

*Framing Presentation on Society and Politics*

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**Interpreting the Meaning of Biotechnology**

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I begin with two propositions:

*First, technology is not simply apparatus and instrumentality. It involves a complex structure of social organization, institutional power, and cultural meaning.*

*Second, the social interpretation and meaning of biotechnological innovation are often overlooked in policy analysis, but they are key to a deliberative process of social learning and adjustment, and to the normative consensus formation that will allow any regulation of biotechnology to be truly effective. Experts are trained to respond to empirically grounded assertions and linear reasoning. The cultural meaning and reception of science and technology more often a narrative and figurative mode of discourse.*

The biotechnological revolution involves the extension of human power into life—living nature at the molecular level. As its concepts and styles of thought colonize professional, therapeutic, and counseling discourse, and as it is absorbed into popular culture, biotechnology begins to shape the experience of all of us. This triggers a quest for new symbolic forms with which to make sense of—to civilize—this new human power.

The positive framing of biotechnology is nearly ubiquitous, except perhaps within the domain of reproductive medicine. And yet, there is an unease that surrounds it; there is

something uncanny about fabricating life with nearly the same facility that inorganic matter and energy are manipulated. I believe that this unease does not stem solely from the concern that biotechnology will be misused by human agents. It also grows out of the realization that institutionalized structures of power (state or corporate) have an agency of their own, so that power is not something we use or abuse, *it is something that uses—or abuses—us*. The distinction between rightful and wrongful use of this power urgently requires clarification. A global bio-economy is being built rapidly; the normative, ethical work proceeds slowly.

So much by way of prologue. I turn now to four aspects of our cultural context, which I believe have a profound effect on the reception of biotechnology.

*1. The end of value neutrality.* In the post war period, a consensus gradually developed concerning authority, expertise, and progress in science and technology. It was a consensus centered around progressive values, economic growth, social modernization, and the betterment of life through technological advance. A new kind of cultural and political framing has emerged in recent years which is less prone to see in technology the amelioration of the human condition, and more prone to discern the development of new forms of control over individuals as material bodies—reproducing, laboring, neuro-chemically behaving bodies.

*2. Anxiety concerning normative chaos in the external landscapes of our lives.* Today the global economy is shifting perhaps as drastically as it did at the dawn of the capitalist era. It has become an enormous mechanism for churning individual lives. Marx once remarked that capitalism evaporated solid traditions and social relationships—all that is solid melts into air. Updating the simile, Zygmunt Bauman refers to the “liquid” nature of our society; everything—from electrons to day laborers—is fluid, fungible, flowing. Each of us is replaceable and displaceable. Even in the most affluent societies and the most powerful nation states, people are

being confronted with personal dislocations that challenge their sense efficacy and control. This economic state of flux, together with a politics based on the strategic manipulation of the discourse of risk, are two powerful technologies of social control. Does biotechnology liberate us from this structure, or does it mesh into this brave new world all too seamlessly?

3. *Anxiety concerning the moral disorder of the internal landscapes of our selves.* Social critics are asking: Have we now created a culture of narcissism and desire so insistent that it cannot be regulated, channeled, or constrained? As this concern matures and spreads throughout the culture, it offers what may become a vivid emotional platform for respectable counter-narratives to technological boosterism; that is to say, a platform for a latter day romanticism or a new social covenant, what Michel Serres has called a “natural contract,” for the 21<sup>st</sup> century.

4. *Loss of trust.* America has a public philosophy that is intellectually and morally robust, but practically stymied. It calls for the preservation of individual dignity, for equitable treatment and fair opportunity for all; it envisions governance as the working of a well-ordered, just society of free and equal persons. But there is a growing perception of a gap between these standards and the actual facts of contemporary governance, between who we believe we should be and what we actually are. Cognitive dissonance is our common lot, suspicion and cynicism, our *modus vivendi*. We oscillate between private retreat and zealous, angry public engagement. Recalling Yeats’ observation is chilling in our time. I paraphrase: some of our best lack all civic conviction while many of our worst burn with passionate intensity.

To sum up, here are some of the adverse meanings that biotechnology can expect increasingly to encounter, at least in significant pockets of resistance if not in the dominant center of our society and politics:

Biotechnology is being developed and marketed by private corporations that we can no longer trust to be publicly responsible, nor even constrained by market competition. Strike one.

The biotechnology industry is being regulated by government agencies that are captured and whose ideological heart is not in the activity of regulation. Foxes are not only inside the hen house, they are managing it. Strike two.

And the consuming public has no moral compass to serve as a restraining force on biotechnology either, for they cannot say no to anything that offers them or their families health, enhancement, or longevity. Strike three.

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I now turn from the more generalized and inchoate cultural background confronting biotechnology to more systematic and conceptually well developed modes of critical response. These offer counter-narratives to biotechnology, or at any rate to some of the recent forms it has taken on and some of its recent forms of self-presentation or deployment. I call these the precautionary frame, the liberal humanist frame, and the ontological frame. Stated differently, these are the argument from prudence, the argument from dignity, and the argument from nature. These modes of response have had relatively little traction in the policy debates over biotechnology regulation in the US. (They have been more salient in discourse in the EU.) Nonetheless, they are worthy of serious attention

*1. The precautionary frame, or the argument from prudence.* This framework presents an attempt to break out of the logic of cost/benefit and risk/benefit analysis that has developed in mainstream economics and policy studies for decisionmaking under conditions of uncertainty. This frame maintains that such mainstream analysis is biased in favor of innovation and short-term benefits, while unduly discounting long-term and emergent systemic risks. The remedy is to

shift the presuppositions of justification and to make the assessment process more transparent and genuinely participatory.

2. *The liberal humanism frame or the argument from dignity.* The focus of this frame is centered mainly on human harm and justice. Note here that “harm” is used broadly in this response frame. Like the precautionary principle, it includes biological risks and harms to functioning ecosystems, biodiversity, and human health, but it also encompasses a damage to traditionally meaningful ways of life. The justice aspects of this critique center on the problem of access to beneficial biotechnological knowledge and resources. In addition, the liberal humanist critique of biotechnology revolves around the cultural and conceptual implications of the materialism and reductionism inherent in the molecular turn of biology. Critics see the prospect that biotechnology will undermine the conceptual foundations for our very notions of the moral worth of the human individual—human dignity, equality, liberty, respect, and justice.

3. *Ontological concerns, or the argument from nature.* The cultural reception of science is deeply affected by ontological orientations which pose the question of the “right relationship” between human agency and the rest of being. To answer this question, natural being (nature or the natural) must be conceptualized. In general, there are three concepts of nature that are germane to our topic. I would call these nature dead, nature transcendent, and nature alive.

Nature dead is Cartesian; natural being is material without meaning except in so far as it serves human purpose.

Nature transcendent places all being in a teleological narrative, being in a becoming toward fulfillment. The norm of right relationship for humanity is to accommodate and live in accordance with that narrative.

Nature alive is bio-centric or eco-centric. It holds that value in the world resides in the natural and biotic context of which human individuals and societies are a part. Therefore, there is a natural standard of ethical rights and duties, and the good for which ethical agency and action strive, which can be understood in terms of systems of interdependency, relationship, sustainability, and resilience.

Prudence, dignity, and nature. These critical frames leave us with daunting, chastening questions:

Does biotechnology promote or impede right relationship between human beings and nature alive? Is the molecular view of life finally compatible with a ecosystemic perspective? If not, does this conflict matter, socially and culturally?

Does biotechnology promote or impede right relationship among human beings themselves? Is it possible to embrace “life better than life,” without letting “life unworthy of life” crawl in through the back door as well?

When someone looks back at our age of biotechnology, will it be unambiguous to describe it as a time of “progress” and “enlightenment”?

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