Expropriation, Appropriation and Privatization of Biological Resources

The corporation - and how it dominates.

According to Martinot, the corporation historically stands at the head of capitalism as one of its first modes of organization - placing it alongside colonization, monopoly, and slavery as essential aspects of the dawn of capitalist development i.e. primitive accumulation.[1]

> … the purpose of incorporation is to avoid or evade liability and responsibility for the effects the corporate institution has on the outside world. That is, it valorizes a dispensing of ethics as fundamental social norm. Or indeed, it renders ethical a sense of irresponsibility toward others outside one's group.

How do corporations use their exalted position as legal persons to amass wealth?

National and multi-national corporations have had undue influence on international instruments, national and municipal legislation and regulation, as well as having a profound influence on determining what gets researched, how it gets researched, and how the research findings are reported, if at all

Noah Zerbe[2] and Steven P. McGiffen[3] (Biotechnology, Corporate Power vs the Public Interest (Pluto Press 2005)) explore the effects of these various instruments used for the expropriation and appropriation of biological resources. Excerpts of their analyses are set forth below.

International instruments include Trade Related Aspects of Intellectual Property Rights agreement (TRIPS) and the Convention on Biological Diversity (CBD). TRIPS is an instrument guaranteeing intellectual property protection for products worldwide, ensuring monopoly returns to the biotech industry worldwide. It forces the intellectual property/patenting paradigm, consistent with Locke's approach toward unlimited property rights, onto other countries.

CBD attempts to commodify biodiversity to protect it. It tries to reconcile private property with community needs – an egalitarian way to privatize control over genetic resources, which can be interpreted as encouraging commercialization and privatization of intellectual biological and genetic commons, but with mandated sharing. CBD is more in keeping with Rousseau's contradiction: According to Zerbe, Rousseau fails to challenge the institution of private property, which he admits is the root of inequality. He does not believe in unlimited rights to private property, but instead an individual's right to private property is circumscribed by the community to which the individual belongs. Many consider this as legalized theft of the third world, in keeping with the predictable

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[1] S. Martinot, Corporate Globalization: Its culture and politics (Niebyl_Proctor Marxist Library Lecture 9-26-07).

[2] Noah Zerbe Agricultural Biotechnology Reconsidered (Africa World Press, 2005)

[3] Steven P. McGiffen, Biotechnology, Corporate Power v. the Public Interest (Pluto Press 2005).

colonial practice of buying off individuals (rent-seeking bureaucrats, local elites, government officials and brokers of natural resources).

Corporations want indigenous knowledge and biodiversity from third world countries for shorter product development times and reduction in research costs. Corporate profits in 2005 stemming from the market for drugs based on traditional medicines were estimated at $32 billion. Examples of Material Transfer Agreements include Costa Rica and Merck ($1 million and undisclosed royalty, est. 5% for all products derived from the country's plants and insects); Monsanto and Peru; Bristol Myers Squibb and Surinam; Diversa Corp and Yellowstone Nat'l Park (rights to microorganisms from our hot springs).

What conditions have fostered the conversion from public to private funding?

Zerbe and McGiffen list various factors which fostered the conversion of scientific research from public to private funding. Reagan repealed protections for labor and environment, weakened regulatory infrastucture and research through funding cuts, awarding key appointments to supervisory positions that reinterpreted legislation, resulting in non-enforcement. Other favorable conditions granted for corporate growth included immense tax credits for R & D, large reductions in capital gains taxes and erosion in anti-trust law enforcement. The flood of speculative investment in the 1990s generated a biotech bubble. Venture capital investments were $10 million in 1975; they were $4.5 billion by 1983 (increase of 25,000 %). Federal funding was being drastically cut, also driving academics to commercial sources of funding, so that modern biology as an academic field was replaced by biotech as a commercial enterprise.

Big boosts in the privatization of scientific knowledge came when commercial interest in biotechnology was sparked by the Supreme Court decision, Diamond v. Chakrabarty (1980), a patent case involving the privatization rights of recombinant organisms. This helped set the stage for a strong intellectual property regime, rewarding corporate research interests (e.g., recombinant insulin allowed founders of small biotech firms to become instant millionaires (Genentech)). Biotech firms were thus founded on hopes of future returns and aggressive venture capital. Zerbe describes the influence of Chakrabarty:

> The changing nature of the American patent regime gradually afforded the emerging biotech industry with new avenues for surplus extraction and capital accumulation. Indeed, the extension of patents to such products (and concurrently to "products" such as seeds) expanded and reinforced the ability of capital to seek surplus value in fields where, historically, the nature of the product had precluded traditional avenues of accumulation.

In addition, the Bayh-Dole Act in 1980 granted universities and small businesses the right to patent products/methods arising from federally funded research. So this and Chakrabarty lead the way to use results of publicly funded research for private commercial profit - and laid the foundation for the commercial development of the biotech industry.

Privatization instruments include patenting and material transfer agreements

Knowledge vs. patents

- Knowledge is a fundamentally different type of property. It doesn't fit neatly into Locke's private property theory.
- Knowledge for the public good is not for exclusivity, or scarcity.
- Sharing knowledge doesn't reduce the total knowledge available.
- Intellectual property creates artificial scarcity of knowledge, and generates a commodity fiction;
- Patents drive up the prices of pharmaceuticals and diagnostics, and result in fragmentation, stifling access to research and diagnostic materials. Frances Collins warned of this.
- Myriad Law Suit – Gene fragments prevent access to breast cancer tests

Two examples of expansive biological patent claims

Patent claims circumscribe the biologicals that others are excluded from using or making. Here are two examples of expansive biological patent claims. Their breadth is amazing.

Example 1: US 20080214412:

Claim 73. A method for synthesizing polymers, comprising synthesizing a multiplicity of oligomeric building blocks on a carrier in parallel steps, removing said oligomeric building blocks from said carrier and bringing said oligomeric building blocks into contact with each other to synthesize the polymers;

Claim 74. The method of claim 73, wherein said polymers are double-stranded nucleic acid polymers of at least 300 bp;

Claim 76. The method of claim 74, wherein said polymers are nucleic acid polymers selected from the group consisting of genes, gene clusters, chromosomes, viral genomes, bacterial genomes and sections thereof.

Example 2: US 20080260763:

Claim 68. A composition comprising a plurality of distinct, individually addressable, and non-pure recombinant proteins of at least one vertebrate pathogen, wherein the plurality of recombinant proteins represents at least 10% of a totality of all immunogenic proteins of the pathogen with respect to an immune response of a vertebrate;

Claim 69. The composition of claim 68, wherein the plurality of proteins represents at least 70% of a totality of all proteins of the pathogen.

Research is corrupted by corporate influence and profit motivation

A survey published in the New Scientist reported that one third of (789) biomedical papers in 1992 were by those who stood to financially gain from conclusions, but did not reveal that in the paper.[4] A 2002 study found industry funded research results

[4] McGiffen, p. 62, fn 16, citing Vincent Kiernan, "Truth is no longer its own reward" New Scientist (1 March 1997).

in higher proportion of studies showing positive results for new drugs compared to publicly funded research.

What is the main focus of biotech research & marketing of genetically modified organisms(GMO)? Biotech products generally are not aimed at helping those in need; they are profit driven, but use altruistic rhetoric to legitimize them in the public's eye (e.g. solving world hunger crises). Technology development tends to favor capital at the expense of labor. Agricultural biotechnology involves input and capital intensive farming and makes farmers increasingly dependent on purchasing monopoly-owned products.

One example is herbicide resistance and accompanying mandatory use of the herbicide Roundup, yielding $2.5 billion in global sales for Roundup. Farmers are contractually required to use Roundup with the herbicide resistance crops; suicide genes prevent reuse of seeds. Most GMOs are not suited for Africa. They are geared to Midwestern, large scale farming. The crops are not those most readily used in Africa.

Academic independence is subverted by corporations – two examples.

The story of Chapela and Quist: Chapela was a tenure track professor at Berkeley. Berkeley had $25 million grant from Novartis. A study by Quist and Chapela showed a risk of contamination by GMO maize to wild strains (criollo) maize. They showed gene flow from GMO corn to the genome of contaminated wild plants and published the finding in Nature. The industry, however, scrutinized the paper, attempting to discredit it. In fact the biotech industry organized a backlash, and Chapela was vilified by peers and anonymous critics from the biotech industry. A mountain of letters was sent to Nature orchestrated by the biotech industry, including from persons at Berkeley who benefitted from the Novartis grant. Nature publicly apologized and retracted Chapela's publication.

The story of John Losey & the Monarch Butterfly: Dr. Losey found that the monarch caterpillar grew more slowly, and died more often after eating leaves that had been dusted with GM maize which had recombinant toxin to kill a pest (European corn borer). His findings generated a backlash by industry. Six different research studies were performed to try to refute Losey's findings. Industry could not refute, but sought to shroud results in language that minimized the toxic findings.

International instruments for appropriation

Trade laws: In NAFTA's first eleven years, 42 cases and claims have emerged under Chapter 11, which gives private enforcement mechanisms for corporations trumping national and state laws. Foreign investors get a second chance to litigate the same claim if unsuccessful in a federal court

One typical example the story of Metalclad v. Mexico Toxic Waste Facility: Mexico authorized a Mexican company to operate a hazardous waste transfer station in Mexico. This was subsequently bought by a California company, which sought to expand to a toxic waste processing plant and landfill. The site was contaminated with 55,000 drums (20,000 tons) of toxic & potentially explosive waste. The region has

complex hydrology, unstable soils, allows toxic waste to infiltrate subsoil and enter water sources. There was a community uproar, and the town denied the municipal permit. The corporation sued under NAFTA Chapter 11, claiming expropriation. The NAFTA panel awarded $16 million to the corporation.