Locust swarms and the spatial techno-politics of the French Resistance in World War II

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ABSTRACT

This article investigates why and how efforts to control Desert Locusts in Northwestern Africa became a strategic concern for the French Resistance during the Second World War. I analyze the record of a 1943 conference convened to discuss on-going locust plagues in Northwestern Africa. The analysis suggests that the "locust problem" provided a field for technocrats to innovate and re-present new modes of government. More specifically, French authorities in exile prioritized organizing against the Desert Locust in part because the spatial extent of the insect's biophysical specificities provided an ideal field to reinvent and re-present the spatiality and legitimacy of the French Empire as a transnational and constructive federation of techno-scientific benevolence, uniting all its colonies against common enemies. The work provides a different perspective on the questions of 'fit' between institutions and ecosystems by highlighting the dynamic relationships between material demands of object(s) of management concerns, scientific knowledge about said object(s), and strategic imperatives of authoritative legitimacy. The paper highlights how the relationships between (1) the selection and stabilization of ecological problems and solutions, (2) their adoption within the logic and imperative of institutions, and (3) the emergence of specific apparatus of rule together bear on why and how given socio-ecological dynamics become "seen" and adopted as mandates by agencies, how they are represented, and what particular technological or institutional arrangement is favored for (and by) their management.

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1. Introduction

Success or failure in environmental management is often attributed to the degree of fit between the ecological processes under management and the spatial logic and capacity of mandated institutions (Dietz et al., 2003; Cash et al., 2006; Folke et al., 2007; Liu et al., 2007). Rather than taking the mismatch between institutions and ecosystems as pre-given, however, work in political ecology and related fields has critically investigated why and how given socio-ecological dynamics become "seen", adopted as management mandates by agencies, how they are represented, and what particular technological or institutional arrangement is favored by these configurations (Braun, 2002; Robertson, 2006; Alatout, 2009; Biehler, 2009; Goldman, 2009). This body of work highlights how the practices of environmental managers are shaped by interrelations between (1) material demands of the object of management concern, (2) scientific knowledge about the object, and (3) strategic imperatives of authoritative legitimacy (Peet et al., 2011).

In this article I draw on and build upon these two themes by exploring how the spatial demands of statecraft – the practice of conducting state affairs – bears on the relationship between (1)

the adoption, construction, and resolution of environmental problems, and (2) the dynamic "rescaling" of governance that occurs as state actors deal with diverse and spatially differentiated challenges. The focus of the inquiry is on efforts by the French Resistance to organize against swarms of Desert Locusts across Northern and Western Africa during the Second World War. I examine how these efforts relate to the crafting of transnationally networked modes of government as lynchpin of late and post-colonial rule.

Most commonly found as isolated, solitary, individuals in remote desert settings, the Desert Locust periodically changes behavior and appearance as it enters a "gregarious" phase in which individual locusts seek and join one another to form large and highly mobile groups. As swarms travel to agricultural regions, where they consume crops and pastures at extraordinary rates, locust invasions are often disastrous to local and regional agricultural productivity, and consequently, on food security in affected regions. The particularity of its ecology and multiplicity of phases make this insect especially difficult to manage. As with many similar hazards that are emergent and that transcend political boundaries (cf. Robbins et al., 2008), the Desert Locust is, in either of its phases, precisely at odds with the spatial reach of conventional management institutions (Skaf et al., 1990; Lecoq, 2001). The article presents a case where the same behavioral and bio-geographical particularities that make the Desert Locust so problematic in "normal times"

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made it an ideal field of intervention to help resolve unconventional challenges to statecraft.

Examination of the context and content of a meeting on Desert Locusts held by French authorities and Allies in 1943 suggests that authorities turned to the locust problem at least in part because efforts to manage this insect were compatible with the resolution of an especially complex crisis of geopolitical legitimacy in the French colonial Empire. The crisis in question followed from both (1) the capitulation and occupation of Mainland France to and by the Axis and (2) growing concerns that the colonies would seek and achieve independence, thus ending formal colonialism and terminating what was then left of the French Republic. Attention to the locust problem, I argue, allowed the representation and enactment of the French colonial Empire as a transnational and constructive federation of techno-scientific benevolence that united all its colonies against common enemies, both human (Axis) and nonhuman (locusts) in ways that held the promise of bolstering both the legitimacy of this Empire and the claim of it as under the purview of *Free France*.

This article develops a political geographical perspective on the relation between institutions and ecosystems by considering the incidence of the dynamic relationships between (1) the selection and stabilization of ecological problems and solutions (Kull, 2004; Davis, 2007; Goldman, 2009), (2) their adoption within the logic and imperative of institutions (Robertson, 2006; Carter, 2008; Alatout, 2008, 2009; Biehler, 2009), and (3) the emergence of specific apparatus of rule (Foucault, 1980, 2003; Whitehead, 2009; Legg, 2009, 2011). To this end I engage with insights from critical state theory that emphasize how statehood is negotiated through social practices and representations that are themselves shaped by, and in turn shape, the dynamic and non-deterministic assemblages of various material and discursive processes (Hagmann and Péclard, 2010; Passoth and Rowland, 2010). These theoretical perspectives together share much with focus in the social studies of science on the role of techno-scientific expertise in colonial and post-colonial state-making (Anderson, 2002; Jasanoff, 2004a; Carroll, 2006; Alatout, 2008; Tilley, 2011). Together these strands highlight how the spatial extent and resolution of a given socio-technical apparatus is not a pre-existing condition but rather the outcome of negotiation between ideas, representations, and objects.

The case study is divided in two parts. The first part introduces and discusses the content and context of the "Anti-Locust" meeting held in Rabat, Morocco, in 1943. That discussion emphasizes how the geo-political demands and implications of locust control made it an ideal field of intervention for leaders of Free France to articulate, represent, and enact their claims as legitimate authorities of a unified French colonial Empire despite the occupation of its mainland territory by the Axis. In the second part I turn my attention to debates between political leaders and locust experts at the meeting, as well as between French and British entomologists. These debates highlight how strategies, technologies, and organizational configurations chosen for this particular attempt at locust control were selected via negotiations between (1) the imperatives of geopolitical goals, and (2) available technologies and material resources. I conclude by considering the implications of this case study for our understanding of the geopolitical dimensions of techno-scientific practices in shaping environmental management, and on the emergence of modes of government that are predicated on and enacted through transnational expert-power.

2. Critical state theory and science and technology studies

Rejecting the conventional conceptualization of the state as an *a priori* thing or actor, critical theorizations of the state have called for investigation of the ways in which the "idea" of the state as a unitary entity is produced through socio-technical practices and representations that are often mundane and diffuse, and for the identification of the political effects of these practices (Abrams, 1988; Mitchell, 1999; Painter, 2006; Meehan et al., 2013). These developments have accompanied a view of statehood as not a given fact, but rather a constant negotiation (Hagmann and Péclard, 2010), a contingent and unstable process of governance (Passoth and Rowland, 2010), "constituted in a highly complex matrix of ideas and representations, government and bureaucratic agencies, and land and people" (Carroll, 2000, p. 15, cited in Passoth and Rowland, 2010, p. 823). To understand how the state is made and what it does, then, it is necessary to investigate the practices of ordering the social and the ecological that underpin these specific social formations, and the political effects of these practices (Jasanoff, 2004a; Painter, 2007; Alatout, 2008).

Partly because of its important incidence on these practices of ordering, techno-science has become a key site of modern state-making (Mitchell, 2002; Carroll, 2006). The interdisciplinary field of Science and Technology Studies (STS) provides important insights regarding how knowledge and society are co-produced. As Sheila Jasanoff puts it: "knowledge-making is incorporated into practices of state-making, or of governance more broadly, and conversely how practices of governance influence the making and use of knowledge" (Jasanoff, 2004b, p. 3). Investigations of the practices, techniques, texts, and quotidian activities by which scientific facts are produced and stabilized, as well as of the ways in which techno-scientific practices are adopted and modified as they travel across different settings, and their incidence on social configuration – all key concerns of STS – (Latour and Woolgar, 1979; Bijker, 1997; Latour, 1999; Anderson, 2002; Jasanoff, 2004c) also have serious implications for geographic understandings of state-making, and by extension of the logic and imperative of environmental management institutions (Robbins, 2008; Whitehead, 2008).

The relationship between science and the state has received attention in political ecology in recent years (Whitehead, 2009; Goldman et al., 2011; Lave, 2012). Studies on the relationship between water techno-science and social formation (Swyngedouw, 1999; Alatout, 2009; Bouleau, 2013) and on the political ecology of health (King and Crews, 2013) have been productive in this regard. The latter's attention to human–insect relations (Carter, 2008; Carter, 2012; Biehler, 2009; Shaw et al., 2010; Robbins and Miller, 2013) has been especially helpful in highlighting the spatial logics of socionatural assemblages.

Interrogations of state-science relations have benefited from, and contributed to, examinations of the specific role of science and technology in colonial and post-colonial forms of statecraft. This sub-field, which Anderson (2002) calls "postcolonial techno-science", has demonstrated different ways in which science, especially in fields such as health, sanitation, planning, and agriculture, have co-evolved with colonial rule (Vaughan, 1991; Bonneuil, 2000; Hecht, 2002; Carroll, 2006; Tilley, 2011; Carter, 2012). These different ways include (1) the use of technoscientific projects to experiment, perform, and represent forms of social order and subjectivities in colonial settings, (2) the effect of using colonies as laboratories to experiment with modes of government that would later be incorporated in metropolitan governance, and (3) the role of local material, cultural contingencies, and popular agency in shaping the actual outcomes of these projects.

In a similar vein, Mitchell writes of techno-politics as "the kinds of social and political practices that produce simultaneously the powers of science and the power of modern states" (2002, p. 312, note 77). Techno-politics, for Mitchell, is

always a technical body, an alloy that must emerge from a process of manufacture whose ingredients are both human and