

21A.303J / STS.060J

Anthropology of Biology

Spring 2022

Professor Stefan Helmreich

Course Description

If the twentieth century was the century of physics, the twenty-first has become the century of biology. This subject examines the cultural, political, and economic dimensions of biology in the age of genomics, biotechnological enterprise, biodiversity conservation, pharmaceutical bioprospecting, synthetic biology, global pandemic, and more. Although we examine such social concerns as genetic modification and reproductive rights, this is not a class in bioethics, but rather an anthropological inquiry into how the substances and explanations of biology — increasingly cellular, molecular, genetic, viral, and informatic — are changing, and with them broader ideas about the relationship between “nature” and “culture.” Looking at such scientific forms as cell lines, CRISPR, and epidemiological models, and drawing upon primary sources in biology, social studies of the life sciences, and literary and cinematic materials, we rephrase Erwin Schrödinger’s famous 1944 question, “What Is Life?” to ask, in the 2000s, “What Is Life Becoming?”

In the nineteenth century, with the rise of the modern, secular, nation-state in Europe (think of France), sovereign, governmental power, Foucault argues, came to be exercised **PRODUCTIVELY** in a mode he calls **POWER OVER LIFE** — though the use of the census and of statistics to **CREATE CATEGORIES** of people; and the making of programs of social welfare to cultivate the **GROWTH** of particular parts of a nation's **POPULATION**. The symbol might be **PRUNING SCISSORS**.

This is BIOPOWER,

that which “brought life and its mechanisms into the realm of explicit calculations and made knowledge-power an agent of transformation of human life” (143).

Foucault, Michel. *The History of Sexuality, Vol. 1: An Introduction*. Vintage, 1990. © Vintage. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

BIOPOWER operates thru two poles:

anatomo-politics of the human body

bio-politics of the population

these often met in the domain of sex — as behavior, as reproduction, as identity

BIOPOWER often operates
through

THE CREATION OF NEW
CATEGORIES OF PEOPLE

THE NATURALIZATION OF THESE
CATEGORIES, SOMETIMES
THROUGH BIOLOGY

THE IDEA OF THE
POPULATION/STATE/NATION

PROMOTING THE LIVES OF SOME
MEMBERS OF THE POPULATION
AND NOT OTHERS

BIOECONOMY, BIOVALUE, BIOCAPITAL

Today's readings are about what happens when biological things — livestock, human cells, human organs, vaccines — become objects of exchange and of commerce, sometimes within the informal economies of science (exchanging lab materials), sometimes within the commodity markets of capitalism, sometimes within illicit, black markets. All of the authors in our articles for today show that there are deep cultural meanings attached to the ways we think about animal and human bodies and these shape how their elements may become products.



WOMEN
UNITE

**OUR BODIES
OURSELVES**

A BOOK
BY AND
FOR
WOMEN

BY THE BOSTON WOMEN'S HEALTH BOOK COLLECTIVE

\$2.95

Boston Women's Health Book Collective. *Our Bodies, Ourselves: A Book by and for Women*. Touchstone, 1973. © Touchstone. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

second edition, 1973

THE BESTSELLING CLASSIC,
INFORMING AND INSPIRING WOMEN ACROSS GENERATIONS



OUR BODIES, OURSELVES

“Within these pages, you will find the voice of a women’s health movement that is based on shared experience. Listen to it—and add you own.” —GLORIA STEINEM



Boston Women's Health Book Collective. *Our Bodies, Ourselves*. Atria Books, 2011. © Atria Books. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

ninth edition, 2011

THE LAST COMMODITY:
*Post-Human Ethics and the
 Global Traffic in “Fresh” Organs*

NANCY SCHEPER-HUGHES

The neoliberal readjustments of societies worldwide to meet the demands of economic globalization have been accompanied by a depletion of traditional modernist, humanist, and pastoral ideologies, values, and practices. New relations between capital and labor, bodies and the state, inclusion and exclusion, belonging and extraterritoriality have taken shape. Some of these realignments have resulted in surprising new outcomes (for example, the emergence and applications of democratic ideas and ideals of “medical” and “sexual” citizenship¹ in countries such as Brazil and India, which have challenged international patent laws and trade restrictions to expand the production and distribution of generic, lifesaving drugs), while others (for example, the spread of paid surrogacy in assisted reproduction²) have reproduced all too familiar inequalities.

Nowhere are these trends more stark than in the global markets in bodies, organs, and tissues to supply the needs of transplant patients who are now willing to travel great distances to procure them. But rather than a conventional story of the lamentable decline of humanistic social values and social relations, our discussion is tethered to a frank recognition that the material grounds on which those once cherished modernist values and practices were based have shifted today almost beyond recognition.

The entry of free markets (black and gray) and market incentives³ into organs procurement has thrown into question the transplant rhetoric on “organs scarcity.” There is obviously no shortage of desperate individuals willing to sell a kidney, a portion of their liver, a lung, an eye, or even a testicle for a pittance. But while

“New transplant transactions are a blend of altruism and commerce; consent and coercion; gifts and theft; science and sorcery; care and human sacrifice” (150).

Scheper-Hughes, Nancy. “The Last Commodity: Post-Human Ethics and the Global Traffic in ‘Fresh’ Organs.” Chapter 9 in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Edited by Aihwa Ong and Stephen J. Collier. Wiley-Blackwell, 2004. © Wiley-Blackwell. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

BIOVALUE or BIOCAPITAL often
operates through

...

Use-value — what a thing is useful for

Exchange-value — the abstract (often monetary) value of a thing (e.g., price)



Image by [Jastrow](#) on Wikimedia Commons. This image is in the public domain.

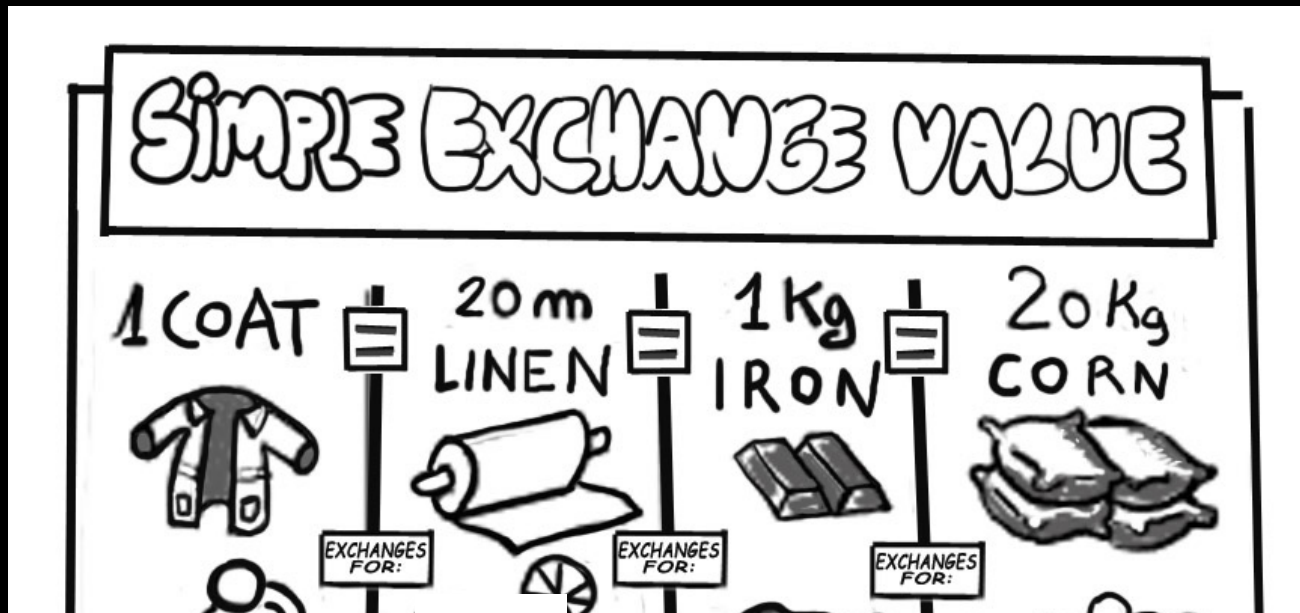
Aristotle, 324 BCE — 322 BCE

Photo of Roman copy in marble of a Greek bronze bust of Aristotle by Lysippos, c. 330 BC, sourced from wikipedia

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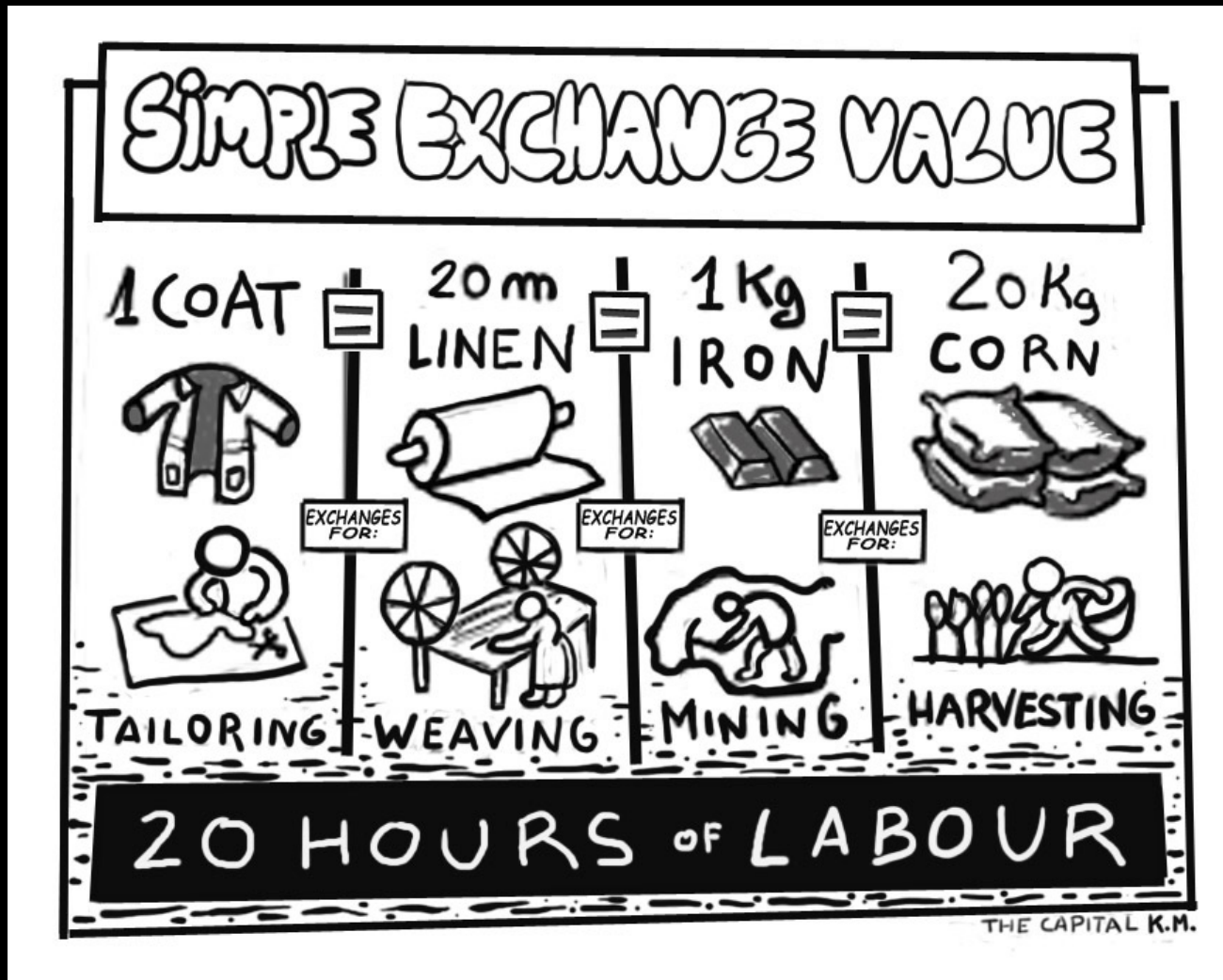


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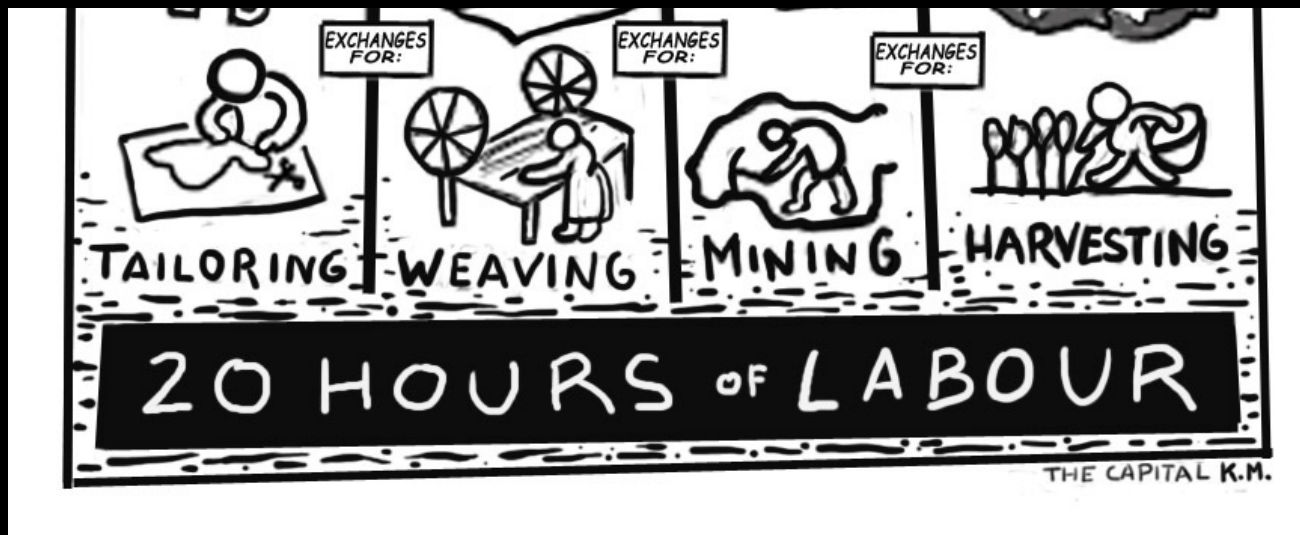


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Labor — the capacity to work, grounded in the use-value, life-force of the laborer



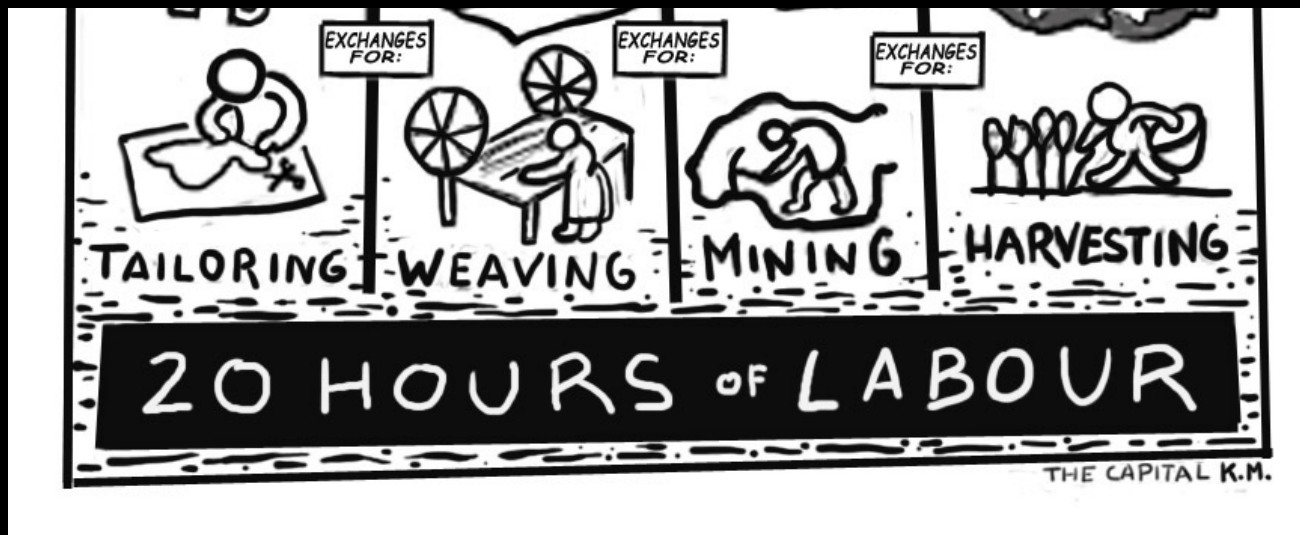
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Wage — the exchange-value given to labor as commodity



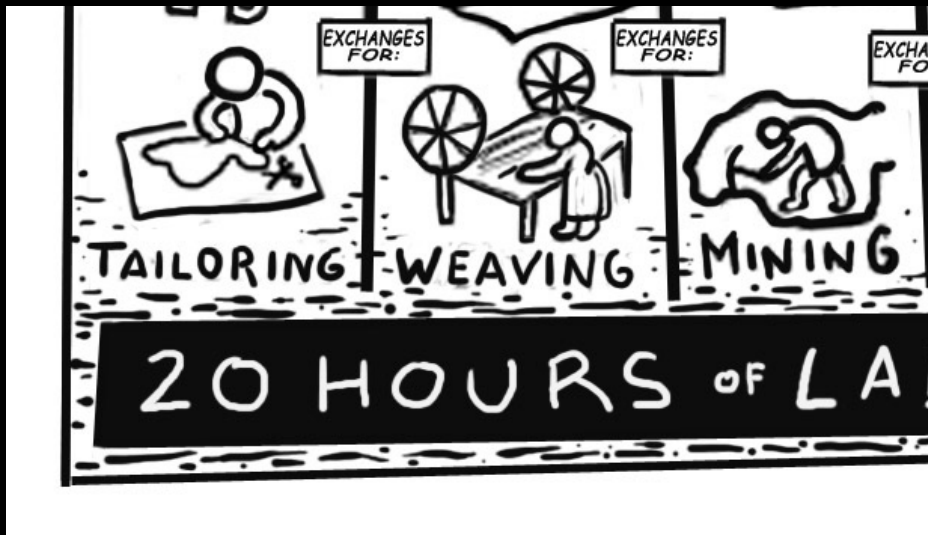
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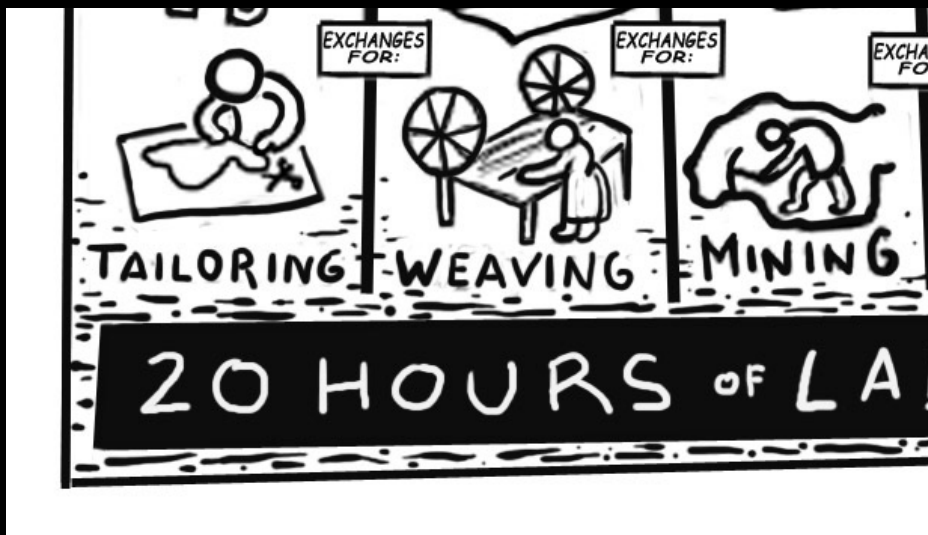
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BUT — Labor is qualitatively different from things; it is animate, where things are not



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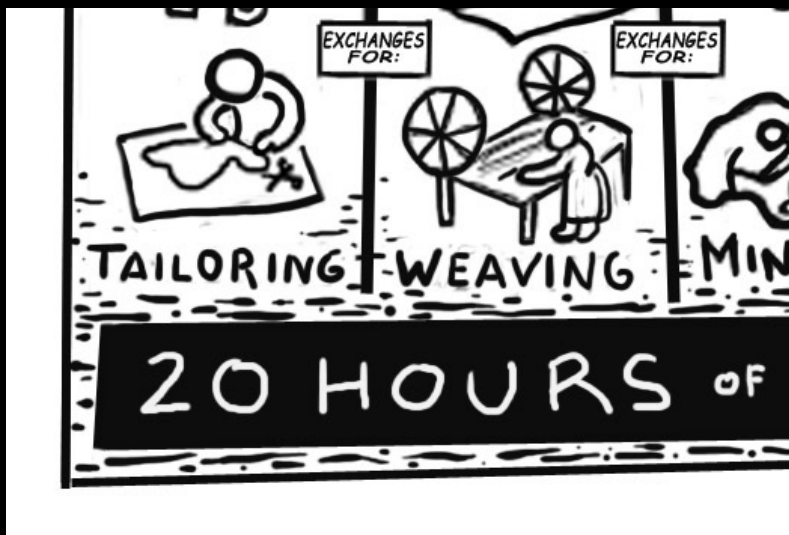
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The effect of making of labor into a commodity like any other, and the homogenization of all kinds of labor as having exchange-value equivalents, is that we come to see commodities themselves, including money, as lively agents, rather than being the result of relations among *people*.

This is what Karl Marx called **COMMODITY FETISHISM**, the assignation of vitality or “life” to a commodity (e.g., a cool car, a smartphone, Alexa!) , derived from forgetting or obscuring the fact that it has been created through labor — and particularly through the social relationships in which laborers work.



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Karen J Poon

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“The highly fetishized kidney is invested with all the magical energy and potency that the transplant patient is looking for in the name of ‘new’ life” (156).

“The transformation of a person into a ‘life’ that must be prolonged or saved at any cost has made life into the ultimate commodity fetish” (157).

Scheper-Hughes, Nancy. “The Last Commodity: Post-Human Ethics and the Global Traffic in ‘Fresh’ Organs.” Chapter 9 in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Edited by Aihwa Ong and Stephen J. Collier. Wiley-Blackwell, 2004. © Wiley-Blackwell. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

Empirical: What is the BIOLOGICAL OBJECT/SUBSTANCE at issue? Describe its cultural and political meaning. What cultural values does it stand for? Does it stand for "life"? How does it travel/move/circulate?

Theoretical: explain the tensions in treating the object as property or as a commodity. Who benefits? Who suffers? What dynamics are erased when we think of the case study purely through something like the category of "price"? What is the argument of the text? How would you define BIOVALUE or BIOCAPITAL for the case?

20

Possessing Mother Nature

Genetic capital in eighteenth-century Britain

Harriet Ritvo

Once upon a time, there was a man named Robert Bakewell (1725–95), who lived on a large farm called Dishley Grange in Leicestershire, admired by his neighbors, respected by his employees, and beloved by his animals, to whom he was unusually kind. He never married, but devoted himself entirely to livestock husbandry. As a result of years of selfless and patriotic dedication, he presented to his countrymen, who demanded increasing quantities of fresh meat as a result of their burgeoning population and intermittent wars with the French, improved strains of the most important domestic species – more succulent sheep and cattle, larger cart-horses, and pigs which his friends, at least, described as “superior.”¹ One of these improved strains, the New Leicester or Dishley sheep, appeared to be of such transcendent merit that it dominated British sheep-breeding for decades. The production of these distinguished creatures was not the result of lucky accident, nor even of the instinctive application of craft expertise, although Bakewell had plenty of that. More important, however, were his general ideas about how to select superior animals and then pair them so as to ensure that their desirable qualities would predictably re-emerge in their offspring and more remote descendants. Based on repeated inbreeding, Bakewell’s method had still greater impact on his fellow agriculturalists than did the animals who exemplified it; together, his precepts and his example laid the foundation for the British pre-eminence in stock-breeding that lasted through the nineteenth century.

Bakewell’s lifetime of service and achievement made him one of the patron saints, or at least one of the presiding geniuses, of the agricultural revolution. Like Newton and his apple or Franklin and his kite, albeit with a more restricted audience, the Leicestershire improver and his fat sheep became icons of the Enlightenment. One of his early disciples asserted that “he has absolutely struck out new lights, and not only adopted a breed of cattle and sheep, different from, and superior in many essential respects to most others, but established them in such a manner as to gain ground in every corner of Great Britain and Ireland, in consequence of their superior merit.”² His only modern biographer began his work with the statement that “Robert Bakewell may

Ritvo, Harriet. “Possessing Mother Nature: Genetic Capital in Eighteenth-Century Britain.” Chapter 20 in *Early Modern Conceptions of Property*. Edited by John Brewer and Susan Staves. Routledge, 1996. © Routledge. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

HANNAH LANDECKER

Between Beneficence and Chattel: The Human Biological in Law and Science

The Argument

Cell lines and other human-derived biological materials have since 1980 become valuable forms of patentable matter. This paper revisits the much-critiqued legal case *Moore v. Regents of the University of California*, in which John Moore claimed property rights in a patented cell line made from his spleen. Most work to date has critiqued the text of the decision and left the relevant scientific and technical literature unexamined. By mapping out the construction of discontinuity and continuity between human body and cell line in this literature, this paper provides a novel critique of the Moore case regarding the source and mobilization of scientific information in the decision. At the same time, the elisions of the case are used to move to a larger set of questions. Comparative material from the history of the first widely used cell line, HeLa, and a discussion of the relation of the scientific and economic value of cell lines, are aimed at analysis of how new objects such as patented human cell lines come into existence through science and law, and what kinds of definitions and practices make them valued objects of contention in the first place.

Beneficence: *Mercy, kindness, or charity. In ethics, it is the principle that one has a duty to confer benefits or to help others further their legitimate interests....*

Cell line: *A sample of cells that has undergone the process of adaptation to artificial laboratory cultivation and is capable of sustaining continuous, long-term growth in culture.*

Chattel: *An article of personal property, more comprehensive than "goods" because it includes animate as well as inanimate property.*

"Glossary," New Developments in Biotechnology: Ownership of Human Tissue and Cells (Office of Technology Assessment 1987)

From Internationalism to Nationalism A New Vaccine Apartheid

Dwaipayan Banerjee

On January 22, 2021, President Jair Bolsonaro tweeted this image to Prime Minister Narendra Modi (fig. 1). The text that accompanied it read, “Namaskar, Prime Minister @narendramodi. Brazil is honored to have a great partner to overcome a global obstacle. Thank you for helping us with vaccine exports from India to Brazil. —Dhanyavaad! धन्यवाद.” The choice of words and images are revealing. “Namaskar” (hello) and “Dhanyavaad” (thank you) are both Hindi words derived from Sanskrit. The Sanskritization of Hindustani into contemporary Hindi (Hindustani draws from both Urdu and Sanskrit vocabularies) has been part of the contemporary Indian right-wing government’s efforts to mainstream Hindu nationalism. The image is less subtle. The photo of the god Hanuman carrying the vaccine from India to Brazil refers to the Ramayana myth that has been vital to the consolidation of a chauvinist Hindu national identity. Hanuman’s mythological master—Ram—has been a key icon for the Hindu right, as they have rallied to build a temple dedicated to his birthplace on the site of a mosque demolished by Hindutva activists.

This easy camaraderie between two of the world’s leading right-wing figures is not in itself shocking. Rather, I am drawn to this image for how it simultaneously resurrects and mutates a long history of global alliances responsive to pandemic crises. Famously, during the height of the AIDS epidemic at the turn of the century, the Nelson Mandela government allied with India and Brazil to export and import generic AIDS therapies. Specifically, the South African government issued a compulsory license declaring a national emergency, thus temporarily exempting themselves from enforcing foreign patents on life-saving HIV-AIDS therapies. This compulsory license had the powerful support of HIV-AIDS action groups across the world, at a scale unprecedented for health activism. In response, a coalition of Euro-American pharmaceutical companies sued Nelson Mandela personally for violating their corporate rights. In the beginning, they were backed by the Clinton administration, who for its part threatened to raise tariffs and restrict trade. Fortunately, with presidential elections in the horizon, several key US politicians made a dramatic about-turn. Thanks to the South African effort and its alliance with an Indian generic manufacturer, within weeks the price for HIV-AIDS therapies fell to a fraction of the original cost. Soon after, Brazil approached Euro-American pharmaceutical corporations with a threat of similar compulsory licenses. However, they did not have to carry out their threat; this time, corporations rushed to agree to drastic price cuts.

Bolsonaro’s tweet reminds us of this history, not because it is an echo of a past solidarity, but because of the dramatically changed context that has blunted the political edge of such expressions. In September 2020 Oxfam published a widely publicized report about how wealthy nations representing just 13 percent of the world’s population had cornered over 50 percent of the promised doses of leading vaccines. As they had with HIV-AIDS antiretroviral therapies, the current South African government termed this “vaccine apartheid.” Yet, since the time of that pandemic, the possibilities of global South solidarities had dramatically narrowed. Then, under a similar situation of glaring therapeutic inequality, the Mandela government had been able to consolidate support across the global

312 *Comparative Studies of South Asia, Africa and the Middle East*
Vol. 41, No. 3, 2021 • DOI 10.1215/1089201X-9407806 • © 2021 by Duke University Press

“Glossary,” *New Developments in Biotechnology: Ownership of Human Tissue and Cells* (Office of Technology Assessment 1987)

Banerjee, Dwaipayan. “From Internationalism to Nationalism: A New Vaccine Apartheid.” *Comparative Studies of South Asia, Africa and the Middle East* 41, no. 3 (2021): 312–17. © Duke University Press. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

← Thread


 **dwai banerjee**
@dwai_banerjee

To friends in India. Based on my decade of research on drug regulations and safety in India, here's my takeaway on the two Covid vaccines available. If you can get access to Covishield, take it NOW. If you are able to stay safe and isolated - wait on Covaxin. Here's why. (Thread)



2:11 PM · Jan 16, 2021 · Twitter Web App

← Thread

 **dwai banerjee** @dwai_banerjee · Jan 16, 2021

Replying to @dwai_banerjee

For decades, the standard practice in drug development has been four phases of clinical trials to establish safety and efficacy. Covishield - developed by AstraZeneca/Oxford has been tested and meets every standard. It has been licensed to the Serum Institute. (2/7)

12 154 871

 **dwai banerjee** @dwai_banerjee · Jan 16, 2021

Covaxin (Bharat Biotech) on the other hand, has been rushed by the government. It is being distributed without the safety and efficacy trials have been completed and the data published (3/7)

7 203 873

 **dwai banerjee** @dwai_banerjee · Jan 16, 2021

This is unheard of in the recent history of drug regulation. Even when trials have been expedited and designed to respond to emergencies (the HIV-AIDS vaccine is a great example), trials have been conducted and data always made transparent. (4/7)

5 143 715

 **dwai banerjee** @dwai_banerjee · Jan 16, 2021

The only explanation is government pressure and its takeover of Indian regulatory institutions. This is not to say it is necessarily unsafe. It will probably turn out ok, but we cannot know for sure. But right now, Modi's decision mounts to an act of criminal negligence. (5/7)

5 212 946

 **dwai banerjee** @dwai_banerjee · Jan 16, 2021

And to encourage the production and purchase of the Bharat Biotech vaccine over the Oxford vaccine is simply nationalist jingoism that is playing with the lives of millions. (6/7)

 **dwai banerjee** @dwai_banerjee · Jan 16, 2021

In summary, take Covishield if you can (also known as the AstraZeneca-Oxford / Serum Institute vaccine). If can only get Covaxin (known as the Bharat Biotech vaccine) stay safe and isolated and wait for the safety data to be published, or mobilize for access to Covishield. (7/7)

29 192 852

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