

Notes Toward a Genealogy of the Biosphere: George Perkins Marsh, Man and Nature, and Global Biosurveillance

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Abstract

Ever since the publication of Michel Foucault's Surveiller et Punir in 1975, discussions of panopticism have focused on its role in disciplining human subjects in social institutions such as the prison, clinic, and school. Yet Foucault himself noted that Bentham's Panopticon may have been inspired not by any attempt to monitor the social realm, but by an attempt to create and render transparent a simulacrum of the natural realm--by the royal menagerie at Versailles.

This paper gestures toward a Foucauldian genealogy of the biosphere as a postmodern construction of nature whose social significance is only beginning to be explored and whose history has yet to be written. It posits the biosphere as an effect of what I term the "global biosurveillance regime," the interlocking structures that are turning the entire world into a sort of zoo--into a global simulacrum of nature--by subjecting nature as a whole to sophisticated forms of surveillance: by monitoring the temperature and chemical composition of the atmosphere; by tracking the temperature of the oceans and the circulation of its nutrients; by following the movements of

migratory wildlife (often with the aid of sophisticated satellite technology) and then distributing those animals spatially in an international system of parks and preserves; by "mapping" the genomes of a variety of species; and by deploying any of a rapidly increasing number of other techniques for surveilling nature.

Global biosurveillance refers to the sophisticated and multiform ways we now see, understand, and inscribe nature as "the biosphere." It is a new construction of nature which, as the postmodern ecologist Daniel Botkin has pointed out, is no longer understood as the inert and stable backdrop to history but as a global whole with a complex and important history of its own, indeed as a crucial participant in history. It includes the vast network of machinery that gathers biospheric data about the past and present--everything from the excavations of paleobiologists to the virus-tracking of the Centers for Disease Control to the Audubon society's annual bird-counts to the satellites that track the movements of radio-collared animals--and the conceptual frameworks for synthesizing and inscribing that data--most notably, the increasingly sophisticated computer models of evolutionary biology, atmospheric science, genomics, and ecology.

The global biosurveillance regime is not just a set of ideologically neutral scientific activities but an increasingly integrated system for managing life on the planet. Its effects are not limited to the natural realm but extend to the human realm as well, with the accumulation of global-environmental knowledge producing social effects ranging from debates over what sort of cars we should drive to the displacement of entire peoples. Increasingly, environmentalism must thus be understood not only as an effort to protect nature, but also as an emerging arena for the management of human as well as natural populations.

None of this happened overnight. The development of the global biosurveillance regime has important roots in the nineteenth century work of such figures as Alexander von Humboldt, Charles Lyell, Charles Darwin, and the particular subject of this paper, the geographer and pioneering conservationist George Perkins Marsh. It was Marsh's book Man and Nature (1864) that gave the nascent conservation movement its sense of social urgency and placed it in a global rather than a strictly local context; in the words of his biographer David Lowenthal, it was Marsh who through "the sweep of his data" and the "clarity of his synthesis" was "the first to conjoin all human agency in a somber global picture." As a first step toward a genealogy of the biosphere, this paper analyzes the crucial role Marsh played in inaugurating what we now recognize as global biosurveillance.