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Articulating Agency

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The idea of population has loomed large in global environmentalist concern since fears of "overpopulation" and subsequent environmental and social collapse were propagated by *The Limits to Growth* report (Meadows et al. 1972) and Paul Ehrlich's book *The Population Bomb* (1968). These grim Malthusian prognoses have since been widely discredited, with critics challenging the assumptions of inexorable population growth and fixed technological horizons and emphasizing instead the possibility of innovation and intervention to overcome environmental constraints (Cole et al. 1973; Freeman 1979). Environmental efforts are now predominantly occupied with the potential of human innovation to enable transitions to more sustainable modes of collective life, and their associated analytical frameworks attempt to account for the roles of various actors in achieving or obstructing such transitions (Smith et al. 2010). Population as undifferentiated, natural force no longer features explicitly in environmental discourses—but, as I outline below, echoes of such a framing continue to appear in the way that the mechanisms of sustainable transition are understood, and in debate about the place of people in such transitions.

The notion of transition has rapidly come to dominate the ways that academics and policymakers alike think about response to climate change and other environmental challenges. In a formative article titled "More Evolution Than Revolution: Transition Management in Public Policy" (2001), Dutch transition theorists Jan Rotmans and colleagues locate the roots of the transition concept—

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defined as a process of change in the structural character of society—in biology and the study of population dynamics. The associated literature has since sprouted many theoretical models, such as the multi-level perspective (Geels 2002) and strategic niche management (Schot and Geels 2008). Broadly, these models theorize the process of transition in systems theoretical terms, including nonlinear behavior, positive feedback, and dynamic equilibrium, and draw on evolutionary economics to conceive of the "co-evolution" of social, technological and environmental dynamics (Markard et al. 2012; Smith et al. 2010). Characterized by an "alluring combination of agency, complexity, uncertainty, and optimism" (Shove and Walker 2007, 763), these approaches offer a means of engaging with transition as the emergent effect of interactions between actors and dynamics across different levels of a sociotechnical system.

Within and among these models of transition, however, are differing and not necessarily consistent conceptions of agency, as well as "important types and agents of change that are missed" (Shove and Walker 2007, 768). These models are "trying to combine evolutionary theories of socio-technical change with theories of agency," positing the possibility for intervention but at the same time attributing causality less to intentional action by people than to the aggregate effect of processes of generating variation, natural selection, and so on (Smith et al. 2010, 446). These models seem to contain some conceptual slippage between treating people and their agency as inside or outside the system, resulting in a deep ambivalence about the potential for human action to direct the course of change, which I have previously argued characterizes social-ecological systems approaches to climate change adaptation (Adams 2021). With sociotechnical change approached in these evolutionary and systems terms, population thus seems to figure once again as a natural force, or as the passive substrate upon which the undertheorized and apolitical interventions of a transition manager take effect. As societies around the world face the challenge of mitigating and adapting to climate change, this naturalized understanding of the role of people in relation to the systems and structures undergoing change implies a politically conservative view of the scope and means to realize alternative futures.

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Sophie Adams is Senior Research Fellow in the Climate Change Adaptation Lab at La Trobe University, Melbourne. She is a human geographer and science and technology studies scholar, with an interest in the social implications of the production and application of scientific knowledge and technological developments to address climate change.