



Synthesis

Resilience, Panarchy, and World-Systems Analysis

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ABSTRACT. The paper compares two ambitious conceptual structures. The first is the understanding of social-ecological systems developed around the term "resilience," and more recently the term "panarchy," in the work of Holling, Gunderson, and others. The second is Wallerstein's "world-systems" approach to analyzing hierarchical relationships between societies within global capitalism as developed and applied across a broader historical range by Chase-Dunn and others. The two structures have important common features, notably their multiscale explanatory framework, links with ideas concerning complex systems, and interest in cyclical phenomena. They also have important differences. It is argued that there are gaps in both sets of ideas that the other might remedy. Their greatest strengths lie at different spatiotemporal scales and in different disciplinary areas, but each also has weaknesses the other does not address, particularly with regard to the mechanisms underlying proposed cyclic patterns of events. The paper ends with a sketch for a research program within which panarchical and world-systems insights might be synthesised in the study of the "Great European Land-Grab," i.e., the expansion of European capitalism and its distinctive social-ecological systems over the past five centuries.

Key Words: *adaptive cycle; cross-scale interaction; panarchy; population; resilience; technology; world-systems.*