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STS.060 The Anthropology of Biology

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Life and Nature in the Market of Biology

Michel Foucault describes utilization of political systems for reinforcing discipline of the biological body as well as regulation of reproduction. Paul Rabinow generalizes Foucault's analysis to the case where human control over biology has reached the point where social orders increasingly evolve around a constantly renewed manipulation and understanding of biological systems. These systems develop in an environment that is conducive to the adaption of biological policies to a market structure. The social structures as described in Taussig, Petryna, and Nguyen have employed biopower in a way that appropriates notions of life, nature, and evolution into a market economy where an individual body becomes a unit of capitalism as well as a unit of the evolutionary narrative.

In her work "Biological Citizenship," Adriana Petryna discusses the politics of identity crafted in the wake of the Chernobyl disaster of 1986. In the decade following the explosion of a nuclear reactor facility, the government of the Ukraine implemented an arcane system of compensation for various levels of assessed risk due to the radiation. The process of classifying individuals along ill-defined scientific lines lead to the emergence of "new categories of entitlement" marked by the imprecise boundaries of scientific unknowability (Petryna 251). Among these classifications was the "sufferer," or any individual whose physiology had been subject to enough radiation that their lives or livelihoods could (within the rather arbitrary bounds were adapted from animal studies) be significantly diminished.

Though there is nothing novel about the conception of the body as a unit or tool for labor, this group of "sufferers" is an early example of modern biology informing such a constructed division. In

enacting this system of classification, the Ukrainian state has established itself as an authority over the natural. The state therefore grants itself an artificial empirical privilege in assessing life and nature. By bringing the substance of the natural world into the purview of government regulation, the Ukraine has reshaped nature into something measurable, calculated, and known. Deviations from the natural, though still subject to stigma, become quantifiable measures by which to enact social justice. Prior to the emergence of natural selection, nature acted in the capacity of a stage upon which organisms acted out their lives. The theory of natural selection gave nature an omnipotent role, an actor in its own right that acted upon the genes that then became the subject in the evolutionary story. The emergence of this biopolitical structure in the Ukraine and the resultant biosocial shift has once again altered nature's role in the living narrative. For those suffering as a result of the Chernobyl accident, nature suddenly became an actor, just as much a victim of subjective analysis and reconstruction as any of the organisms that it sustains.

Paul Rabinow asserts that, following the acceptance of such biopolitical reorganization of industry and culture, “nature... no longer poses a binding constraint to the capitalist transformation of the production process and the social division of labor.” Nature, or biological substrate, incorporates itself into the use and exchange value of existing categories of labor and commodity. We can see this phenomenon acting in the Chernobyl Exclusion Zone. Following the explosion, the Ukraine quickly established the Exclusion Zone, an area within thirty kilometers of the Chernobyl site. As its name implies, the initial purpose of the demarcation was to ensure risk containment and prevent exposure. The disaster cleanup, however, required significant manpower which would place workers at an elevated level of risk for “contamination.” For predominantly financial reasons, a small but significant number of Ukraine residents opted to work inside the Zone of Exclusion in exchange for higher wage compensation (Petryna 253). The existence of the compensation system served to destigmatize the effects of a high biological dosage and even made sufferer status desirable. Nature ceased to be a boundary both to physical and political reshaping, and life likewise became a commodity whose use

value could be diminished for the sake of increased wages.

Ultimately, Petryna introduces the emergence of a new kind of political framework defined by a government obligation to provide the means of protection from biological and natural inequality. For the residents of the Ukraine, this inequality was a steep risk gradient that persisted in small but significant quantities across much of the Ukraine and neighboring states. This “biological citizenship” entails all individuals to membership provided they demonstrate the appropriate biological markers. A population becomes unified around a common biological threat independent of any other spatio-temporal continuity. Nature and the natural world become vehicles for political membership that can potentially evade currently existing concerns of nationality and ethnicity.

The commodification of the body can also present itself indirectly through the market mechanism of choice. Taussig, Rapp, and Heath discuss the role that choice plays in the relationship between disabled persons and new reproductive technologies. Specifically, Taussig et al. present a study of the Little People of America (LPA) disability advocacy group and their membership's response to the availability of genetic screening and counseling services. The Little People of America organization accepts any adult individuals whose height falls below a given threshold, though modern discussion of dwarfism at LPA meetings is placed into a genetic context (Taussig 62). Members of the LPA have participated in a “conscription into a new identity politics as people come to align themselves in terms of genetic narrative and practices.” The LP community has come to an understanding of their hereditary biology as something mutable. LP men and women have repeatedly expressed their concerns over the use of genetic screening (particularly amniocentesis and similar possible future technologies) for purposes that could classically be described as “eugenic.” Indeed, Taussig et al. assess the LPA through the framework of “flexible eugenics,” or the ability of individuals in “choosing and improving one's biological assets” (Taussig 64). The ability to selectively abort a fetus based not on phenotype, but rather on the basis of the correlations (however concrete they may be) between genotype and physiology, encourages conceptions of a fetus in terms of the genetic material.

In essence, the genes become a sort of biological capital upon which prospective parents can make value judgments. The life of the embryo and fetus, already a hotly contested philosophical subject, is now obscured by concerns over its genetic material. Life no longer simply constitutes a state of being or a relationship to reproduction, but a malleable construction that one can shape. The prospective parents play a new role in evolution, effectively decommissioning natural selection in favor of “the right to aesthetic free choice in the medical marketplace.” Though historically it is appropriate to say that nature set into motion the formation of the disability and therefore the disabled culture, those who choose to employ the new reproductive technologies reclaim control over their genetic destiny. Evolution acquires an element of informed consent, wherein the “fitness” of an organism is determined not by its genes' ability to reproduce, but by their genes' desirability. Though genetic material still governs the evolutionary process, it does so through the conscious intervention of organism seeking to reproduce.

Prospective LP parents have taken to confining their adoption choices along those same genetic lines. In their recitation of adoption information sessions, Taussig et al. recall the questions of LP men and women that revolved around the scarcity of American dwarf children available for adoption (Taussig 68). Though it's relatively much easier to adopt a child with dwarfism from a foreign nation, most parents are interested in adopting a child with the condition from a foreign state over a local child without dwarfism. As parents erect identities around this genetic condition, they find a common genotype preferable to a common geographic origin. The origin of the life in question becomes concealed by the physical manifestation of that life. The genetic capital, presumably a gene that codes for achondroplasia become desirable to the extent that its exchange (across space and political/legal boundaries) employs the language of supply and demand, of (relative) scarcity and abundance.

A thorough analysis of the LPA's relationship to reproductive technologies needs to also consider the role of the physicians treating LP patients. Chief among these is the genetic counselor who provides a supposedly value-neutral presentation of the possibilities enabled by amniocentesis. The

genetic counselor acts as a scientific informant and in this capacity represents an evolutionary intermediary. The counselor, by virtue of his or her advice, enables both the survival and termination of the fetus. Acting on a single patient, the genetic counselor represents an instrument which a prospective parent can use to enact what Foucault would call a right to death. The technology to assess a genotype and terminate a pregnancy cannot function independent of the physicians' labor. In acting over a large number of culturally homogenous patients, e.g. a genetic counselor who specializes in dealing with dwarf patients, the physician's role evolves into one where his advice determines the slow growth or death of a genetic category. In a sense, it is the physician whose actions enable eugenics, rendering life a malleable entity.

As the Chernobyl incident demonstrates, authority over the biological substrate does not always fall to the individuals comprised by that substrate. Burkina Faso's capital city Ougadougou has a rapidly growing population of individuals infected by HIV. Humanitarian intervention has grown alongside media coverage and social awareness of the HIV problem in the African state. As The humanitarian efforts in Burkina Faso have been largely responsible for the creation of new identity categories that revolve around the distribution of medical treatment. This humanitarian infrastructure “has grown to encompass a heterogeneous and uneven congerie of practices and techniques, present and active in everyday life, to produce particular kinds of subjects and forms of life – AIDS activists, resistant viruses, and therapeutic citizens” (Nguyen 126). Nguyen describes a therapeutic citizenship in which a medical diagnosis (being HIV positive) defines an identity within an advocacy group as well as a medical market. Those individuals living with HIV or AIDS find themselves caught up in a rapidly forming economy centered around “confessional technologies, self-help strategies, and access to drugs” (Nguyen 127). The various government and private agencies that have comprised this effort have taken on the role of regulating the propagation of a specific life form: that of HIV.

As HIV is a sexually transmitted virus, regulating the reproduction of the virus necessitates regulation over the reproductive practices of the individual carriers as well as those at various levels of

risk. One of the first such private institutes was the Abidjan Institute for Biomedical Research. The Institute, founded by an HIV positive Frenchman, attempted to treat HIV openly and subsequently attracted a great deal of clients. Organizations like the Abidjan Institute made the African population receptive to assistance from western nations, particularly the rapidly expanding drug industry. Pharmaceutical companies choose to sponsor the humanitarian aid programs by contributing chemical treatment. In return for this treatment, pharmaceutical companies acquired access to a large demographic of HIV positive men and women. The individual lives of the infected men and women become a valuable resource due to the potential their medical condition holds for the development of intellectual property.

Here we can identify elements of Foucault's "right"-to-life theoretical model of governance. Ougadougou lacked any political contract (or arguably social contract) that would prevent an individual who is HIV positive from transmitting the disease. Evolution and life are understood in predatory terms, with viruses preying on human life in order to perpetuate their own survival. The existing political infrastructure produced negligence and scientific ignorance which failed to cultivate life and therefore were very rapidly displaced by the increasingly globalized politics of HIV/AIDS therapy. This is in stark contrast to the colonial model of the patient-doctor relationship specified by Nguyen wherein life itself was a property that was subject to disposal at the whim of colonial doctors. As Foucault described the transition, "life as a political object was in a sense taken at face value and turned back against the system that was bent on controlling it" (Foucault 145).

The transition was facilitated by the transition of life into a commodity, wherein responsibility for life was taken from the national government and invested by individual patients in accordance with their beliefs about its exchange value. Whereas the existing regime failed to meet the needs of individuals affected with HIV and AIDS, those individuals took their biological substance (i.e., their affected bodies) and used them as genetic capital in order to acquire adequate treatment. This development of biocapital grew in the early twenty-first century in response to a paucity of patients

who were not already on antiretrovirals. The access to treatment campaign, and the reciprocal access to new patient demographics, is directly responsible for the preservation of human life as well as the creation of new life in the form of drug-resistant viruses (Nyugen 141).

Life, evolution, and nature participate in a complex relationship with cultural and political structures which culminates in the coevolution of the biological concepts as well as those social structures. The populations (social and biological) discussed in Taussig et al., Petryna, and Nyugen all describe the mutual progression of biopolitics and biosociality that results in elements of the evolutionary narrative taking on characteristics of a market structure complete with their commodification, capitalization, and even commercialization.

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