an everyday life basis. The walls of the division of technical labor seem unbreachable. The common English expression “it’s not rocket science,” usually made as a sarcastic remark when someone has inordinate trouble with an easy task, is but one example of a manifestation of public reverence for the intellectual intensity of science and its separation from common daily activities.

However, while such perceptions have a serious degree of truth to them, they are also overexaggerated. Within a very brief period of time, anyone who is modestly literate can learn the fundamentals of scientific study and ethics. To give an example of how scientific matters are often easily understood, consider the following. Studies should be replicated numerous times not just by a single lab, but in conjunction with other labs to see if the same or very

similar results are consistently obtained. If each lab shows the same findings, then the hypothesis or theory guiding the tests is said to be reliable. Reliability is a key indicator of test validity. Until reliability studies are done, a given result is suspect. Obviously, one does not need to be a scientist to understand that if a study has not been repeated by independent sources, the data are questionable. If the only replications were done by the lab (usually the lab is corporate, but academic labs are suspect too) that will financially benefit, one does not need a Ph.D. in ethics to know that this violates scientific codes of conduct due to a conflict of interest that could radically skew data interpretation (if not the data itself). Currently, biotech corporations are the primary if not sole suppliers of data to the Environmental Protection Agency and the United States Department of Agriculture for commercial licensing permits for genetically modified organisms. Amateur discourse clearly has a place in the transgenic debates since some levels of study can be reviewed by nonexperts. The stakes are too high for product safety testing to be left solely in the domain of corporate and scientific experts.

Representations of the transgenic face a deep contradiction, albeit one that emerges from imperial and/or corporate culture. The spectacle of transgenics, as usual, tends to consistently support profit initiatives, and promote the idea that the “free” market always works in the public interest by saving us from environmental, health, and population problems. Unfortunately for corporate culture, the historical representation of the rules of social purity and pollution clash with the utopian representations of transgenic products. While the former insists on maintaining natural purities and claims that it is unwise, if not

catastrophic, to intervene in the engines of creation, the latter presents a world of molecular exchange that will benefit everyone. This second position is not doing very well at convincing the consuming public that genetic engineering is a good idea. After all, dislodging ideological imperatives that have settled deeply into every classist and racist separation for the past three millennia is not an enviable task. This ideological contradiction is all the more difficult to reconcile because capital does not want to disrupt effects beneficial to colonial and endocolonial initiatives that the current ideology of separation provides, thus the construction of a doublethink is required in which mixing the categories of nature is sometimes good and sometimes not. While the manner in which such imperatives are structured and selected actually depends on what is most profitable, it cannot be represented that way. Somehow this contradiction must be mythically represented and thereby normalized through the filtering code of the natural. Biotech companies have failed to solve this problem, and while they still try a variety of public relations campaigns, the fundamental strategy has been to just produce and deploy whatever transgenic products are predicted to be profitable, and not emphasize the quandary, hoping that as the consuming public builds habitual associations with the products, the problem of public “hysteria” will solve itself.

As a cultural resource for artistic material, transgenics is becoming a trendy exploitable topic for savvy career-minded cultural producers. Not that this trend is atypical: Whenever new vision technologies appear, and less endowed areas of specialization (like art production) finally gain access to them, there are those who will immediately seize

the opportunity to exploit new aesthetic possibilities. It seems reasonable to assume that at this very moment, some artists are exchanging their web cams for electron microscopes. And already, the “art world” has begun to see work derived from molecular biology drifting out of the laboratories and into various cultural spaces. With two decades of the vision-tech explosion behind us, what is ahead is relatively predictable—monumental molecular landscapes emphasizing the paradox of scale and the colorful beauty of the micro-world, and the next step in living sculpture, consisting of expressions of frankensteinian desire in the form of manufactured or intentionalized life forms (glow-in-the-dark rats and proteins performing textual patterns). To be sure, these projects of technological and/or formal novelty will be more depressing this time around, because so much of the highly visible is and will be as apolitical (or hiding its politics) as possible and designed to further feed the cultural commodity’s market for novelty. In terms of political economy in general, such work does help educate the public, but also functions on behalf of corporate culture to calm public skepticism by ripping bio-imaging out of the realm of political debate and fortifying it within the spectacularized and specialized bunker of aestheticization. Corporate and state culture could not ask for better public relations work, and hence the willingness of corporations to fund high-profile cultural manifestations such as *Ars Electronica* in Europe, or the museum extravaganzas at the Whitney Museum of American Art and San Francisco Museum of Modern Art in the US.

Finally, the problem of policy comes ready-made. Developments in transgenics will follow the path of all goods and services under capital—that is, they will rarely be in the public

interest. Pancapitalist policy only fuels, strengthens, and expands the profit machine. Molecular invasion and control is rapidly being transformed into new types of colonial and endocolonial control. The focus seems to be on consolidating the food chain from molecular structure to product packaging. With the ability to better control species expression, corporations have a better chance than ever to intensify developing nations' dependency on western corporate economy. Food must either be purchased from corporate food suppliers, or the necessary organic and chemical materials must be purchased. Either way, resource management is controlled by western capital. Farmers can be leveraged either to grow cash crops like cotton or any combination that is most advantageous to the colonizer. This plan has existed since the inception of industrial farming, so food resource hegemonies have simply been given another powerful tool that fits perfectly into the current structure of domination.

In addition, any form of molecular capital can now be appropriated—it is an open frontier. As with all named and controlled objects, now, genomes, enzymes, biochemical processes, etc., will all be privatized. What was once communal and controlled by traditional authority and common understanding is now usurped by separating its molecular or chemical value from its holistic phenotypic value. For example, a plant used in traditional medicine that had general (economic, political, spiritual) value can be transformed into something of solely economic value as a chemical compound. This compound can be patented, and while the plant could still be used, the active ingredient cannot, thus functionally removing the plant from the common resources. In a

moment of eco-piracy disguised as Lockean property rights, the labor of separating the various micro-properties of the plant overrides any holistic function and collective ownership.

The standard argument for eliminating any trace of the commons is to say that common property is an inefficient way to manage resources. If efficiency is increased, more goods are available, so everyone gets more for less. However, we know after two centuries of capital that the only people who get more are the owners, while the poor and disenfranchised completely lose the little resources they once had access to. The assumption that efficiency is a totalizing good is nothing more than a disgraceful example of the particular values of the powerful being represented and internalized as universal.

Efficiency stings in other territories as well. Environmental neglect, pollution, and exploitation in regard to transgenics are all occurring in the name of efficiency. Capital in the US is obsessed with speed in general, but in this case its interests are in closing the gap between the time when a product is developed and its arrival on the market. Efficiency, in this case, means profitability. Once a product is shown to function, it is ready for distribution. Transgenic products are being made available as soon as possible in order to establish a firm market niche. At present, no one knows how transgenic products will affect the environment. While the prognosis is generally optimistic for the short term, the long term is another matter. No long-term studies have been done on new types of crops and creatures, and could not be, because the technology is too new. One would hope that the

producers of such products would want to err on the side of caution and wait a few decades before releasing genetically modified organisms so that proper long-term testing could be done, but for the most part it is too late now. The engine of progress (i.e., profit) moved forward, leaving the general public unaware that it had left the station. Should there be any future difficulties, those who released the GMOs will not even be held responsible for cleaning up the mess. Secondary hazards are just part of the risk of doing business.

What can be done to alter this situation? The answer is as singular as the pancapitalist machine itself—disturb the profit flows. Certainly, the use of traditional and electronic methods of contestation will be useful, but how can the new molecular/biochemical front be directly engaged as a means to disrupt profits? This is an area that is completely undertheorized, and is the subject matter of contestational biology. Two immediate hurdles that must be cleared are the connection of bioresistance to violence and the tendency of resistance to be urban-based. Given that living organisms are of concern, it is quite likely that introducing inertia into the profit system will damage genetically modified life. Industrial culture has had the environment under fire for decades (and in some areas for as long as two centuries), so CAE is only proposing returning fire.\* Further, the rules of engagement are pretty well established. If one assumes that bioresistance should use violent methods only as a last resort, and only to the extent necessary to be effective, a number of possibilities that will not lead to jail time present themselves. Corporate culture has long maintained that violence through secondary consequences is not the fault of an individual agent or institution. For example, if a manufacturing

process causes acid rain, the manufacturers are not responsible for any ill effects on flora, fauna, or other environmental elements, nor are they responsible for any type of clean-up. If the resistance can locate itself in the same fuzzy field, legal counter fire is possible that would be disturbing and effective.

The second problem is deciding how to redeploy resistant forces. Currently, the majority tends to focus its activities in urban areas. Only the green movement has developed methods for rural and wild areas. The means by which rural capital can be used for resistant purposes is only modestly theorized. Bioresistance is still waiting for the day when a demonstration of 20,000 people will be launched at a Monsanto test site in Alabama, or when farms dedicated to the development of resistant species will appear. This logistical problem and need for redeployment gives nomadic capital quite an edge in terms of maintaining its

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\*This method provides an escape from the current renaissance of propaganda by deed—a very gratifying experience, but one that leads to little in the way of profit disturbance or policy shift, and that justifies escalation of violence by the authorities against all resistant manifestations. Propaganda by deed was a late 19th century, early 20th century tactic in which a revolutionary makes a bold, violent gesture to get media attention and fan the flames of the fire burning in the hearts of revolutionaries worldwide. A good example of this type of heroism was Alexander Berkman's attempt on the life of the Carnegie Corporation's Chairman of the Board Henry Frick in reaction to the Homestead lockout. The attempt failed, although it still had international implications for the morale of revolutionary parties, but did not affect steel manufacture or labor management policy. This idea had some merit at the time, but seems less significant in an era when commercial media is monopolized by capital.

activities in territories where social and political friction is minimal.

In the following chapters, CAE examines how to use rogue representational capital for purposes of consciousness raising, and attempts to model the possibility of contestational biology. Hopefully, this book will be a helpful contribution to the development of increasingly complex ways and means of slowing, diverting, subverting, and disturbing the molecular invasion through radical appropriation of knowledge systems and appropriation of the products and processes developed by imperial powers.

