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Botanical decolonization: rethinking native plants

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Abstract. In this paper we use an apparently marginal topic—‘native plants’—to address two issues of concern to contemporary politics and political theory: the legacy of settler colonialism, and dilemmas of scholarship and activism in the ‘Anthropocene’. Drawing on the writings of Francis Bacon and based on a case study of California, we argue that planting and displacing humans and plants are elements of the same multispecies colonial endeavor. In contrast to those who equate native plant advocates with anti-immigrant nativism, we see native plant advocacy as part of a broad process of botanical decolonization and a strategic location for ethical action in the Anthropocene.

Keywords: Anthropocene, colonialism, decolonization, ecology, native plants

Introduction: native plants and botanical cosmopolitanism

In this paper we use an apparently marginal topic—‘native plants’—to address two issues of concern to contemporary politics and political theory: the legacy of settler colonialism, and dilemmas of scholarship and activism in the ‘Anthropocene’. Native plants have been a sustained object of inquiry in ecology and biology as well as an occasional topic of discussion in the social sciences. Since the 1990s a number of social scientists have linked native plant advocacy to anti-immigrant ‘nativism’. We believe this to be a fundamentally misconstrued analogy and propose a different approach. Specifically, we rethink native plants as a discursive field (Foucault, 1978) in which multiple practices surrounding native plants, nativism in politics, and what we term ‘botanical cosmopolitanism’ can be understood within the same historically constituted frame of analysis. Rethinking native plants as a discursive field invites work at the margins of other investigations of colonialism, to see the complex and often unmarked ways that plants have been sorted out as ‘native’ or ‘nonnative’, what such a project of differentiation has meant, and the forms of power to which those practices have been linked. This approach allows us to make our broader call for ‘botanical decolonization’.

We relate the question of native plants to the insight that human action has precipitated an epoch of drastic planetary change, captured in the concept of the ‘Anthropocene’. As a growing field of scholarship has noted, this planetary change opens up “possibilities for new forms of human life”, even as it is “radically endangering the conditions that make most human life possible” (Dalby, 2013, page 184). Climate change and the emergence of ‘novel ecosystems’ have led many to question longstanding ideas of both nature and the future itself (Hobbs et al, 2006; 2009; Marris, 2011). The precise extent of environmental impact from climate change is still hard to measure, although the evidence is overwhelming (Dukes,

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2011a; 2011b; Thomas and Ohlemüller, 2010; Thuiller et al, 2007). The Anthropocene is most commonly linked to the Industrial Revolution (Crutzen and Steffen, 2003, page 251). We propose going further back, to the early stages of European territorial expansion in the 16th and 17th centuries. Levels of greenhouse gases in the atmosphere are of grave concern to us, and the jump in emissions is undoubtedly linked to the Industrial Revolution and its heavy reliance on fossil fuels. In order to more adequately understand how human agency became a “geomorphic force” (Yusoff 2013), we analyze biotic upheaval caused by settler colonialism in the context of a broader remaking of relations among humans, plants, and place. We call this broad process ‘botanical colonization’ and see it as central to the rise of the Anthropocene.

As new settlers in the arid regions of Southern California, we were mystified to encounter a landscape dominated by an array of exotic greenery and what we call the ‘colonizing lawn’. As participant observers in this landscape, we began to garden with native plants and to study the social imaginary that shaped the botanical colonization of California. For this endeavor, we found it immensely helpful to read Francis Bacon (1561–1626), a protagonist (and at times a critical observer) of the early history of English colonization of America. In his writings we found crucial and underappreciated insights into the colonial cosmology shaping our landscape, and a vocabulary for thinking about legacies of botanical colonization in our own times. We began to trace the emergence of the native plant movement in California and elsewhere and to understand how it indirectly challenges botanical cosmopolitanism, research we discuss in the section “Native plant advocacy”. All this helped us understand why some contemporary critiques of native plant movements are misguided, an analysis we present in the section “Critical miscommunications”.

We are not claiming that a language of ‘native plants’ is never problematic. But as is often the case with a fuzzy concept entangled in a broad discursive field, the matters at stake are too complex to resolve by abolishing the term in question. Proposals for a “neutral terminology” (Colautti and MacIsaac, 2004) merely shift “the uncertainty inherent in any definition at the expense of our ability to describe a unique concept” (Wilson et al, 2009). Many critics of the term ‘native plants’ have opted to retain it on pragmatic grounds, concluding that “our time is better spent on other things” than purifying terminology (Davis, 2009, pages 3–4). We use ‘native plants’ in a similar spirit, to address how “debates about native and alien species are situated within broader deliberations about nature, naturalness and the ecological place of our own species in the ‘natural’ world” (Warren, 2007, page 438). When ecologists and biologists use ‘native plants’ as opposed to ‘nonnative’ or ‘invasive’ plants, at issue are species which have “evolved in a given area or that arrived there by natural means . . . without the intentional or accidental intervention of humans” (Richardson et al, 2011, page 416). This emphasis on the absence or mediating presence of human action provides a useful point of analytical departure. But as social scientists, our imperative is to qualify human action: not all human action is alike.

Planting the colony, displanting the native

Bacon is “best known for his enthusiastic advocacy of the mastery of nature” (Smith, 1984, page 3). His understanding of nature is not at issue here (cf Malherbe, 1993; Vert, 1986). Rather, we are interested in that aspect of his idea of the mastery of nature that is linked to European colonial expansion. Bacon’s attitudes toward colonization were ambiguous (Irving, 2006). Key to our argument here is that Bacon described colonization as a massive operation of planting and “displanting”. Such a view marked a significant shift from the neo-Roman idiom used in late-16th-century England by both Thomas Smith (considered a founder of ‘English colonial theory’), and the royal chancery, in which the military aspect of colonization was much more prominent (see Quinn, 1945). As a huge planting and displanting enterprise,

colonization entailed the uprooting of indigenous plants as well as indigenous peoples. Colonial planting, in turn, was ‘rooted’ in conquest—figuratively and literally. Reading Bacon helps us remember that a large proportion of species in colonized parts of the world could well be termed ‘settler plants’. This can help us denaturalize the notion of native plants and the notion of ‘native’ itself:

“native does not designate a condition that is original and authentic. Rather ... the native is the creation of the colonial state: colonized, the native is pinned down, localized, thrown out of civilization as an outcast, confined to custom, and then defined as its product” (Mamdani, 2012, pages 2–3).

Reading Bacon together with Mahmood Mamdani suggests that many current ecological problems—including threats to native plants—are an important legacy of colonialism, which was a multispecies project involving the settlement of plants as well as animals and people. Bacon’s writings represent a moment of reflection on the early history of English colonization of America.

Bacon’s views of colonization were couched in what has been called an ‘Edenic narrative’ (Cronon, 1996a; Merchant, 1996; cf Grove, 1995). To him, the Garden of Eden provided a model for perfect activity and perfect knowledge. In his essay *Of Gardens*, he wrote:

“God *Almightie* first Planted a *Garden*. And indeed, it is the Purest of Humane pleasure. It is the Greatest Refreshment to the Spirits of Man; Without which, *Buildings* and *Pallaces* are but Grosse Handy-works: And a Man shall euer see, that when Ages grow to Ciuility and Elegancie, Men come to *Build Stately*, sooner than to *Garden Finely*: As if *Gardening* were the Greater Perfection” (1625, page 266, italics in original).

Elsewhere, Bacon implied that with the Fall, man lost not only his innocence but also his knowledge of the natural world and thus “his kingdom over the creatures” (Bacon, 1620, page 359; see Irving, 2006, page 252). However, Bacon saw in the contemporary English and European territorial expansion the possibility of a “restitution and reinvesting ... of man to the sovereignty and power ... which he had in his first state of creation” (Bacon, 1659, page 222). Bacon not only compared the development of new knowledge to the discovery of new lands (page 223). He wrote of the advancement of learning as “coeval” with colonization:

“And this Proficiencie in nauigation, and discoueries, may plant also an expectation of the furder proficiencie, and augmentation of all Scyences, because it may seeme they are ordained by God to be *Coevalls*, that is, to meete in one Age” (Bacon 1605, Book II, page 15v, italics in original).

Central to Bacon’s idea of the advancement of learning was the development of scientific knowledge of nature. Relevant to our argument here is Bacon’s belief that colonization offered a golden opportunity for retrieving some of the knowledge of nature man had had in the Garden of Eden. Since knowledge was the instrument of both political rule and of human power over nature, the conquest of new lands coincided with “enlarging the bounds of Human Empire” over nature (Bacon, 1674, page 239). In a very important and rich sense, the ‘planting’ of colonies was a recovery of the Garden of Eden.

Bacon advised colonists to learn about the new environment and subdue it. They were to identify useful plants that grow “in a Country of *Plantation*”, extract timber from the woods and minerals from the earth, build “Milles” upon “Streames”, and make salt in bays. They were also to set up a government and “have God always ... before their Eyes” (Bacon, 1625, pages 199–202). Additionally and crucially, Bacon recommended colonists import plants that “grow speedily”, do not “aske too much Labour”, and “are nutritious” (Bacon, 1625, page 200). Gardening, as we saw, was for Bacon the measure of perfection and “civility” (“civilization” had not yet been invented). But gardening was also the key

to the survival of colonies. That is why Bacon topped his list of the people needed for establishing a colony with gardeners:

“The People wherewith you *Plant*, ought to be Gardners, Plough-men, Labourers, Smiths, Carpenters, Ioyners, Fisher-men, Fowlers, with some few Apothecaries, Surgeons, Cookes, and Bakers” (Bacon 1625, page 199, italics in original).

‘Gardening’ was crucial to colonization. In general, the image and metaphor of garden was central to Europeans’ endeavors to “characterise, identify and organise their perceptions of nature at the expanding colonial periphery” (Grove, 1995, page 13). In particular, the story of the Garden of Eden, to which Bacon referred, provided an apt image of man’s place in the created world. In the Judeo-Christian master narrative, “God Yahweh took man and settled him in the garden of Eden, to till and tend it” (Genesis 2:15; see also Speiser, 1964, page 14). Man was first a settler of Paradise. The settlers Bacon had in front of his eyes could be seen as ‘planting’ a Paradise in historical time.

Gardening, however, required more than gardeners: to create a perfect Garden, the postlapsarian vegetation had to be dealt with. Captain John Smith, veteran of the Virginia plantation—who sought Bacon’s patronage for his American ventures in 1618, when Bacon was Lord Chancellor—requested not just “gardeners” but what we might call antigardeners: “diggers up of trees, roots” (Smith, 1624, page 72).

Most instructive for our discussion of native plants, however, is the language Bacon used to describe colonization (cf Maley, 1995). He used what in his time was a common term for colonies: plantations. This sense of ‘plantation’ was broader than the later notion of swaths of monocultured fields, owned by white masters and tended by black slaves. His use of plantation referenced an emerging social dynamic shaping that later notion of plantation economy. For Bacon, ‘plantation’ meant in the first place to “*Plant in*” people. Bacon’s preference was to establish “a *Plantation in a Pure Soile*”. In such a case of planting in a pure soil, he explained, “People are not *Displanted*, to the end, to *Plant in Others*” (Bacon, 1625, page 198, italics in original). In a memorandum for King James, Bacon clarified that the advantage of founding a colony “in *solo puro, & in Areâ purâ*”, was that “that shall need no *Sacrifices Expiatory, for Bloud*” (Bacon, 1657, page 256, italics in original). The “effusion of blood” caused by “displanting of ancient generations”, Bacon said in the context of the colonization of Ireland (Bacon, 1868, page 47; cf Irving, 2006, page 259), was a stain on plantation, just like when the “Scumme of People, and Wicked Condemned Men” in plantations were engaged in “Base, and Hastie drawing of Profit” (Bacon, 1625, pages 198–199). But such blemishes did not turn Bacon against colonization. After all, “the first *Foundation, or Plantation*” meant for Bacon making “One of None”, which he compared to “the *Creation of the World*, which was *de Nihilo ad Quid*” (Bacon, 1657, page 256, italics in original). In such a context “ancient generations” were unthinkable.

Attending to Bacon’s thought reveals the centrality of ‘planting’ and ‘displanting’ to colonialism. Once ‘planted in’ themselves, the colonists planted a garden in the new world in imitation of the almighty God’s creation of the Garden of Eden. But the “gardeners” worked side by side with the “diggers up of trees, roots”. Planting necessarily involved displanting. Captain Smith, for example, reported in 1629 that most of the woods around Jamestown had been cut down and “all converted into pasture and gardens; wherein doth grow all manner of herbs and roots we have in England in abundance and as good grass as can be” (cited in Crosby, 2004, page 157). And just as ‘planting in’ of people generated planting and thus displanting of plants, ‘planting in’ of both people and plants easily, and more often than not, led to ‘displanting’ the people who had lived there. In the Latin translation of his *Essayes* Bacon used a more familiar term for this aspect of settlers’ displanting activity: “destroyed”

(Bacon, 1638, page 217). He also spoke of the “extirpation of the natives” (Bacon, 1872, page 21).

Colonial invasion thus profoundly reshaped relationships between plants, people, and place. In correspondence with what we might term, following Kenneth Olwig (2002, page xxxi), the “mindscape” of the settlers, a new landscape emerged. Settler colonialism was always about the ‘settling’ of plants as well as people. The mindscape of settlers rested on superior force to establish dominion over place. This colonialism was not only about the conquest of land. It entailed the production of a landscape—a specific way people shape and represent “the world about them and their relationship with it” (Cosgrove, 1998, page 1; see also Casid, 2005).

The colonial landscape was sustained by, and fed into, an intense traffic in people, plants, animals, and germs between the metropolis and plantations, and between plantations in the East and West (Drayton, 2000). It brought about such an intense “biological expansion of Europe” (to cite the subtitle of Crosby, 2004) that Crosby’s term “ecological imperialism” seems fitting (Crosby, 2003; 2004). Once we see colonialism as the literal planting and displanting of peoples, animals, and plants—as inscribing a domination into blood and soil founded in the fantasy of molding ecosystems with godlike arrogance—it becomes clear how colonialism ushered in the Anthropocene.

A settler colonialist dynamic of planting and displanting shaped the frameworks through which our contemporary notion of native plants is thought and enacted. It is only by disremembering this history that ‘native plants’ can be conflated with anti-immigrant nativism. The colonizing act of ‘planting in’ people and plants constituted a fateful distinction between the ‘planted’ and the ‘native’. ‘Planting in’ plants meant cultivating them. Native plants, by implication, were uncultivated. In the imperial imaginary this distinction between cultivated and native plants was isomorphic with people as well. For example, Thomas Macaulay—an ‘architect’ of imperial Britain (Hall, 2012)—maintained that Indian “natives” were far behind the English in “intellectual cultivation” (Macaulay, 1866, page 269). “Nature”, like the uncultivated native, was to be dominated by “culture”. Such a “government of nature” found its metropolitan manifestation in botanic gardens. In botanic gardens, species collected overseas for scientific reasons could find their way to the metropole, for aesthetic and ideological benefit. In plantations, many of those same species fared ill; they were neither an object of scientific interest nor aesthetically pleasing badges of conquest. They were simply in the way of settlements and settlers’ needs. Not planted, they became ‘natives’ and, as such, shared the fate of native peoples: they were displanted.

The discursive field of native plants was global from its inception. By the late 18th century, botanists used ‘native’ as “a catchall conception for uncultivated or undomesticated biota” (Chew and Hamilton, 2011, page 37; cf Chew, 2006). The use of the term was not limited to plants: “encounters with unknown taxa and peoples in far-flung locations allowed European civil and biotic applications of *native* to cross-pollinate in new ways” (Chew and Hamilton, 2011, page 37). Those “encounters”, spawned by colonialism, were defined not by the divide between Old World and New, but by the geography of colonial power. For Edward Gibbon Wakefield, who wrote about the “art of colonization”, the formative dichotomy between “colonist and native” (Wakefield, 1849, page 7) applied not only to India and America, but also to the Irish whom England had “conquered and colonized” (Wakefield, 1834, pages 106, 155). Within the scope of colonial rule, the term ‘native’ applied not only to colonial subjects but to all aspects of their culture as well. For example, in an 1836 letter from Calcutta Macaulay described how, during a repair of his mansion, he and his extended family had to temporarily leave their spacious rooms, gardens, and “flower-beds” for a smaller dwelling “with no garden, surrounded by native huts, where we were deafened with the clang of native

musical instruments and poisoned with the steams of native cookery” (Macaulay, 1976, pages 172, 175). The term ‘native’ was imbricated with colonization, and in this emergent discursive field colonized peoples and plants were presumed to share the same fate.

Planting a Garden of Eden

The discursive field of native plants is as global as the legacies of colonialism, and links up to debate regarding ‘invasive’ animals as well (Coates, 2006; Doughty, 1978). However, to focus our discussion we turn now to California, the place we know best and which figures prominently in debates over native plants.

Historians surmise that the first of the cosmopolitan plants now common in California grew from seeds accidentally strewn off ships of the first European explorers in the mid-16th century. More seeds arrived with the Spanish missionaries who dominated California from the second half of the 18th century through the early 19th century. Even though the Spanish came from one Mediterranean climate region into another, this did not make the plants they brought harmless to the ecosystem. Nor were the ideologies they brought harmless to native Californians pressed into forced labor to save their souls, often at the cost of their lives (Kroeber, 1925, page 888). Domestic plants escaped from mission gardens; cattle, sheep, goats, and pigs grazed in coastal prairies and woods, leading to “extensive and irreversible changes in many ecosystems” (Anderson, 2005, page 76). These effects expanded during the Mexican period of colonization (1822–48) and intensified following the US victory in the Mexican War. The resulting takeover of California in the context of the Gold Rush ushered in a period of development and genocide. California Indians were devastated by a colonization that was never directed at humans alone but went hand in hand with mining, deforestation, overgrazing, the sowing of exotic grasses, new kinds of agriculture, and altering waterways—in all, the devastation of ‘native’ ecosystems (Anderson, 2005, pages 82–93; Castillo, 1998; Trafzer and Hyer, 1999).

The ‘invasive’ transformation of California ecological systems was far-reaching. Speaking of the Tulare Valley and its “rich and deep” soil, a gold prospector envisaged in 1848 that “the whole of this valley could be made one vast vineyard and orchard” (cited in Anderson, 2005, page 93). When fifteen years later the Reverend Thomas Starr King preached agriculture to farmers in the San Joaquin Valley, in the south of which lay Tulare Lake, he proclaimed that the earth “was not made for nettles, nor for the manzanito [sic] and chaparral. It was made for orchards, for the vine, for the comfort and luxuries of thrifty homes” (cited in Worster, 1985, page 97). As a result of settlers’ implementation of God’s providence by diverting streams for irrigation (King, 1851, page 3), Tulare Lake, the largest freshwater lake west of the Mississippi, had disappeared by 1899 (Dasmann, 1965, pages 154–155; Reisner, 1993). A thread animating this history is that since early European exploration, California has been enveloped in its own ‘Edenic’ narrative, recalling Bacon’s contention that the Garden of Eden was the first of God’s works. Even after the Gold Rush had wrought its destruction on the land, California did not shed its Edenic nimbus, providing “landscapes viewed ... [by most] Euro-Americans as pristine, wild, or untouched by humans” (Sayre, 2012, page 59). In the century after John Muir communed with God in the Edenic nature of California (Williams, 2002), large parts of the state were turned into an irrigated Eden (Banham, 1971; Fiege, 1999).

By the 20th century, a considerable proportion of the water supplied by the kinds of terraforming represented by the disappearance of Tulare Lake, the flooding of the Hetch Hetchy Valley, and other monumental projects was being used for lawn-centered gardens. In California (and elsewhere) the lawn was introduced, as valleys and plains were being turned into fields, orchards, and vineyards. The lawn is the domestic epitome of ecological conquest (Robbins, 2007, page 21); grasses were settler plants par excellence. Images of the lawn

landed in the Americas with the British colonizers, who brought “a strong preference for an English landscape” (Bormann et al, 1993, page 19). When Andrew Jackson Downing, one of the pioneers of American horticulture, published his *Treatise on the Theory and Practice of Landscape Gardening* in 1841, he codified “a two-hundred-year history of lawnmaking and lawnimagining in America” (O’Malley, 1999, page 65). Just as Americans incorporated royalty into their republican constitution in the figure of the president (Pocock, 1988), so they took over English aristocratic landscaping to transform it into horticultural democratism. Three founding fathers were lawnmakers: Washington, Jefferson, and Hamilton.

In the 19th century, Gold-Rush-era immigrants from the American Northeast and from cooler and wetter parts of Europe brought with them images of the ‘green grass of home’. Downing wrote in time to give to California settlers “leading principles” and “practicable methods” of “embellishing” their residences (Downing, 1853, page viii). The lawn—a “green grass-plot ... mown into a softness like velvet”—was one of his two “essential elements” of landscape gardening (pages 19, 29, 74). ‘Improved’ varieties of grasses began to form the iconic American lawn that gained momentum following the Civil War (Bormann et al, 1993; Jenkins, 1994; Ponte, 1999; Robbins, 2007). A combination of well-advanced ecological transformation, imagined landscapes of inflowing settlers, and an obliging nursery industry (Bornstein et al, 2005, pages 1–2) helped the lawn triumph. The idea of Downing’s horticulture was unabashedly political. As a growing population finished the conquest of “its vast territory” and society became “more fixed in its character”, the lawn was meant to create “a strong attachment to natal soil” (Downing, 1853, page viii).

Planting lawns helped transform conquered land into ‘native’ land for settlers. The extent to which lawns and native plants are part of the same discursive field is clear: the lawn was a self-consciously nativist project. Lawnmaking laid the ground for today’s anti-immigrant nativism. From the conquerors’ point of view, the lawn rendered conquered foreign land reminiscent of the world they had left behind. From the point of view of the conquered, in California as elsewhere, lawns are one element of an extremely violent history of botanical settlement. We now turn to a range of scientific and activist responses to this history—visions of botanical decolonization and rethought relationships between people, plants, and place.

Native plant advocacy

California was a crucible for the emergence of native plant advocacy. This advocacy developed out of a broader concern about species decline and wilderness conservation, resulting from colonial economic expansion, the collection of knowledge about species previously unknown to Europeans, and a response to environmental degradation (Chernela, 2012, page 23). In California by the end of the 19th century, ecological systems were so compromised that settlers began to be affected as well, while development prompted a “widespread turning to nature” (Fox, 1985, pages 116–117) among the urban middle classes, inspired by figures like John Muir. In response to the environmental destruction and that new sensibility, a conservation movement emerged at the turn of the 19th and 20th centuries. State and federal governments stepped in to manage the use of natural resources. As an outcome of a series of administrative acts and of the discovery of nature, wilderness was invented as an object of protection (Anderson, 2005, pages 116–120; Blackburn and Anderson, 1993; Coates, 2006; Cronon, 1996b; Fox, 1985; Nash, 1967; Stewart, 2002).

While detailing the contemporary native plant movement lies beyond the scope of this paper, we emphasize in passing that, as is the case elsewhere, the native plants ‘movement’ in California is not an organized movement with clear leadership or a unified set of aims. Its protagonists are concerned with the destruction and disappearance of California native plants in the context of urban, industrial, and agricultural development. Population growth has accelerated the pace of habitat degradation, but the root of these challenges is as old as

the intrusion of Europeans into California. Thus, persons interested in native plants are often responding to botanical legacies of colonization.

The United States has never gone through decolonization. Therefore, the legacy of colonization lives on as well in the landscapes of our repose and agricultural plenitude. David Fross, founder of Native Sons nursery in California, summarized this view: “If we continue to remove all trace of nativity in our communities, we will perpetuate a legacy of conquest and oppression set in place by the first Europeans on this continent” (1997, page 2). Responses to these threats have included restoration and conservation, legislative initiatives, research and public education work, and gardening. Home gardening with native plants is of particular interest because it explicitly challenges the primacy of ‘the lawn’ as the iconic site of engagement with plants at the interface of private property and the public sphere, thereby domesticating conservation itself (Head and Muir, 2004).

Gardening with native plants (not to speak of the larger-scale restoration of native ecosystems) can involve removing introduced plants (Lowry, 1997) Such removals amount to a form of botanical decolonization—a radically different valence of Bacon’s “displanting”. One may do such displanting in one’s own garden, but approval from city officials or the boards of condominium associations and gated communities can be hard to obtain. This is important because the social ecosystem of native plants was never based on Western notions of private property, and certainly not on small, discrete plots of land. Elizabeth Povinelli has defined late liberalism as “the governance of social difference in the wake of the anticolonial movements and the emergence of new social movements” (2011, page ix). But one thing the case of native plants underscores is that liberal governance is never of difference alone. It is also the governance of similitude, and more precisely the governance of the grid of similitude and difference itself (Boellstorff, 2005). A key aspect of native plant advocacy has been to challenge this flattening of ecological difference.

Most native plant advocates know that there is no return to a precolonial environment. Such a charge is a distraction. The real issue is that we still live in a *colonial* environment. We live with the legacy of botanical colonization without even knowing it. This legacy is not mere background to social and political life.

Critical miscommunications

In this longest section of our paper, we draw on the critical historical analysis thus far to show how many current debates around native species misrepresent the issues at hand. These misrepresentations are particularly consequential when native plant advocacy is placed in the same conceptual horizon as anti-immigrant sentiment, despite the fact that “links between immigration restrictionists and environmentalists are hard to find” (Coates, 2006, page 163). Moreover, “the evidence that immigration restrictionists are aware of the influx of hazardous exotic species” is slim (page 164). Our analysis responds to calls for interdisciplinary research regarding native plants (Hulme, 2011, page 303). In particular, we heed the suggestions of those scientists who, anxious to avoid mixing scientific claims with value judgments and political priorities, suggest that researchers should explicate the values and priorities they hold while working to articulate the politics of ecological policies (Bryant, 1991; Davis, 2009, page 169; Hattingh, 2011; Robbins and Moore, 2013).

Perhaps no issue in conservation today “spawns as much emotional debate as the issue of managing non-native species” (Shackelford et al, 2013, page 55). This debate revolves around two interlinked foci, one scientific and the other political. Scientists who critique the concept of native plants often emphasize its political overtones and underlying assumptions (eg, Davis et al, 2011; Warren, 2007; for some responses, see Simberloff, 2003; Simberloff et al, 2011). The standpoint of such critique is the ideal of objectivity and neutrality of science (which for us is open to debate). The gist of the critique of native plants from that standpoint

is that because species distribution is dynamic, defining a plant as native depends on arbitrary decisions about time and space and therefore has no “fundamental biological meaning” (Thomas and Ohlemüller, 2010, pages 19–20). However, when invasion biologists and restoration ecologists seek to formulate solutions to perceived ecological problems, they enter the terrain where ‘arbitrary decisions’ are made. Thus, the subject of ecology (like the subject of all sciences) is structured by values, politics, and power (Hobbs and Richardson, 2011, page 65; cf Heatherington, 2001).

In contrast, many social scientists, historians, and cultural critics have put politics at the center of their critique not of native plants, but of their advocates (O’Brien, 2006; Pauly, 1996; Pollan, 1994; Raffles, 2011; Subramaniam, 2001). Here, advocacy of native plants tends to be assimilated to ‘nativism’, and calls to eliminate invasive species are presumed to replicate anti-immigrant political discourse. These debates “became a central conservation concern in the 1980s” (Shackelford et al, 2013, page 55; Simberloff, 2003, page 179; Robbins and Moore, 2013, page 4) and soon entered the public eye as well. A typical example of this appeared in *The New York Times* in 1994. In an article entitled “Against nativism”, Michael Pollan took issue with what he described as a state of affairs in which “the ‘natural garden’ movement has all but seized control of official garden taste in this country” (Pollan, 1994, page 52). He concluded

“it’s hard to believe that there is nothing more than scientific concern about invasive species behind the current fashion for natural gardening and native plants in America—not when our national politics are rife with anxieties about immigration and isolationist sentiment” (page 54).

Pollan was opposed to what he called nativism; we are as well. However, Pollan oversimplified when conflating nativism as a contemporary political ideology with concern for native plants. His argument hinged on the work of Gröning and Wolschke-Bulmahn, who in a series of publications (eg, 2003) discussed how the National Socialists advocated native gardening in line with their notions of race and *Volk*. But as many scholars have indicated (Simberloff, 2003, page 181; see also Hettinger, 2001), the attempt to link only one side of the native plant debate with this history ignores the colonial logic in which all sides of the debate are embedded:

“The rhetoric of Nazism presents a deep mystical connection between the land and the Germanic people, where the character of the latter is determined by the former. But, when new lands are occupied, the deep place connection idea is dispensed with and new lands are made appropriate by changing the flora to make it like the homeland” (Brook, 2003, page 230).

Nazi expansionism was predicated on ‘displanting’ peoples and native plants from vast regions of Eastern Europe. The Nazis’ attempted eradication of *Impatiens parviflora* from their own native forests (Gröning and Wolschke-Bulmahn, 1992) pales in comparison with their planned displanting in the conquered East, which was to be followed by planting crops to feed imperial Germans. There is a fundamental difference between planting and displanting in one’s own land and in conquered territories. No side of the debates over native plants and the Anthropocene stands outside history. Pollan reduced matters to apparent extremes: the ostensibly xenophobic and intolerant garden of horticultural nativists on the one hand versus, on the other, a “cosmopolitan garden” that “borrow[s] freely from all the world’s styles and floras to make something of history rather than try to escape it” (1994, page 55). This opposition is what led Pollan to conclude that “turning back the ecological clock to 1492 is a fool’s errand”.

But native plant advocates do not seek to “turn back the ecological clock to 1492”. Nor are advocates for botanical cosmopolitanism (like Pollan) external to colonial discourses of

conquest, settlement, and ‘displanting’. Indeed, these colonial discourses are conditions of possibility for that very botanical cosmopolitanism: “it is not species but sociobiological networks that are invasive ... invadable landscapes do tend to be heavily disturbed ... and to have simplified plant communities with relatively less native biodiversity” (Robbins, 2004, pages 140, 142). The idea of “borrowing freely from all the world’s styles and floras” erases the violent colonial encounter of displanting by replacing it with the figure of the undocumented immigrant. It has practical ramifications as well:

“Charging native plant enthusiasts and invasion biologists and managers with xenophobia has practical consequences. Large segments of the horticulture industry have fought more stringent regulation of importation of exotics ... the on-line catalog of J L Hudson, Seedman cites Gröning and Wolschke-Bulmahn in calling recent critics of exotics ‘eco-fascists’ and denies that introduced species cause any environmental or conservation problems: ‘To safeguard this free movement [of germplasm] we must begin to educate the public concerning the pseudoscientific foundations of the anti-exotics movement ... their origins in an ideology of race-hatred, and their agenda of total control’” (Simberloff, 2003, page 184).

The debate over native plants has continued unabated since Pollan’s 1994 article. Two examples from 2011 will show the issues at stake and how they connect to our broader discussion. Many of the themes reappear in an article entitled “Don’t judge species on their origins”, published in the journal *Nature*. While admitting that “some species introduced by humans have driven extinctions and undermined important ecological services such as clean water and timber resources” (Davis et al, 2011, page 153), the authors concluded there was a need “to focus much more on the functions of species, and much less on where they originated” (page 154). However, in a rejoinder 141 ecologists and other scientists objected to several aspects of the argument (Simberloff et al, 2011, page 36). In addition to noting that “most conservation biologists and ecologists do not oppose non-native species per se” and “do not ignore the benefits of introduced species”, the authors of the rejoinder emphasized that “Davis and colleagues downplay the severe impact of non-native species that may not manifest for decades after their introduction.” “Don’t judge species on their origins” is a misleading phrase; at issue is judging species not on their origins, but on their emplacement.

This debate in the pages of *Nature* was vociferous: “Davis had clearly hit a nerve” (Robbins and Moore, 2013, page 4). While the debate was dominated by biologists, social scientists participated in it as well. Also in 2011, the anthropologist Hugh Raffles published a defense of invasive plants entitled “Mother nature’s melting pot” in the *New York Times*—claiming that “despite cultural and political differences”, both the “anti-immigrant crusade” and the “native species movement” are “motivated ... by the fear of being swamped by aliens” (Raffles, 2011, page 12).

As social scientists, we believe that cultural domains are mutually constituting—so that, for instance, beliefs about religion shape beliefs about medicine—and that in the broadest sense, “people think and act at the *intersections* of discourses” (Yanagisako and Delaney, 1995, page 18, emphasis in original). But not every domain intersects in every instance, and the character of an ‘intersection’ is historically specific. It is a truism to claim that “like humans, plants and animals travel” (Raffles, 2011, page 12). What Raffles fails to address is crucial: how, exactly, do those plants travel? To treat the ‘remaking’ of surroundings as a neutral, benign category, severed from the colonial history of globalization, is problematic at best.

By conflating “environmentalists, conservationists, and gardeners” with “the likes of the Minutemen and the Tea Party” (2011, page 12), Raffles makes advocates for native plants maximally odious to liberal sentiments—but at a price. Not only does he divorce a concern

with invasive species from progressive politics; he also elides the role of settler colonialism and the logic of ‘displanting’ when he replaces the figure of the colonial settler with the figure of the undocumented immigrant. He goes so far as to end his article by referring to his oath-swearing ceremony to gain his US citizenship, where

“the presiding judge emphasized ... the ever-shifting diversity that immigrants like us bring to this country that keeps it dynamic and strong. These familiar words apply just as meaningfully to our nation’s non-native plants and animals” (2011, page 12).

This conclusion is predicated on an implicit division between colonist and immigrant; we doubt Raffles would view Columbus or Cortez as fellow ‘immigrants’. It is possible to account for the relations between plants and places in a manner that takes a more holistic historical perspective. Indeed, a logical extension of Raffles’s own argument would be to plant bright green lawns in the Arizona desert: why designate such lawns as ‘alien’ and deny their ‘dynamism’?

Thus, while a discourse of native plants could draw its structuring logic from a discourse of nativism, the degree or manner that might be the case with regard to the contemporary native plant movement is an empirical question. And here, Pollan and Raffles are on shaky ground. Environmental changes do not affect all people equally; they often reinforce social and political inequalities (Bryant, 1991). Perceptions of environmental harm and responses to perceived harm are shaped “in the context of a particular place through a political process that weighs economic concerns with cultural, religious, aesthetic, and other relevant beliefs, practices, and commitments that people who care about that place present” (Sagoff, 2009, page 81). But while xenophobic or racist motivations are certainly possible, one could also point to the many people involved in the native plant movement who do not share such hostility toward immigrants. For example, Gerda Isenberg, an icon of the California native plant movement, was a prominent civil rights activist known for her work on behalf of immigrant agricultural workers (Isenberg, 1991).

Rethinking native plants in the context of the Anthropocene therefore demands attention to colonial as well as evolutionary histories. In fact, soon after the publication of Pollan’s *New York Times* article and in the context of growing scholarly and public debate, the eminent evolutionary biologist Stephen Jay Gould sought to address this evolutionary history of the colonial garden. For Gould, the concept of native plants encompassed a “remarkable mixture of sound biology, invalid ideas, false extensions, ethical implications, and political usages both intended and unanticipated” (1998, page 3). In order to undercut political usages of biologically based claims, he noted that native plants are simply those “that first happened to gain and keep a footing” (1998, pages 7–8). Strikingly, however, Gould used this very argument from historical contingency to argue for native plants [which most of those who cite him in these debates do not mention (cf Head, 2012)]. Emphasizing how “well-established natives are adequately adapted, and we can observe their empirical balances with other local species” (1998, page 6), Gould concluded that:

“We cannot know what an exotic species will do—and many, and tragic, are the stories of exotics imported for a restricted and benevolent reason that then grew like kudzu to everyone’s disgust and detriment ... I confess that nothing strikes me as so vulgar or inappropriate as a bright green lawn in front of a mansion in the Arizona desert, sucking up precious water that already must be imported from elsewhere. A preference for natives does foster humility and does counteract human arrogance (always a good thing to do)—for such preference does provide the only sure protection against our profound ignorance of consequences when we import exotics” (pages 6–7).

Here, Gould countered the support for green lawns in the Arizona desert that we argue is a logical entailment of the position of Pollan and Raffles. For Raffles, the American

“natural landscape” is built the same way as the American nation, by “waves of immigrants” who “arrive unannounced, encounter unfamiliar conditions and proceed to remake each other and their surroundings”, and anyone who suggests otherwise “draws an arbitrary historical line based as much on aesthetics, morality and politics as on science” (2011, page 12). Democratic equality is projected onto the plant world, which becomes a melting pot rather than a colonial conquest. This view can be sustained only by erasing a historical break. That “arbitrary historical line” was not drawn by native plant advocates: it was made by violent colonization. European settlers consciously transformed “as much of the New World as possible into the Old World” (Crosby, 2003, page 66). Through the cultivation of plants and animals from Europe or other conquered parts of the world, they brought about a change comparable to the cataclysm of an asteroid impact (pages 186–187).

Conclusion: botanical decolonization

This paper originated in a sense of disquiet regarding the conflation of native plant and anti-immigrant discourses. We have thus tried to elucidate just what is at stake in native plant advocacy. The native plant movement is not about whether or not we should fight immigrants, or interfere with evolutionary processes. Rather, the question is how we should deal with the intended changes and unintended consequences of the Anthropocene, which become much clearer when its powerful links to European colonization are kept in mind. For the Americas—and in particular California, the case study for this paper—colonization represented the greatest biological revolution of the past millennium (Crosby, 2003, page 66) and, as such, effected an “evolutionary revolution” (Cox, 2004, page 5). In human terms, that revolution was genocide: “far and away, the most massive act of genocide in the history of the world” (Stannard, 1992, page xi). Since genocide of the first Americans “has never really ceased” (page xiii), this is also a question of contemporary politics. Accusing advocates of native plants of ‘nativism’ obscures this continuing legacy of genocide. Treating plants metaphorically only as immigrants, but never as settlers, paradoxically divides human from nature. It elides the forms of displanting—of botanical colonization—that were part and parcel of the colonial encounter.

Where we join native plant critics is in rejecting the idea that we could restore ecosystems “to an imagined pristine state” (Raffles, 2011, page 12). One expression of such an imagined pristine state is the idea of wilderness, an idea central to American settler colonialism (Nash, 1967). Before its discovery by Columbus, this ideology goes, America was a wilderness, untouched by human hands. In this ideology, aboriginal inhabitants disappear from American ‘prehistory’. They are marginalized as savages who had no significant impact on pre-Columbian ecosystems (Kay and Simmons, 2002, page xi), or styled as ecologically benign, noble savages, who were the original conservationists (Krech, 1999). At the time of the conquest of the Americas, such ideas justified the dispossession and extermination of aboriginal peoples; much later, in the 1950s, leading American anthropologists used these ideas against Indians in court hearings over Native American land claims (cf Lewis, 2002, pages 18–22).

Myths of the ‘noble eco-savage’ and the ‘ecological Indian’ have been shown to be inaccurate (Krech, 1999; Whelan, 1999). A growing body of research demonstrates that most native peoples actively managed and shaped their environment. Through controlled use of fire, hunting, cultivation, and building, aboriginal inhabitants shaped the environment into what it was at the time of early European visitation (Anderson, 2002, 2005; Burnham, 2000; Kay, 2002a; Keller and Turek, 1998; Neumann, 2002; Stewart, 2002; Williams, 2002). What Sylvia Hallam wrote of Australia is equally true of North America: unable to conceive of the aborigines as agents, the first colonizers mistook the managed anthropogenic environment they encountered for the land “as God made it” (1975, page vii).

Awareness of the fact that aboriginal peoples were an integral part of ecological systems is entering native plant advocacy. In the first edition of her pioneering book on gardening with native plants, Marjorie Schmidt wrote that the “original settlers and Mission Fathers learned some practical uses for native plants from the Indians” (Schmidt, 1980, page 5). However, the second edition, revised by Katherine Greenberg, emphasized how “indigenous people practiced tilling, sowing, weeding, pruning, burning, and selective harvesting to manage plant populations and shape their natural environments” (Schmidt and Greenberg, 2012, page 4).

The implications of this conceptual shift are immense. If native plants were an integral part of a cultivated landscape that was (and is) integral to Native American ecosystems, then advocacy of native plants in a manner aimed at return to a pristine nature is not only unrealistic but contradictory. For native plants have always depended on human cultivation. This makes a definition of native plants as independent of human agency untenable.

In taking a stand against botanical cosmopolitanism, an alternative worth consideration is particularism—we do not think one should grow cacti in the hills of northern England (the mirror image of lawns in Arizona). But this is not an essentialism. We seek to account for relationships between humans, plants, and places as emergent ecologies that persist over time even as they evolve. Thus, our analysis can work in dialogue with other kinds of

“place-based community research [that has] ... included the documentation of how place-based peoples observe, perceive, and respond to the local effects of global climate change” (Crate, 2011, page 179).

Such research now exists alongside research on “global negotiations and discourses” (page 182). We can extend this conversation by considering how native plants and movements in their defense provide conceptual tools for seeing all people and plants as place-based, so that what is at stake are different forms of emplacement in historical and political contexts. In such contexts, native plant advocacy, with all its faults, stands revealed as part of a much longer historical process of botanical decolonization. Native plant advocacy, in our view, thus represents one of many strategic locations for “convening new publics on this planet ... to enact a different mode of humanity” (Gibson-Graham, 2011, pages 1–2).

The assumption of a pristine pre-Columbian state of nature is not only “romantic drivel” (Gould, 1998, page 8); it serves to “hide the genocide that befell America’s original owners” (Kay, 2002b, page 260; cf Sluyter, 2001; Spence, 1999). But such ideas are a key part of American cosmology, and thus pervasive and slow to be countered. A discursive field such as the one constituted around ‘native plants’ shifts slowly and as a result of different kinds of labor. One place where relations among plants, humans, and power that were constituted in settler colonialism are being undermined is in the native plant movement. Needless to say, not all those involved self-consciously contribute to decolonizing our ecosystems. But the shifts are occurring nonetheless. The notion of the Anthropocene implies an ecology in which humans are immanent to the natural world. This immanence carries massive responsibilities. How, then, will we rethink the relationship between plants, humans, and place? Our future is quite literally at stake in our harvest to come.

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References

- Anderson M, 2002, "An ecological critique", in *Forgotten Fires: Native Americans and the Transient Wilderness* Eds O C Stewart, H Lewis, M Anderson (University of Oklahoma Press, Norman, OK) pp 37–64
- Anderson M, 2005 *Tending the Wild: Native American Knowledge and the Management of California Natural Resources* (University of California Press, Berkeley, CA)
- Bacon F, 1605 *The Twvoo Bookes of Francis Bacon: Of the Proficience and Aduancement of Learning, Diuine and Humane* (Printed for Henrie Tomes, London)
- Bacon F, 1620 *Novum Organum* (John Bill, London)
- Bacon F, 1625 *The Essayes or Covnsels: Civill and Morall* (Printed by John Haviland for Hanna Barret, London)
- Bacon F, 1638 *Opervm Moralivm et Civilivm Tomus* (Edward Griffin, London)
- Bacon F, 1657, "Certain considerations touching the plantation in Ireland: presented to His Majesty, 1606", in *Resuscitatio, or, Bringing into Publick Light Severall Pieces, of the Works, Civil, Historical, Philosophical, & Theological, hitherto Sleeping: of the Right Honourable Francis Bacon, Baron of Verulam, Viscount Saint Alban* Ed. W Rawley (Printed by Sarah Griffin, for William Lee, London) pp 255–264
- Bacon F, 1859 "Valerius terminus: of the interpretation of Nature", in *The Works of Francis Bacon, Volume 3* Eds J Spedding, R Ellis, D Denon (Longmans, London) pp 215–252
- Bacon F, 1868 "Considerations touching the Queen's service in Ireland", in *The Letters and the Life of Francis Bacon, Including All His Occasional Works, Volume 3* Ed. J Spedding (Longmans, Green, Reader, and Dyer, London) pp 46–51
- Bacon F, 1872, "A letter of advice, written by Sir Francis Bacon to the Duke of Buckingham, when he became favourite to King James", in *The Letters and the Life of Francis Bacon, Including All His Occasional Works, Volume 6* Ed. J Spedding (Longmans, Green, Reader, and Dyer, London) pp 13–26
- Bacon F, 1974 "New Atlantis", in *Francis Bacon, The Advancement of Learning and New Atlantis* Ed. A Johnston (Clarendon Press, Oxford) pp 213–247
- Banham R, 1971 *Los Angeles: The Architecture of Four Ecologies* (Harper and Row, New York)
- Blackman T, Anderson K, 1993, "Introduction: managing the domesticated environment", in *Before the Wilderness: Environmental Management by Native Californians* Eds T Blackburn, K Anderson (Ballena Press, Menlo Park, CA) pp 15–25
- Boellstorff T, 2005 *The Gay Archipelago: Sexuality and Nation in Indonesia* (Princeton University Press, Princeton, NJ)
- Bormann F, Herbert, Balmori D, Geballe G, Vewrnegaard L, 1993 *Redesigning the American Lawn: A Search for Environmental Harmony* (Yale University Press, New Haven, CT)
- Bornstein C, Fross D, O'Brien B, 2005 *California Native Plants for the Garden* (Cachuma Press, Los Olivios, CA)
- Brook I, 2003, "Making here like there: place attachment, displacement and the urge to garden" *Ethics, Place and Environment* 6 227–234
- Bryant R, 1991, "Putting politics first: the political ecology of sustainable development" *Global Ecology and Biogeography Letters* 1 164–166
- Burnham P, 2000 *Indian Country, God's Country: Native Americans and the National Parks* (Island Press, Washington, DC)
- Casid J, 2005 *Sowing Empire: Landscape and Colonization* (University of Minnesota Press, Minneapolis, MN)
- Castillo E, 1998 *Short Overview of California Indian History* <http://ceres.ca.gov/nahc/calindian.html>
- Chernela J, 2012, "A species apart: ideology, science, and the end of life", in *The Anthropology of Extinction: Essays on Culture and Species Death* Ed. G Sodikoff (Indiana University Press, Bloomington, IN) pp 18–38
- Chew M, 2006 *Ending with Elton: Preludes to Invasion Biology* PhD dissertation, Arizona State University, Tempe, AZ
- Chew M, Hamilton A, 2011, "The rise and fall of biotic nativeness: a historical perspective", in *Fifty Years of Invasion Ecology: The Legacy of Charles Elton* Ed. D Richardson (Wiley-Blackwell, Oxford) pp 35–48

-
- Coates P, 2006 *American Perceptions of Immigrant and Native Species: Strangers on the Land* (University of California Press, Berkeley, CA)
- Colautti R, MacIsaac H, 2004, "A neutral terminology to define 'invasive' species" *Diversity and Distributions* **10** 135–141
- Cosgrove D, 1998 *Social Formation and Symbolic Landscape* (University of Wisconsin Press, Madison, WI)
- Cox G, 2004 *Alien Species and Evolution: The Evolutionary Ecology of Exotic Plants, Animals, Microbes, and Interacting Native Species* (Island Press, Washington, DC)
- Crate S, 2011, "Climate and culture: anthropology in the era of contemporary climate change" *Annual Review of Anthropology* **40** 175–194
- Cronon W, 1996a, "Introduction: in search of nature", in *Uncommon Ground: Rethinking the Human Place in Nature* Ed. W Cronon (W W Norton, New York) pp 23–56
- Cronon W, 1996b, "The trouble with wilderness; or, getting back to the wrong culture", in *Uncommon Ground: Rethinking the Human Place in Nature* Ed. W Cronon (W W Norton, New York) pp 69–90
- Crosby A, 2003 *The Columbian Exchange: Biological and Cultural Consequences of 1492, 30th Anniversary Edition* (Praeger, Westport, CT)
- Crosby A, 2004 *Ecological Imperialism: The Biological Expansion of Europe, 900–1900* (Cambridge University Press, Cambridge)
- Crutzen P, Steffen W, 2003, "How long have we been in the Anthropocene era? An editorial comment" *Climatic Change* **61** 251–257
- Dalby S, 2013, "Biopolitics and climate security in the Anthropocene" *Geoforum* **49** 184–192
- Dasmann R, 1965 *The Destruction of California* (Macmillan, New York)
- Davis M, 2009 *Invasion Biology* (Oxford University Press, Oxford)
- Davis M, Chew M, Hobbs R, et al, 2011, "Don't judge species on their origins" *Nature* **474** 153–154
- Doughty R, 1978, "The English sparrow in the American landscape: a paradox in nineteenth century wildlife conservation", RP 19, School of Geography, University of Oxford
- Downing A, 1853 *A Treatise on the Theory and Practice of Landscape Gardening, Adapted to North America* (George P Putnam, New York)
- Drayton R, 2000 *Nature's Government: Science, Imperial Britain, and the 'Improvement' of the World* (Yale University Press, New Haven, CT)
- Dukes J, 2011a, "Responses of invasive species to a changing climate and atmosphere", in *Fifty Years of Invasion Ecology: The Legacy of Charles Elton* Ed. D Richardson (Wiley-Blackwell, Oxford) pp 345–358
- Dukes J, 2011b, "Climate change", in *Encyclopedia of Biological Invasions* Eds D Simberloff, M Rejmánek (University of California Press, Berkeley, CA) pp 113–117
- Fiege M, 1999 *Irrigated Eden: The Making of an Agricultural Landscape in the American West* (University of Washington Press, Seattle, WA)
- Foucault M, 1978 *The History of Sexuality, Volume 1: An Introduction* (Vintage Books, New York)
- Fox S R, 1985 *The American Conservation Movement: John Muir and His Legacy* (University of Wisconsin Press, Madison, WI)
- Fross D, 1997, "Finding home, the evolving native garden", in *Symposium Proceedings: Out of the Wild and Into the Garden II, California's Horticulturally Significant Plants* Eds B O'Brien, L Fuentes, L Newcombe (Rancho Santa Ana Botanic Garden, Claremont, California, CA) pp 1–5
- Gibson-Graham J K, 2011, "A feminist project of belonging for the Anthropocene" *Gender, Place and Culture* **18** 1–21
- Gould S J, 1998, "An evolutionary perspective on strengths, fallacies, and confusions in the concept of native plants" *Arnoldia* **58** 3–10
- Gröning G, Wolschke-Bulmahn J, 1992, "Some notes on the mania for native plants in Germany" *Landscape Journal* **11** 116–126
- Gröning G, Wolschke-Bulmahn J, 2003, "The native plant enthusiasm: ecological panacea or xenophobia?" *Landscape Research* **28** 75–88
- Grove R, 1995 *Green Imperialism: Colonial Expansion, Tropical Island Edens, and the Origins of Environmentalism, 1600–1860* (Cambridge University Press, Cambridge)

-
- Hall C, 2012 *Macaulay and Son: Architects of Imperial Britain* (Yale University Press, New Haven, CT)
- Hallam S, 1975 *Fire and Hearth: A Study of Aboriginal Usage and European Usurpation in South-Western Australia* (Australian Institute of Aboriginal Studies, Canberra)
- Hattingh J, 2011, "Conceptual clarity, scientific rigour and 'the stories we are': engaging with two challenges to the objectivity of invasion biology", in *Fifty Years of Invasion Ecology: The Legacy of Charles Elton* Ed. D Richardson (Wiley-Blackwell, Oxford) pp 359–376
- Head L, 2012, "Decentring 1788: beyond biotic nativeness" *Geographical Research* **50** 166–178
- Head L, Muir P, 2004, "Nativeness, invasiveness, and nation in Australian plants" *The Geographical Review* **94** 199–217
- Heatherington T, 2001, "Ecology, alterity and resistance in Sardinia" *Social Anthropology* **9** 289–306
- Hettinger N, 2001, "Exotic species, naturalisation, and biological nativism" *Environmental Values* **10** 193–224
- Hobbs R, Richardson D, 2011, "Invasion ecology and restoration ecology: parallel evolution in two fields of endeavour", in *Fifty Years of Invasion Ecology: The Legacy of Charles Elton* Ed. D Richardson (Wiley-Blackwell, Oxford) pp 61–70
- Hobbs R, Arico S, Aronson J, Baron J, Bridgewater P, Cramer V, Epstein P, Ewel J, Klink C, Lugo A, Norton D, Ojima D, Richardson D, Sanderson E, Valladares F, Vilà M, Zamora R, Zobel M, 2006, "Novel ecosystems: theoretical and management aspects of the new ecological world order" *Global Ecology and Biogeography* **15** 1–7
- Hobbs R, Higgs E, Harris J, 2009, "Novel ecosystems: implications for conservation and restoration" *Trends in Ecology and Evolution* **24** 599–605
- Hulme P, 2011, "Biosecurity: the changing face of invasion biology", in *Fifty Years of Invasion Ecology: The Legacy of Charles Elton* Ed. D Richardson (Wiley-Blackwell, Oxford) pp 301–314
- Irving S, 2006, "'In a pure soil': colonial anxieties in the work of Francis Bacon" *History of European Ideas* **32** 249–262
- Iserberg G, 1991, "California native plants nurserywoman, civil rights activist, and humanitarian: an oral history conducted in 1990, 1991 by Suzanne Riess", Regional Oral History Office, The Bancroft Library, University of California, Berkeley, CA
- Jenkins V, 1994 *The Lawn: A History of an American Obsession* (Smithsonian Institution Press, Washington, DC)
- Kay C, 2002a, "Are ecosystems structured from the top-down or bottom-up? A new look at an old debate", in *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature* Eds C Kay, R Simmons (University of Utah Press, Salt Lake City, UT) pp 215–237
- Kay C, 2002b, "Afterword: false gods, ecological myths, and biological reality", in *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature* Eds C E Kay, R T Simmons (University of Utah Press, Salt Lake City, UT) pp 238–261
- Kay C, Simmons R 2002, "Preface", in *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature* Eds C E Kay, R T Simmons (University of Utah Press, Salt Lake City, UT) pp xi–xix
- Keller R, Turek M, 1998 *American Indians and National Parks* (University of Arizona Press, Tucson, AZ)
- King T, 1851 *The Railroad Jubilee: Two Discourses Delivered in Hollis-Street Meeting-House, Sunday, Sept. 21, 1851* (Benjamin H Greene, Boston, MA)
- Krech S, 1999 *The Ecological Indian: Myth and History* (W W Norton, New York)
- Kroeber A, 1925 *Handbook of the Indians of California* (Government Printing Office, Washington, DC)
- Lewis H, 2002, "An anthropological critique", in *Forgotten Fires: Native Americans and the Transient Wilderness* Eds O C Stewart, H Lewis, M Anderson (University of Oklahoma Press, Norman, OK) pp 17–36
- Lowry J L, 1997, "Native plants for coastal gardens", in *Symposium Proceedings: Out of the Wild and Into the Garden II. California's Horticulturally Significant Plants* Eds B O'Brien, L Fuentes, L Newcome (Rancho Santa Ana Botanic Garden, Claremont, CA) pp 104–111
- Macaulay T, 1866 *Speeches by the Rt. Hon. Thomas Babington Macaulay* (Redfield, New York)

-
- Macaulay T, 1976 *The Letters of Thomas Babington Macaulay: Volume III, January 1834–August 1841* Ed. T Pinney (Cambridge University Press, Cambridge)
- Maley W, 1995 “‘Another Britain’?: Bacon’s *Certain Considerations Touching the Plantation in Ireland (1609)*” *Prose Studies* **18** 1–18
- Malherbe M, 1993, “L’interprétation de la nature chez Francis Bacon”, in *L’interpretazione nei secoli XVI e XVII: Atti del Convegno internazionale di studi, Milano (18–20 novembre 1991), Parigi (6–8 dicembre 1991)* (Franco Angeli, Milano) pp 297–318
- Mamdani M, 2012 *Define and Rule: Native as Political Identity* (Harvard University Press, Cambridge, MA)
- Marris E, 2011 *Rambunctious Garden: Saving Nature in a Post-wild World* (Bloomsbury, New York)
- Merchant C, 1996, “Reinventing Eden: Western culture as a recovery narrative”, in *Uncommon Ground: Rethinking the Human Place in Nature* Ed. W Cronon (W W Norton, New York) pp 132–162
- Nash R, 1967 *Wilderness and the American Mind* (Yale University Press, New Haven, CT)
- Neumann T, 2002, “The role of prehistoric peoples in shaping ecosystems in the eastern United States: implications for restoration ecology and wilderness management”, in *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature* Eds C E Kay, R T Simmons (University of Utah Press, Salt Lake City, UT) pp 141–178
- O’Brien W, 2006, “Exotic invasions, nativism, and ecological restoration: on the persistence of a contentious debate” *Ethics, Place and Environment* **9** 63–77
- O’Malley T, 1999, “The lawn in early American landscape and garden design”, in *The American Lawn* Ed. G Teyssot (Princeton Architectural Press, Princeton, NJ) pp 64–87
- Olwig K, 2002 *Landscape, Nature, and the Body Politic: From Britain’s Renaissance to America’s New World* (University of Wisconsin Press, Madison, WI)
- Pauly P, 1996, “The beauty and menace of the Japanese cherry trees: conflicting visions of American ecological independence” *Isis* **87** 51–73
- Pocock J, 1988, “States, republics, and empires: the American founding in the early-modern perspective”, in *Conceptual Change and the Constitution* Ed. T Ball, J Pocock (University Press of Kansas, Lawrence, KS)
- Pollan M, 1994, “Against nativism” *New York Times Magazine* 15 May, pp 52–55
- Ponte A, 1999, “Professional pastoral: the writing on the lawn, 1850–1950”, in *The American Lawn* Ed. G Teyssot (Princeton Architectural Press, New York) pp 89–115
- Povinelli E, 2011 *Economies of Abandonment: Social Belonging and Endurance in Late Liberalism* (Duke University Press, Durham, NC)
- Quinn D B, 1945, “Sir Thomas Smith (1513–1577) and the beginnings of English colonial theory” *Proceedings of the American Philosophical Society* **89** 534–560
- Raffles H, 2011, “Mother Nature’s melting pot” *The New York Times* April 2, page 12
- Reisner M, 1993 *Cadillac Desert: The American West and Its Disappearing Water* (Penguin, Harmondsworth, Middx)
- Richardson D, Pyšek P, Carlton J, 2011, “A compendium of essential concepts and terminology in invasive ecology”, in *Fifty Years of Invasion Ecology: The Legacy of Charles Elton* Ed. D Richardson (Wiley-Blackwell, Oxford) pp 409–420
- Robbins P, 2004, “Comparing invasive networks: cultural and political biographies of invasive species” *The Geographical Review* **94** 139–156
- Robbins P, 2007 *Lawn People: How Grasses, Weeds, and Chemicals Make Us Who We Are* (Temple University Press, Philadelphia, PA)
- Robbins P, Moore S, 2013, “Ecological anxiety disorder: diagnosing the politics of the anthropocene” *Cultural Geographies* **20** 3–19
- Sagoff M, 2009, “Environmental harm: political not ideological” *Journal of Agricultural and Environmental Ethics* **22** 81–88
- Sayre N, 2012, “The politics of the Anthropogenic” *Annual Review of Anthropology* **41** 57–70
- Schmidt M, 1980 *Growing California Native Plants* (University of California Press, Berkeley, CA)
- Schmidt M, Greenberg K, 2012 *Growing California Native Plants* 2nd edition (University of California Press, Berkeley, CA)

- Shackelford N, Hobbs R, Heller N, Hallett L, Seastedt T, 2013, "Finding a middle-ground: the native/non-native debate" *Biological Conservation* **158** 55–62
- Simberloff D, 2003, "Confronting introduced species: a form of xenophobia?" *Biological Invasions* **5** 179–192
- Simberloff D et al, 2011, "Non-natives: 141 scientists object" *Nature* **475** 36
- Sluyter A, 2001, "Colonialism and landscape in the Americas: material/conceptual transformations and continuing consequences" *Annals of the Association of American Geographers* **91** 410–428
- Smith J, 1624 *The Generall Historie of Virginia, New-England, and the Summer Isles* (Michael Sparkes, London)
- Smith N, 1984 *Uneven Development: Nature, Capital and the Production of Space* (Basil Blackwell, Oxford)
- Speiser E, 1964 *Genesis* (Doubleday, Garden City, New York)
- Spence M, 1999 *Dispossessing the Wilderness: Indian Removal and the Making of the National Parks* (Oxford University Press, Oxford)
- Stannard D, 1992 *American Holocaust: Columbus and the Conquest of the New World* (Oxford University Press, Oxford)
- Stewart O, 2002, "The effects of burning of grasslands and forests by aborigines the world over", in *Forgotten Fires: Native Americans and the Transient Wilderness* Eds H Lewis, M Anderson (University of Oklahoma Press, Norman, OK) pp 65–312
- Subramaniam B, 2001, "The aliens have landed! Reflections on the rhetoric of biological invasion" *Meridians* **2** 26–40
- Thomas C, Ohlemüller R, 2010, "Climate change and species' distributions: an alien future?", in *Bioinvasions and Globalization: Ecology, Economics, Management, and Policy* Eds C Perrings, H Mooney, M Williamson (Oxford University Press, Oxford) pp 19–29
- Thuiller W, Richardson D, Midgley G, 2007, "Will climate change promote alien plant invasions?", in *Biological Invasions* Ed. W Nentwig (Springer, Berlin) pp 197–211
- Trafzer C, Hyer J (Eds), 1999 *Exterminate Them: Written Accounts of the Murder, Rape, and Slavery of Native Americans During the California Gold Rush, 1848–1868* (Michigan State University Press, East Lansing, MI)
- Vert F, 1986, "Commentaire", in *Le Valerius Terminus (de l'interprétation de la nature)* by F Bacon, translated by F Vert, preface by M Le Doeuff (Mériidiens Klincksieck, Paris) pp 69–124
- Wakefield E, 1834 *England and America: A Comparison of the Social and Political State of Both Nations* (Harper and Brothers, New York)
- Wakefield E, 1849 *A View of the Art of Colonization, with Present References to the British Empire; in Letters between a Statesman and a Colonist* (John W Parker, London)
- Warren C, 2007, "Perspectives on the 'alien' versus 'native' species debate: a critique of concepts, language and practice" *Progress in Human Geography* **31** 427–446
- Whelan R, 1999 *Wild in the Woods: The Myth of the Noble Eco-savage* (St Edmundsbury Press, Bury St Edmunds, Suffolk)
- Williams G, 2002, "Aboriginal use of fire: are there any 'natural' plant communities?", in *Wilderness and Political Ecology: Aboriginal Influences and the Original State of Nature* Eds C E Kay, R T Simmons (University of Utah Press, Salt Lake City, UT) pp 179–214
- Wilson J, Dormontt E, Parentis P, Lowe A, Richardson D, 2009, "Biogeographic concepts define invasion biology" *Trends in Ecology and Evolution* **24** 586
- Worster D, 1985 *Rivers of Empire: Water, Aridity, and the Growth of American West* (Pantheon, New York)
- Yanagisako S, Delaney C, 1995, "Naturalizing power", in *Naturalizing Power: Essays in Feminist Cultural Analysis* Eds S Yanagisako, C Delaney (Routledge, New York) pp 1–22
- Yusoff K, 2013, "Geologic life: prehistory, climate, futures in the Anthropocene" *Environment and Planning D: Society and Space* **31** 779–795