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Elichirigoity, Fernando. Planet Management: Limits to Growth, Computer Simulation, and the Emergence of Global Spaces. (Media Topographies.) xii + 131 pp., bibl., index. Evanston, Ill.: Northwestern University Press, 1999. $64.95 (cloth); $24.95 (paper).

Fernando Elichirigoity calls his intriguing little book "a contribution to the history of 'globality' —the emergence of a complex organization of politics, economics and culture at a planetary level" (p. 3).

The book's unifying thread is an intellectual history of The Limits to Growth (Universe Books, 1972). Limits originated with the Club of Rome, a small, elite European group founded in 1968 by Italian industrialist Aurelio Peccei. Influenced by Soviet planning techniques—he wrote a dissertation on Lenin's first five-year plan—and concerned about "underdeveloped" societies, Peccei intended his Club to sound a warning on emerging world-scale social and environmental problems.

The Club ultimately found the vehicle for its warning in a computer model of "world dynamics," initially developed by MIT's Jay Forrester. Elichirigoity explores Forrester's background, describing his 1950s work on the Whirlwind computer and the SAGE continental air-defense system. Forrester later moved to MIT's Sloan School, where he built computer models of factory, industry, and urban "dynamics." These systems models, characterized by complex positive and negative feedbacks, formed the basis for Forrester's transition into modeling the entire "world system," including population, pollution, natural resources, and other components. Elichirigoity also explores the larger background of Limits-style systems thinking in 1940s operations research and early cybernetics.

Forrester's models predicted near-term collapse in world human and/or natural systems without an immediate end to exponential growth patterns (in pollution, population, etc.). These Malthusian results delighted Peccei, confirming both his instincts and his fears. The Club of Rome published a simplified account of the models in a popular book (Limits), which it distributed to thousands of world leaders.

The book reached a huge popular audience as well. Elichirigoity reports that Limits sold 10 million copies (but neither gives a source for this figure nor attempts to reconcile it with other figures, quoted elsewhere, as low as 3 million). Indeed, the

author's choice to end his study with the book's publication means that he never addresses the emipirical question of Limits' actual influence—often asserted, but rarely investigated.

Elichirigoity's most important, even brilliant, insight regards the "regime of ocularity" that underpins modern global thinking. Limits was savagely criticized for relying on a priori models ungrounded in actual data. Elichirigoity maintains that the modelers had no choice. At that time, most data of any kind were collected at or below the national level. Global aggregate data require commensurable data collection systems; these, Elichirigoity argues, did not yet exist because scientists did not yet see the global as a category for which data could be collected, processed, and understood. Computer models opened this possibility for the first time. Limits thus led the transition from national political spaces to a "global biopolitical space," a new vision that conceived global dynamics as potential object of the scientific and managerial gaze. The "global Earth," Elichirigoity argues, was rendered visible by computer modeling, satellite imagery, space flight, and other technoscientific legacies of World War II.

Historians will find this brief book both tantalizing and disappointing. Elichirigoity's interesting account of Peccei and the Club of Rome is based on new archival research, but most of the rest depends on a limited array of secondary sources. His account of Forrester — among the mid-20th century's most fascinating, yet under-studied figures — offers few new insights, and he overlooks much of the vast literature on post-WWII systems thinking. Worse, Elichirigoity seems unaware of an enormous historical overdetermination. The "One World" movement against nuclear weapons, the World Weather Watch, Cold War ideology, and the environmental movement (which predated Limits) are only a few examples of other precursors to the discourse of globality Elichirigoity so astutely articulates.