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Cacogenic Cartographies: Space and Place in the Eugenic Family Study

RY MARCATTILIO-MCCRACKEN
Oklahoma State University
Stillwater, OK
USA
E-mail: rymarcatt@gmail.com

Abstract. Though only one component product of the larger eugenics movement, the eugenic family study proved to be, by far, its most potent ideological tool. The Kallikak Family, for instance, went through eight editions between 1913 and 1931. This essay argues that the current scholarship has missed important ways that the architects of the eugenic family studies theorized and described the subjects of their investigation. Using one sparsely interrogated work (sociologist Frank Wilson Blackmar's "The Smoky Pilgrims") and one previously unknown eugenic family study (biologist Frank Gary Brooks' untitled analysis of the flood-zone Oklahomans) from the Southern Plains, this essay aims to introduce "environment" as a schema that allows for how the subjects of the eugenic family study were conceptualized with respect to their surroundings. Geospatially and environmentally relevant constructions of scientific knowledge were central to the project of eugenics during its formative years, but remain largely and conspicuously absent from the critical literature which engages this project to separate the fit from the unfit in American society. The dysgenic constituted a unique human geography, giving us significant insight into how concatenations of jurisprudence as well as cultural and social worth were tied to the land.

Keywords: Eugenics, Family studies, Environment, Heredity, Human geography

Introduction

In her seminal book *White Trash*, Nichole Rafter shares field worker Elizabeth Kite's impressions, recorded in her research notes, of the two diverging lines of the Kallikak family in Vineland, New Jersey:

> Descriptions of the good branch are marked by spaciousness and light: "broad acres," "lordly river," "lifting… energies to an ever

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> broadening outlook,'' ''pioneers in the West''… Descriptions of the bad branch, on the other hand, are full of images of darkness, enclosure, descent: ''low huts falling apart,'' ''uncleared ground,'' ''waterlogged humanity that settles at the bottom,'' ''crude hut deep in the mountain thicket.'' These imagistic polarities reinforce the underlying contrast of good and bad (Rafter, 1988, p. 75).

This dichotomy, noted by Rafter, will surprise no one familiar with the history of American eugenics, for it, or descriptive language like it, litters the evolution of the movement. Evocative language, laden with sometimes laboriously constructed similes and metaphors, seeks to impress upon readers the alternating paeanic and Jeremiadic significance of such lineages, scattered among the greater body of the majestic American tree of life. And yet, noting its presence is where Rafter and others almost always stop. Geospatially and environmentally relevant constructions of scientific knowledge were central to the project of eugenics during its formative years, but remain largely and conspicuously absent from the critical literature which engages this campaign to separate the fit from the unfit in American society.

Generated primarily during the 1910s and 1920s (though their earliest incarnations can be traced back to the 1870s and 1880s), the eugenic family studies were the results of field research oftentimes conducted by young women working directly for the Eugenics Records Office out of Cold Spring Harbor under Charles Davenport (Bix, 1997; Clauser-Roemer, 2000). Researchers were sent out into the rural pockets of the country to find tribes of the destitute, the criminal, and the feebleminded. Once found, researchers sought to pinpoint the hereditary basis for the current economic and social place of such family tribes and trace that backward to see how much it had cost the state in social welfare, rehabilitation, and incarceration.

The resulting family studies—long reports detailing the outcome of interviews and genealogical research—were most often either submitted to state review boards or, in a couple of cases, published via philanthropists like John D. Rockefeller. Usually, as in the instances of the best-known case studies of those families who came to be known as the Jukes, the Kallikaks, the Hill Folk, and the Pineys, these texts (oftentimes written by academics, though sometimes not) presented to readers a complicated genealogical tree of indigence, criminality, dull-wittedness, and sexual promiscuity which had and would continue to cost the local and state welfare boards tens of thousands of dollars over the lifetime of that particular ''cacogenic'' tribe in terms of housing, reha-

bilitation, medical treatment, criminal activity, and lost wages.[1] And indeed, the family studies served as powerful artifacts of a cultural ethos while coetaneously generating blood markers which were indelibly seared onto heredities. They promised to scientists and society alike to look to the past performance of familial genomes as a reliable indicator of both the quality of the present and potentiality of the future. In addition to generating powerful vocabulary and a persuasive scientistic framework which drove American eugenics in the first quarter of the twentieth century, the eugenic family studies acted in a mutually constitutive way for a new generation of social scientists. Not only did they provide an access point to young female field workers seeking entrance into the aforementioned field, but the studies were read, cited, and built upon by prominent eugenicists in their efforts to maximize reproduction of the fit and reduce procreation of those who they deemed would precipitate racial degeneration. That the studies also simultaneously legitimized new fields of scholarly investigation in the social sciences while implicitly endorsing a merit-based hierarchy was no happy accident, for it privileged the selfsame generation of new academics supporting themselves solely through the production of knowledge (Rafter, 1988, pp. 1–31).

So influential were they that the studies continued to be potent products of the eugenics movement long after it became clear that not only were they not particularly scientific in origination, they were also not particularly faithful in describing either the past experience nor potential future trajectory of a biologically determined set of lives.[2] But the current scholarship in the history of eugenics has long moved past the family study, assured that it has accounted for their full import and

[1] Cacogenics refers to the accretion of genes that are considered hereditarily disadvantageous for a species. It first appeared in *The New Sydenham Society's Lexicon of Medicine and the Allied Sciences*, and was used in opposition to "eugenesis" by Augustus Henry Keane in 1895. It was a favored term of the early eugenics movement, supplanted eventually by "dysgenics" (still in use in modern genetics) instead.

[2] J. David Smith in *Minds Made Feeble*, for instance, shows just how laden with inaccuracy H.H. Goddard's *The Kallikak Family* was with respect to the family named therein. He reconstructs with admirable detail descendants on both sides of Martin Kallikak to show that they were not particularly given to crime or profligacy nor susceptible to pauperism or alcoholism.

meaning. This essay suggests there remains more to learn—that the family studies still have something left to teach us about space, place, and the geography of human worth.

Geographies of Human Worth, Health, and Disease

The body of literature on the American experience has seen a number of excellent contributions over the last two decades which serve to remind us the extent to which the history of the United States is bound up with the environmental. Mark Fiege's *The Republic of Nature* (University of Washington, 2012) remains only one of the most recent, though sporting praise from both William Cronon and Richard White it stands somewhat apart in distinction. The appeal of such treatments is the simplicity with which they are able to show the human narrative to be one rooted in the demographic, the topographical, the geological, the biological, and the ecological, where the cycles that govern nature equally govern human lives, including work and play, love and hate, life and death. They compel us to notice how those forces that shape (equally and dialogically) the countryside and the city also profoundly influence human culture, social relations, reproduction, industry, politics, conflict, and scientific and technological inquiry. They persuasively show us how human fortunes—individual and collective—wax and wane interchangeably according to the degree with which nature is transported, transformed, and traversed.

Certainly the larger intersections between the history of eugenics and environmental history have seen treatment in places, though these have mostly tended to focus on the relatively straightforward connections between Malthus' and Darwin's theories (Allen, 1991, 2012; Chase, 1997; Connelly, 2008; Hoff, 2012; Linner, 2003; Pearce, 2010; Robertson, 2012a). Less common are studies which have interrogated the human geography of eugenics—that is, attempts to draw nuanced historical connections between the land, ontologies of heredity, and notions of health; none of these explore the family studies in any sustained way (Mitman, 2005; Robertson, 2012b; Smith, 1999). This is something of a surprise, especially given the close intellectual, disciplinary, and organizational linkages both within (the mental worlds of) and between the multifarious proponents of eugenics during the first

half of the twentieth century, and the often clear vocabularies which traversed the short distance between them.[3]

For histories of eugenics there remain lay fundamental questions that only environmentally and geographically oriented approaches can answer. For its is unmistakably a history of racialization and spatialization dating back to the early nineteenth century—long before Galton published his study in 1883. Cultural geographers point to "efforts by Kant and other Enlightenment thinkers both to construct 'space' and to encode its particular public use with ideological designs"—namely, colonialism (first) and (then) imperialism (Kobayashi, 2003, p. 552). The appearance of Darwin, then Spencer, then Galton, and their subsequent arrival on American shores in 1910 via Charles Davenport at Cold Spring Harbor birthed a parallel project rooted in space and race; this one looked inward rather than outward, utilizing the technocratic systems-approach of Progressivism to code and hopefully eliminate deficient stocks from the population.

This is not to say that either the family studies themselves or the preoccupation with environment that their authors demonstrated in their thinking and writing has been entirely ignored by historians of biology, genetics, and psychology. "Environment" has of course long been a watchword of the eugenics movement, perhaps to a degree confusing to the contemporary lay reader. As an explanatory mechanism for bad heredity it played a prominent role from the mid-nineteenth century onward, and indeed those concerned about the ill effects visited upon society by its seemingly poorly endowed members spent a great deal of time and spilled a great deal of ink parsing the difference between hereditary and environmental influences in the decades leading up to and immediately following the turn of the century. And so, of

[3] The relationship between eugenics, conservation (first) and (later) environmentalism, and population control and might not be immediately apparent to the contemporary lay reader, but in terms of persons, places, and ideas, the interconnections would have been obvious to all. Aldo Leopold—easily the most influential figure to all with his famous Kaibab plateau case study—served for Malthusians and environmental ecologists alike as the bedrock for their arguments about unsustainable consumption. Time and again, issues of soil depletion and erosion, hard limits to population growth, and the politics of contraception surfaced in the public and written polemics of these two groups during the twentieth century, and inevitably (partly because for many of these individuals their causes and consequences were intertwined) led to arguments about the type of individual who should live in this more carefully managed world. For more, see Allen, "Old Wine in New Bottles," Robertson, *The Malthusian Moment,* 8, 51, 55, 81 and Jonathan Spiro, *Defending the Master Race: Conservation, Eugenics, and the Legacy of Madison Grant* (Burlington, VT: University Press of New England, 2009): 56–63, 99, 109, 136–66.

course, historians of science and medicine have likewise long engaged with environment as an analytical framework with deep and persistent roots in the history of American eugenics.

But locating understandings and deployments of "environment" in the history of eugenics is difficult, because both rhetorically and intellectually it took many forms. Space and place have been hard to see in the family studies in part because eugenics itself constituted an ever-shifting, often seemingly contradictory map of motivations which drew people in from otherwise disparate academic and political arenas. To some extent, too, the recent literature has been preoccupied with other questions: chronological, methodological, social and culture, epistemic, etc. Complicating this—though certainly understandably—is that such narratives (general histories or not) tend to begin with the establishment of the Eugenics Records Office in 1910 and then look briefly backwards to Dugdale's *The Jukes* (1877) and Galton's *Hereditary Genius* (1869) and work in the 1880s before continuing forward. These often remain the two primary (and likewise briefly treated) stops in histories which are much more concerned with what comes after, whether it is tracing advances in genetic science and the slow primacy of Mendelian explanations to the 1920s and beyond, the abandonment of the movement by mainline geneticists in the late 1920s and 1930s, the shift to reform eugenics in the 1940s, the arrival of modern genetic medicine and counseling in 1950s and beyond, or reproductive rights in the 1960s and 1970s (Caron, 2008; Comfort, 2012; Kluchin, 2011; Lombardo, 2008; 2011; Stern, 2012). Thus, the family studies often get treated in the context of what comes after rather than what came before. This is not to impugn the latter in any way; we must judge a study based on what its author sets out to do, not what (years later) we imagine it might have done. But one of the consequences of this tendency, as we will see in a moment, is that space and place have been obscured.

Where can we locate the latter, then, if at all? The first wave of writing on eugenics treated the family studies at greater length and do engage with space and place to some degree. This is perhaps unsurprising, given the early potency of the family studies in popularizing the movement and catapulting it from the purview of reform, social welfare and special education to one considered of importance to a vast array of public programs and academic research agendas. These treatments often spend considerable time with the family studies. But they, too, remain focused on other tasks. In telling the story of eugenics as one during the period 1877–1900 dominated by "soft" hereditarianism, they often do introduce space and place. The first architects of family studies fre-

quently saw undesirable traits as hereditary but also learned and acquired, and so their concomitant answer was sweeping social reform. Only later (probably beginning with H.H. Goddard in 1912) did they and other eugenicists (like Davenport, Kellogg, and others) move towards a ''hard'' hereditarianism which stemmed from the work of Weissman and Mendel, eschewing non-hereditary factors and thus coming to the commonsensical conclusion that restricted reproductive rights and forced sterilization were the only answer (Paul, 1995; Kevles, 1985; Haller, 1983; Kaye, 1985). The result is that ''environment'' is almost monolithically treated in the form of the social relations which beget the cacogenic tribes across the United States.

J. David Smith's *Minds Made Feeble* remains the only (to the author's knowledge) book-length academic treatments of a family study as the sole focus, centering on Goddard's hereditary analysis of the Kallikak family. It remains an excellent example for how environment as an analytical schema it is given no critical consideration, despite the plethora of evidence that *The Kallikak Family* offered and the clearly powerful ways that space and place figured for both Goddard and Kite. They are many, provocative, and varied: Goddard, for instance, wrote that he thought that the clan created the physical environment around them, causing slums to spring up in the city; Deborah Kallikak was repeatedly remarked upon by staff at Vineland to seem to be especially at home outside because of her ''love of nature''; and Kite discovered one branch that lived ''at the edge of town,'' a distance which served to fill many townsfolk with relief (Smith, 1985, pp. 18, 30, 55). The Kallikaks are likewise described as immanent to their surroundings. In response to Kite's ''Pine Barrens'' article in the early 1920s, the governor of New Jersey visited the region, became alarmed at what he saw, and recommended to the state legislature that segregation of the district were the Pineys lived was in the best interest of the state—as if the qualities of the Piney's were fixed in place (Smith, 1985, p. 57). All of the latter textual elements did not slip by Smith—in fact the opposite, for they all appear in *Minds Made Feeble* and serve as occasion to discuss multifarious other historical, psychological, or cultural aspects of the study.

And so current explorations and interrogations of ''environment'' as it appears in most histories of eugenics which intersect with the family studies remain critically disengaged from the schema. It persists in the literature at once and the same time as the social and cultural surroundings (poor education, lack of willpower, crime, immorality and sin) as well as the degenerate physical surroundings (crowded urban

centers, unsanitary living conditions, unhealthy workplaces, and congenital conditions brought on by the experiences, thoughts, and behaviors of the mother) which produce the dysgenic and resulted in a difficult-to-pinpoint but nevertheless unmistakably recognizable feedback loop of crime and pauperism for contemporaries. Put to eugenicists like Goddard, space and place served just as powerfully to beget the dysgenic, albeit in specific ways. That he and others came eventually to certify hereditary explanations over (though not entirely forgetting) environmental ones is partly to explain how the latter has become elided as well.

Work in the history of psychology can help to explain the nature of and untangle the seemingly opaque presence of environment in some of the family studies, and also explain why acknowledging and interrogating its presence remains critical to understanding the eugenics movement during the course of its life. Steven Gelb makes the compelling and analytically useful—though ultimately incomplete—case that we have incorrectly identified the family studies as precursors to or early incarnations of the eugenics movement, when in fact they are really the products of evolutionary degenerationism and a larger understanding of feeblemindedness from a generation before.[4] And indeed, between roughly 1830 and 1900 social scientists and medical professionals did meld "soft" and "hard" hereditarian thinking within an evolutionary framework to explain mental illness and paint the "feebleminded" as a menace to society. They were portrayed has having been stuck in an evolutionarily bygone stage, subject to both inheriting pathological characteristics from their external physical environment but also bad blood. Space and place figure prominently in this framework. It seems clear that degenerationist thinking bled into the last decades of the nineteenth century and the first two of the twentieth, particularly as it intersected with the study and explanation of the feebleminded, including in the family studies. Thereafter American eugenics appropriated the degenerationists' work and used it in its jeremiads (Gelb, 1985, 1990, 1995). Thus if space and place have been relegated to the study of the degenerationists alone, returning to it allows further consideration of another important facet of American eugenics.

Other histories of psychology confirm this case while simultaneously persuading us that the family studies must also be recognized as the unmistakable products of the eugenic movement which succeeded the

[4] Running from roughly 1830–1900, degenerationism was an earlier preoccupation with which was closely related to eugenics (as well as euthenics and psychoasthenics).

latter. In particular, Goddard's intellectual trajectory was unmistakably one that blended the "old sociology" with the "new biology" in his search for the foundations of and methods for gauging intelligence in the children at Vineland during the first two decades of the twentieth century (Zenderland, 1998, pp. 143–185). Trained in psychology and stymied using the tools given him by G. Stanley Hall to formulate an experimental program when he arrived at Vineland in 1906, Goddard increasingly adopted a medical mindset in his efforts—a move which guaranteed his increasing distance from spatial and place-driven explanations for feeblemindedness and towards Mendelian ones (Zenderland, 1987, 1998). Indeed, the collaboration between Goddard and Davenport (himself securely Mendelian in his thinking by 1910) is one that cannot be understated in the history of intelligence testing, the family study, and the larger eugenics movement that followed.

Given this dearth of attention, why should we consider a spatial history of the family studies and/or the larger eugenics movement a worthwhile endeavor? Most histories of eugenics at some point acknowledge the racial dimensions of the movement in theory and praxis, and well they should, for it was in many ways undoubtedly a paradigm preoccupied with race. And yet, as geographer Audrey Kobayashi has pointed out, "'space' and 'race' share a similar heritage… Both projects are a fundamental part of the construction of geographic knowledge" (Kobayashi, 2003, p. 552). Thus it should be of no surprise that ontologies of hereditary worth, like eugenics, have been likewise predicated upon forms of knowledge which have been "based upon a historically peculiar form of moral vision in which the geographer's eye has been trained to cast itself upon the world, organizing, mapping, and constructing its human dimensions" in order to "organize, constrain and categorize human experience" (Kobayashi, 2003, p. 552).

Further, environmental historians have long acknowledged the ways that the spatial development of urban places are concatenated with notions of race, gender, and the situation of minority populations and the evolution and deployment of law, often in service to specific local aims. Human geographies were fitfully constructed during the last quarter of the nineteenth century and first half of the twentieth as families and individuals were pushed, prodded, and enticed into places separate from the rest of society. First at the level of the city, and as time passed "neighborhood by neighborhood, block by block, and lot by lot… complex legal spaces" were painstakingly constructed across the United States (Delaney, 1998, p. 149). Such geographies often came into being in response to economic interests. Matthew Klingle, for instance,

shows how Seattle's regrade projects during the early twentieth century reveal clearly the ways in which "[p]roperty is more than money or location; it is also another avenue through which the contingent forces can minimize or magnify discrimination" (Klingle, 2006, p. 224).[5] Thus "[c]hanging one set of relationships—between water and land, hillside and tide flats, poor and propertied—always affected another set of relationships, setting off a causal reaction of social and environmental events" that become "emblazoned in the city's landscape" and constitute an ever-shifting spatial history (Klingle, 2006, p. 224).

Histories of medicine and public health have similarly recognized the usefulness of space and place in explaining how Americans—whether in urban or rural environments, offices, industrial settings, city streets, or national parks—live, work, and make use of the material products of culture served by a milieu where scientific and technological progress have often outstripped concomitant understandings of human health (Mitman, 2005, 2007; Murphy, 2006). Sociologists likewise make use of it and with fruitful results. Matthew Desmond has recently detailed with compelling clarity the role urban neighborhoods, trailer parks, ethnic enclaves, and transportation infrastructure plays in drawing maps of eviction, poverty, and profit in the American city densely interwoven with the structures of legal power and racial disparity (Desmond, 2016). The history of eugenics—equally rooted in all of the above—should then be at least in part an environmental narrative. There can be no doubt that the Smoky Pilgrims and Flood-Zone Oklahomans, both in terms of their daily lives and the manner by which they were measured by society, were shaped by the environmental conditions of their lives.

And certainly such maps of human worth, mutually constructed and co-determined with cultural notions of race as the century progressed, were not exclusive to eugenic family studies. The Southern Plains demonstrates a long history of such, in places not far removed either in terms of distance or conditions than those found in the family studies examined in this essay below—Oklahoma and Lawrence, Kansas. In the case of Topeka, during the twentieth century (and leading up to *Brown v. Board*), African American residents were over several generations moved into places spaces abutting the lower Shunganunga Creek and the Kansas River into the "Bottoms [which] was both black and low," and came to define not only their relationship to the neighboring

[5] Between 1898 and 1931, the city of Seattle embarked on some sixty individual earth-moving projects to renovate the downtown in response to the rapid growth of the city during the decade of the 1890 s and in preparation for expected future growth. Klingle identifies as the major impulses of the regrade projects "to make new real estate, remove unwanted residents, and cleanse neighborhoods" (199).

communities but their historical trajectory as well (Fiege, 2012, p. 333). ''[B]lack enclaves and their inhabitants may have started out much the same economically and socially [as their white counterparts],'' Fiege writes, ''but they developed differently, in part because of the environments in which the neighborhoods were situated'' (Fiege, 2012, pp. 324–326).[6] Karl Jacoby has shown how the history of American conservation conflates identity and action with space for squatters, poachers, and thieves living in liminal places Jacoby, 2001).[7] Both of these historians—just two among many—give us insight into how the intersections between jurisprudence and cultural and social worth are ''deeply intertwined with environmental conditions'' (Fiege, 2012, p. 448). Telling this history of the Smoky Pilgrims and Flood-Zone Oklahomans merely extends this sensibility and framework to the dysgenic (among which were counted poor whites as well as blacks, Native Americans, and others), whose bloodlines were marked in ways which were far more difficult to scrub away than the dusty soil clinging to their ankles or crusted beneath their fingernails.

Thus the gains to be realized with respect to the study of American eugenics and the family studies from attention to the above explorations of space and place—including, as we will see, the gaps which remain—are manifold. Historiographically it bridges the gap among a vast array of secondary literature in useful and illuminating ways, including treatments of the degenerationists middle third of the nineteenth century, the nascent intelligence testing, pedagogy and special education, the family studies from 1870 to 1910 and American eugenics thereafter, and contemporary cultural understandings of how human health and disease get attached to space and place. Doing so also gives us greater insight into the interdisciplinarity of scientific research into the social effects of bad heredity which blended sociology, criminology, psychology, and biology from the middle of the nineteenth century to the first half of the twentieth. It likewise enriches explanations for how sociology and psychology made use of biology to legitimize their claims to be able to deal with problem segments of society. The latter two further allows us greater understanding for why such a diverse group of actors—federal, state, local, and individual—came together in favor of

[6] For more on this, see Roy Bird and Douglass Wallace, *Witness of the Times: A History of Shawnee County* (Topeka: Shawnee County Historical Society, 1976), pp. 277–320. Another wonderfully illuminating and still relevant if somewhat dated study is Harold M. Rose, ''The Spatial Development of Black Residential Subsystems,'' *Economic Geography* 48, no. 1 (1972), pp. 43–65.

[7] Both the literal frontier and the more metaphorically liminal spaces abutting state and national parks where they subsisted in a variety of legal and economic grey zones.

eugenics despite their oftentimes incompatible and even antagonistic positions otherwise.

Only with the rediscovery of Mendel did the studies begin to (sometime after about 1912) eschew external social environmental explanations of the dysgenic in favor of internal, genomic ones (though this was by no means an instantaneous or uncomplicated shift). This essay explores neither the external socio-cultural environment of the first nor the internal genomic environment of the second, but the literal one. In other words, the land in all its variations shaped not only by internal rhythms of the earth but also, both literally and metaphorically, by the human societies exploring, rationalizing, settling, and transforming it. Thus the conception and construction of the family study—more or less consigned to the ''completed'' stack of primary source material in the history of American eugenics—begs to be read against a geographic narrative. By examining two studies from the Southern Plains—itself a neglected geography in the history of eugenics—it aims to introduce ''environment'' as a schema that allows for how the subjects of the eugenic family study were conceptualized with respect to their spatial and temporal surroundings. Certainly it is a task far too large for a single article. Particularly then, this essay explores how the architects of the eugenic family studies theorized and described the subjects of their gaze in two instances on the Southern Plains. In Oklahoma and Kansas, the dysgenic were constructs intimately rooted both in space and place, and the land on which they lived gave eugenics researchers both a framework and vocabulary for not only describing how they were, but how they came to be.

Frank Wilson Blackmar and ''The Smoky Pilgrims''

Frank Wilson Blackmar was born in Pennsylvania in 1854. By the end of his career he was, by all measures, a prosperous and renaissance academic, with degrees from the University of the Pacific in California as well as Johns Hopkins University, who had taught college courses in topics ranging from mathematics to history to politics to sociology. He served not only as president of the Kansas Conference of Social Work but also the American Sociological Society. He joined the faculty at the University of Kansas as a professor of history and sociology, and served as dean of the graduate school from 1896 to 1922. He was prolific, publishing on topics as wide-ranging as sectionalism in America, medical care for the insane, and the social assimilation of the American Indian. Blackmar's eugenic family study, ''The Smoky Pilgrims,'' was

published in the *American Journal of Sociology* in 1897 (Blackmar, 1897). Aside from a brief critical annotation in Rafter's *White Trash,* it has seen almost no historical interrogation.

Investigating a family of ten individuals in what is almost certainly Lawrence, Kansas, Blackmar offers first a series of postulations about the rise of such tribes and then a solution for mitigating their influence on society. He begins by asserting that the countryside is as much a space of social degeneration and depravity as the city, and like the latter, their relative proportion in the larger population is accelerating as time passes, in what historian Nicole Rafter calls an "inverted patriotism" (Rafter, 1997, p. 55; Blackmar, 1897, p. 485).

This particular dysgenic tribe, the Smoky Pilgrims, lives across two habitations "of loose boards and scraps of tin and sheet iron rudely patched together," "hovels" with no running water, proper bedding, or partitions to separate the inhabitants from the chickens they keep (Blackmar, 1897, p. 490). The family members, Blackmar writes, "pass daily to and fro" between them, and pay a total of one dollar and fifty cents a month for them both (Ibid) (Figures 1, 2).

They subsist on the benevolence of the community in addition to begging, stealing, prostituting themselves, and performing odds jobs which include tinkering and washing, though to Blackmar it is "quite remarkable how these people do bits of washing for others but never seem to practice it for themselves… their personal cloth and personal appearance… indicate that washing is one of the lost arts" (Blackmar, 1897, p. 496). They are, in other words, analogues to the "Jukes" in Ulster County, NY, the "Tribe of Ishmael" in Indiana, and the "Dacks" in Western Pennsylvania: liminal, shiftless, oversexed, licentious, and profligate in their offspring to the detriment of the state.

Figure 1. Habitation 1 of the Smoky Pilgrims

Figure 2. Habitation 2 of the Smoky Pilgrims

Though Blackmar argues the blame lays with "the loosely constructed governments of western villages" and "the isolated life, bad economic conditions, and the morbid states that arise therefrom [on the farm] bring about insanity and immorality" by which such parasitic families of paupers are able to attach themselves to the healthy body of citizenry, there remains basis for their existence in their familial heredity (Blackmar, 1897, p. 488). Indeed, suggestions about the basis of such tribes appear occasionally in the text if one reads closely enough. Their name comes not only from their "sickly yellow color… [and] smoky and begrimed appearance," Blackmar writes in the opening pages, but "perhaps" also from "the negro blood in the veins of part of the family" (Blackmar, 1897, p. 491). Unfortunately, with Blackmar's original research notes lost, it is impossible to determine with any certainty what, if any, connection the Smoky Pilgrims have to the few thousands of black families migrating from Mississippi, Texas, Louisiana, or Tennessee during one of the mass migrations of 1877 or 1879, or the more sustained migration of ten thousand or so more during the subsequent decade in search of a better life (Painter, 1977). White, black, or multiracial, there is no question that social, economic, political, and environmental forces were undoubtedly at play in determining where the Smoky Pilgrims lived.

Atavistic vocabulary throughout Blackmar's study reinforces for the reader the notion that this is a degenerate tribe living beyond the fingers of evolutionary progress, curiosities of an earlier age not yet touched by modern civilization. "T-," the matriarch of the family, is always sickly,

and her photo in Blackmar's study strongly evokes the image one might expect to see in early anthropological studies like E.B. Tylor's *Primitive Culture* or James Frazer's *The Golden Bough*: gnarled hands, weathered skin, and hard eyes. ''B-'' (the sole man) ''walks with a weak, shambling, doubtful gait, [h]is physical characteristics show a persistent deterioration and a constant evolution downwards.'' ''A-,'' the eldest daughter, suffers from ''a low order of physical structure'' and a ''lack of energy of any kind.'' And it ''appears quite impossible… [for ''D-,'' the youngest boy living in habitation number 2 and chief beggar] to tell the truth except by accident; it is his custom to tell what he thinks will please his listeners'' (Blackmar, 1897, pp. 487–488; 491; 493; 493–498). That the Smoky Pilgrims inhabit the lowest social rungs of society with attributes like these will surprise no reader (Figures 3, 4).

Yet it is *where* they live—in addition to who they are and their hereditary makeup—which makes them dysgenic. Geography acts as a constitutive force in three successive ways in ''The Smoky Pilgrims'' to generate such dysgenic tribes on the Southern Plains. First as an invisible and irregular frontier line moving always west, bringing the fit

Figure 3. T-; M-, B-; G-, A-; N-, M-, B-

Figure 4. S-, G-; S-, MC-; D-

with the unfit. ''There have marched,'' Blackmar intones in the opening paragraphs, ''side by side, in the conquest of the West, the strongest, most energetic, and the best, along with the vicious, idle, and weak; in fact, with the worst of the race. The movement of populations always, carries with it a social residuum'' (Blackmar, 1897, p. 486). Second, the landscape acts to leave the unfit behind in geographic pockets of (both) less (eugenic and agricultural) fertility and opportunity as it moves on. Continual movement in search of materially desirable land, and the concomitant isolation which takes place as the population spreads out, reinforces the circumstances of the unfit. And thirdly, ''The Smoky Pilgrims'' avers that the landscape acts to create an uneven demographic transfer between the city and the farm, drawing the best to the former and leaving the dregs in the latter.

The first two of these speak directly to the eugenic-euthenic milieu of the southern plains as it lay situated two generations past in time as well as far behind in space the frontier (a phenomenon with which Blackmar was preoccupied with in an academic sense (Blackmar, 1897). The third is an inversion of the common Gilded-Age peroration that the city attracts the dregs of society, with Blackmar asserting the contrary, that ''the limits of labor are as certain in the country as in the city,'' with the country ''constantly supplying the city with much of its best material'' (Blackmar, 1897, pp. 485–486). This position, perhaps surprising given the dominant rural/urban narrative of the time, instead merely reflects the context within which Blackmar is attempting to construct his argument. He lives on the Southern Plains—much less densely populated than the east or west coast and faced constantly with the exodus of young people to urban areas in search of work. Thus the emphasis here remains that rural areas are just as subject market and labor forces as urban ones, and perhaps even more detrimentally. The degree to which this third constitutive geography is mirrored in other family studies (or elsewhere in the writing of American cultural commentators and intellectuals) remains at this date unknown, but it would provide a fascinating counterpoint to the usual portrayal by thinkers in the Gilded Age who averred the countryside as healthy and invigorating while the city bred degeneration.

The solutions offered in ''The Smoky Pilgrims'' suggest that if one were to impose programs of rehabilitation while simultaneously removing the structures that enable their existence, such dysgenic tribes would be forced out of existence:

> It will appear evident that no reform of any permanent character can obtain in this tribe without a change in their present mode of habitation. The home must be improved or entirely broken up. It is

> impossible to reorganize a group of this kind so long as they live in dirty hovels and lead a semi-gypsy life. The adults should be sent to the county poor farm and there be forced to earn a living… The older children should be sent to the reform school… The warp and woof of the whole fabric must be constructed. Their desires for a better life are not sufficiently persistent to make a foundation for individual and social reform. How difficult the task to create new desires in the minds of people of this nature! Considered in themselves… they seem scarcely worth saving. But from social considerations it is necessary to save such people, that society be perpetuated (Blackmar, 1897, p. 500).

Thus it seems the solution to the dysgenic remains just as spatially and geographically oriented as the formulation of their cause. Unfortunately for Blackmar, segregation of the cacogenic remained both practically impossible and unpalatable as a solution to the problem, and so the family he described likely lived on in the area therafter. The turn of the century saw over fourteen thousand feebleminded children in training schools and other institutions, and the cost of maintaining such places was a constant source of contention (Zenderland, 1998, p. 73; Eugenics Records Office, 1920). ''The Smoky Pilgrims'' seems to have had little impact on public policy, published as it was in the *American Journal of Sociology* and not directed at public consumption. It is referenced by the next generation of eugenicists from time to time but only as yet another of the early family studies, falling into the shadow cast by Goddard's bestselling study published a decade and a half later.

It seems Blackmar's reluctant advocacy for ''saving'' them would not persist after World War I, when eugenicists in America become certain that the only solution is excision from the gene pool and sterilization came to be the dominant narrative standing in opposition to increasing state budgets. This is exactly the stance taken three decades later and a few hundred miles to the south by another university professor preoccupied with the dysgenic and where they live.

Frank Gary Brooks' and the Flood-Zone Oklahomans

Sometimes charting the particular intellectual or ideological stances of academics with respect to eugenics is difficult, for the movement constituted a minefield of scientific, ideological, and rhetorical spheres of knowledge, experience, and ambition. Much easier, oftentimes, is the task of demonstrating the influence academics enjoyed in the classroom,

among the public, and in professional journals. For Frank Gary Brooks, a zoologist at Oklahoma City University from 1922 to 1935, we can do both. Having earned his B.S. from Allegheny College in 1915 and his A.M. from the University of Oklahoma in 1922 (under Aute Richards),[8] after which he joined the faculty as Professor of Biology and Geology. In 1922 Brooks founded the Beta Beta Beta Society, a national biology honor society, and its journal *Bios* eight years later, which would come to play a central role in consolidating and perpetuating eugenic arguments on the Southern Plains during the entirety of Brook's tenure there, first as secretary and treasurer and then as managing editor from 1931 to 1946.[9] *Bios* served from the year of its inception (1930) onwards as a locus for pieces which lauded the eugenic movement's aims, explained its normative parameters, ran a regular undergraduate essay competition where eugenics featured among the winning essays more than once,[10] and in 1931, hosted one of the only written copies of Frank Gary Brooks' own material contribution to eugenics on the Southern Plains: his eugenic family study.

By 1931 Brooks had been actively writing, teaching, and speaking about the science of human perfection for almost a decade.[11] Brooks joined the Biology Department at Oklahoma City University in 1922. The decade was marked by increased offerings in eugenic courses with Brooks as department head at the university, but he did not limit his education efforts to the university classroom. Starting in 1928, during the first in a thematically coherent series of talks titled the ''Biology of Ancestry,'' Brooks counseled young Daughters of the American Revolution members around Oklahoma City to ''keep track of their ancestry with which they are all richly endowed and to add another rigorous chapter to the family histories,'' on the basis that that ''America should be for Americans'' and suggesting ''an improvement of immigration laws and the eugenic program of the nation (*Daily*

[8] Richards was a zoologist at the University of Oklahoma starting in 1920, and along with his wife an active member of the American Eugenics Society. He played advisory and editorial roles at *Bios* as well.

[9] And remains a treasure trove of insight into the development and articulation of eugenic thinking at the local level, as well as the sociology of knowledge among biological scientists on the Southern Plains.

[10] In addition to a paper summarizing eugenic thought from Galton to T.H. Morgan by a student named Martha Lynne Carey in 1933, Sue D. Comer's ''The Growing Need for a National Eugenic Program,'' *Bios* 7, no. 3 (Oct. 1936): 176-187 won second place in the 1936 undergraduate essay competition.

[11] A phrase borrowed from Nathaniel Comfort.

Oklahoman, December 16th 1928).[12] Five more times over the next seven years, Brooks gave lectures in the homes of wealthy residents, as well as to the Sorosis Club, the Federation Forum, and the Swastika Study Club on the biological principles behind eugenics, inheritance and future generations, and the degeneration brought on by the supplanting of natural selection by the artificial selection of contemporary society (*Daily Oklahoman*, 1930; 1931; 1932; 1933; 1935). All of these topics would find further exploration in his eugenic family study, which first appeared in 1931.

First given in a talk titled "Selling the Future Short" by Brooks in front of the Baylor University chapter of Tri-Beta as the installation address, it was thereafter printed in the October 1931 issue of *Bios* (Brooks, 1931, pp. 151–155). It outlines the quantitative conclusions of a survey of 221 eugenic families and 243 dysgenic ones living in Oklahoma's capital city. Indeed, this marks it as remarkable in the history of eugenic family studies, which tended to center on one or a few families and emphasized (primarily) qualitative frameworks.[13] Though not nearly as evocatively titled as its earlier compatriots, the study nevertheless followed in the tradition by designating the tribe of its scrutiny by its geography—the flood-zone Oklahomans. Thus Brooks explores the reproductive rates of families on both sides of the eugenically desirable line in Oklahoma City, though Brooks' only metric for separating families is if one of the parents graduated from college, indicating "that the stock is above average in intellectual equipment with at last sufficient physical endowment to withstand the demands of school life" (Brooks, 1931, p. 151). Yet the results must have been startling to listeners. While eugenics families reproduce at a rate of 2.83 offspring per couple (calculated by Brooks as the average number of children who survive to adulthood), he writes, dysgenic families do so at a rate of

[12] Brooks would become an enthusiastic supporter of Oklahoma's 1931 sterilization law and its 1933 revision, though he would counsel careful adoption so as not to alienate the public: "[I]t is very desirable to make a conservative start in eugenic legislation—there will be less objection on the part of the eugenically unenlightened public to the sterilization of the insane than there would be if that of the criminal were included… I do not wish to deny the eugenic desirability of sterilizing the feeble-minded criminals that are found in our penitentiaries, but I believe that is was wise to limit the application of Oklahoma's first eugenic law" (Brooks, "The Oklahoma Sterilization Law and Its Application," *Proceedings of the Oklahoma Academy of Science*, 1931, p. 52).

[13] This is of course not to say that statistics were neglected by such studies. Indeed, most of the eugenic family studies, by necessity, explored the quantitative outcomes of dysgenic and eugenic families. This included tracing genealogies as far back as possible, and exploring what percentage of families became wards of the state, criminal perpetrators, etc..

	Families of the parents of college students	Dysgenic families in which the mothers are 45 years old or older
Average number of births	3.28	7.91
Average number of children not living	.44	1.74
Average number of children living	2.83	6.17
Birth interval	7.3 yrs.	3.1 yrs.
Percentage of survivals	86.3	77.9

Figure 5. Reproductive rate of the two groups of families provided by Brooks in his essay

6.17. The disparity between the two groups in the percent of offspring that survive to adulthood (77.9% in the dysgenic group and 86.3% in the eugenic group) are not enough to combat this different birth rate, leading Brooks to the simple statistical conclusion that the hereditarily unfit are breeding far more rapidly than their opposite (Figure 5).

The qualitative remarks which do appear in "Selling the Future Short" further emphasize this picture and reiterate for the familiar reader all the familiar signs of ignominy, licentious, and perfidy that we would expect from a dysgenic population. Most of the families were found "living in the river flood zone and other undesirable sections of Oklahoma City… living in improvised shacks, wagon beds, and even in caves" (Brooks, 1931, pp. 151–152). "They are more or less migratory," Brooks writes, traveling "south in the fall in their broken-down wagons or battered cars, returning again in the spring" (Brooks, 1931, p. 152).

An expanded and revised version of Brooks' eugenic family study of these "flood-zone Oklahomans" appears as a chapter in both editions (1938 and 1947) of George E. Potter's *Essentials of Zoology* in a chapter titled "Genetics and Eugenics" (Potter, 1947).[14] The book

[14] Chapter 12: Genetics and Eugenics contains Brooks' essay. Indicative also of the heretofore scantily acknowledged connections between academics in genetics and eugenics on the Southern Plains is also a chapter by Aute Richards on embryology and J. Teague Self on earthworms in the volume. Both Richards and Self wrote and spoke favorably of eugenics during the 1930 s and after. George Potter was a professor of zoology at Texas A & M University.

chapter includes all of the above, but is prefaced by an introductory grounding in basic genetics and its principle mechanisms (unit characters, dominance and recessiveness, segregation, polyhybrids, allelomorphs, multiple factors and duplicate genes, supplementary and complementary genes, etc.). Along the way Brooks lays the groundwork for his later (and eugenic) assertions, providing (for instance) as evidence in a section on sex-linked genetic traits "certain abnormalities of man" which result in color blindness and hemophilia (Potter, 1947, p. 246). Halfway through Brooks arrives at the topic of eugenics, introducing it in two ways that are sure to leave the undergraduate reader clear as to his coming conclusions. First, with the assertion that while human inheritance remains complicated "there is the tendency among some to depreciate our knowledge of human heredity on the ground that there is so much we do not know. It is scientific to admit the extent to our lack of knowledge, but it is wise to give proper credit to our present store of information and to take cognizance of the rapidity with which the gaps in our knowledge are being filled in" (Potter, 1947, pp. 249–250). The coming discussion is likewise foregrounded with an expansive table of (mostly evolutionary disadvantageous) heritable traits that the science of genetics has "uncovered" for man, including night blindness, depressive insanity, feeblemindedness, osteoporosis, asthma, diabetes, and epidermolysis.

The rest of the chapter takes an opportunity to explore the differential birth rate Brooks was only able to outline skeletally in 1931, with further commentary on the contravention of "Nature's" order by which "[m]an has, in the case of his own kind, preserved the weak and defective individuals that Nature would have eliminated had it not been for the application of medical science, together with the public health and other measures that come with the development of a humanitarian consciousness" (Potter, 1947, p. 253). Brooks argues, surprisingly given his enthusiastic support of Oklahoma's 1931 sterilization law, that eugenic education should be the primary means of reversing these trends.[15] But he also suggests the standardization and expansion of eugenic sterilization laws that currently exist in conjunction with wage and housing incentives and disincentives for eugenic and dysgenic families,

respectively.[16] Together, he avers, they offer minor adjustments to current medical and social welfare statutes which would greatly aid education efforts.

Brooks includes in both pieces with a disquieting statistical comparison that no reader could doubt would have a significant on the future of the United States:

> If the rates of decrease and increase worked out above were to continue for ten generations, the eugenic groups would be decreased to eleven percent of its present strength while the dysgenic group would be increased more than 28,000 percent. Stating these results another way: if the reproductive rates in these two groups of people continue for ten generations, the descendants of one hundred of the college students will number eleven, but there will be over twenty-eight thousand descendants of a hundred individuals from the dysgenic group. This shows to what an alarming extent man has thrust aside Nature's law of survival of the more fit… Since the size of the world sets a limit to the number of people that can comfortably live in it, any humane measure that tends toward causing future generations to be born with better natural endowments is worthy of consideration (Brooks, 1931, p. 155).

The primary delineator of Brooks' flood-zone Oklahomans is topographic: they live in ''low'' places, a descriptor which would serve nicely beyond defining the relative elevation of their homes to do double duty as evocative of their hereditary worth. Presumably, the dysgenic live where they do because of socioeconomic pressures; they cannot afford to live, and would not be welcome if they did, in the parts of town free of the mud and flies and standing water of the Oklahoma River and its tributaries. They lived an existence more immediately proximal to the ebbs and flows of the river and watershed which fed it, and the attendant floods which came some years (Cox, 1982 Painter, 1977; Swan, 1974). In addition, their nomadism seems to contribute to their status, for their migratory way of life is both reflective of their hereditary worth and also ensures that when they do come back from ''the south'' they will always settle on the land that no one else wanted. And finally, like

[16] Brooks' wish list was a eugenicist's dream. He wanted the marriage license laws of California and Illinois to be adopted nationwide—these two states had arguably the strictest and most comprehensive laws pertaining to health examinations and family histories before marriage applications are approved. He also argued that birth control information as well as ''the means'' for limiting their families should be provided to the dysgenic, and suggested that wage adjustment and housing rental rates for specific populations would also aid the effort.

Blackmar's Smoky Pilgrims, the Flood-Zone Oklahomans live across multiple dwellings, playing out a sort of miniature migration that takes place more or less continually each day and which serves to keep them always in the public eye. Unfortunately and as is too often the case, Brooks' data sets are lost along with any manuscripts he might have left to explain to explain to us where the flood-zone Oklahomans went during the winter and why.

Two further and interrelated characteristics mark Brooks' study as noteworthy in 1931. The first is that is lies outside the larger chronology of the American eugenic family study, which had ended over a decade before. While "The Jukes" and *The Kallikaks* remained in print, by this time they were mostly consumed by the mass of ordinary Americans, and no longer served as scientifically legitimated epistemological products of the search for the hereditarily unfit in the United States. Secondly and more importantly, its existences demonstrates clearly that not all active, researching, and publishing geneticists abandoned the movement by the end of the 1920s.[17] Eugenics' seductive hold was not so easily broken, and it continued into the 1930s and 1940 to be presented to students alongside genetics as a scientific and statistically sound basis from which to argue for a more eugenically minded public.[18] That the flood-zone Oklahomans appearance in *Bios* in 1931 and 1945[19] as well as in textbooks meant for college consumption in 1938 and 1947 speak to the persistent nature of its attraction to biologists and geneticists that complicate clear-cut assertions about the movement's disavowal by such groups after 1930.

Brooks ends with a declaration of the rights of the unborn:

> *The right to be born with a sound mind.*
> *The right to be born with a strong and normal body.*
> *The right to be born into an environment in which his inherited potentialities will have a fair chance to develop* (Potter, 1947, pp. 256–257 emphasis in original).

[17] As Nathaniel Comfort argues in his recent *The Science of Human Perfection: How Genes Became the Heart of American Medicine* (New Haven: Yale University Press, 2012).

[18] Among others, Brooks cites Frederick Osborn and Frank Lorimer's *Dynamics of Population*.

[19] George E. Potter cites Brook's study in "We Biologists," *Bios* 16, no. 4 (December 1945): 252-256.

Conclusions

Both the Smoky Pilgrims and the Flood-Zone Oklahomans were most likely unaware of the cacogenic cartographies they were being used to construct, though they no doubt acknowledged and understood the centrality of the land to the routines and practices that constituted their daily lives. Thus it is ironic that geography remains absent both on the part of eugenics researchers and the literature on them. The natural geography and topography of Lawrence—like that of Seattle described above by Klingle and for many places by many others—has no doubt changed dramatically over the last hundred years. Unfortunately, no granular environmental history of the region where the Smoky Pilgrims or Flood-Zone Oklahomans exists to my knowledge (and in any case Brooks never specifies where the latter lives). That is, in fact, what makes recognizing the spatial aspects of these eugenic family studies doubly important, for they are a window into this history where none other exists. Fiege does an admirable job of reconstructing Topeka from the 1870s to the 1950s, and suggests just how much remains to be learned from the synthesis of such histories (Swan, 1974; Painter, 1977; Cox, 1982).

The potency of space and place is equally evinced by the fact that it persisted across three decades and remained just as powerfully constitutive for Brooks in 1931 as it had been for Blackmar in 1897, despite the dramatic changes to the corpus of knowledge and practices of genetics which increasingly harassed proponents of eugenics. Similarly revealing is that space and place were deployed as explanatory frameworks across disciplinary boundaries; Blackmar a sociologist and political economist and Brooks a biologist working in genetics.

Certainly, they were not alone. The larger environmental history of eugenics remains waiting to be written, this essay offering a brief look at two examples of its influence. They no doubt appear elsewhere if only we look in the right places. Arthur Porterfield, a minister of the First Christian Church in Marietta, Oklahoma who wrote a letter to the *Daily Oklahoman* on the Sunday after Christmas in 1930 to expose a troubling phenomenon, offers anecdotal evidence of another. Beseeching Oklahoma legislators to enact a eugenic sterilization law mirroring Texas' own, Porterfield sought to stop the flood of couples making the three-mile trek from the border over the Red River and into Oklahoma to get married on the weekend in Marietta. He cited the absurdity of the "Texas people married in Marietta" who represented "annually far more than double the total population of the little city" (Porterfield,

1930). ''No person has the right to marry in any state,'' Porterfield wrote, echoing the familiar line of eugenics, ''who is not fit to become a parent. There is one thing worse than murder, and that is a living death, which surely such persons pass on to the mate, and to possible children'' (Porterfield, 1930).

It is in reality, however, an equally interesting human impulse behind this glut of dysgenic marriages which makes Porterfield's case worth telling here:

> Sometimes couples have not known until they got as far as Denison or Gainesville that they were going to be married. I know whereof I speak when I say that I have seen Oklahoma marriage mills in operation in which both ministers and county officials of certain types have taken party. One county seat town had to pass an ordinance forbidding the solicitation of weddings by agents of certain unscrupulous persons who profit on the Texas law (Porterfield, 1930).

What we learn from this vignette—and undoubtedly unspoken others like it hiding in the shadows of the historical record—is that Marietta, Oklahoma occupied a geopolitical hinterland: one Oklahoman, the other Texan. That it would serve as a particular capitalist expression of those seeking to escape eugenic law speaks to the penetration of eugenics to the core of popular culture. Thus Porterfield's entreaty had as much to do with combatting what he saw as crass consumerism impacting his daily life as it did with stopping the degeneration of the American people as a whole. It is also a narrative unmistakably demographic and cartographic in nature. They no doubt appear elsewhere if only we look in the right places.[20]

Ultimately, too, making use of space and place brings us closer to realizing the inherent inequities in what Gregg Mitman calls the ''ecology of justice'' (Mitman, 2007, p. 129). Landscapes—however large or small, organic or synthetic, hermetic or open to the elements—are ineluctably bound to the human actors who inhabit them.

[20] For instance, J. David Smith quotes William Vogt's ecological polemic *Road to Survival* (1948) at length in his study. Vogt equated family lines like the Kallikaks to classes of people which were to him worryingly ''economically and ecologically destructive—[specifically] sheepherders and cattlemen''. They are, Vogt continued, as dangerous as ''the senile, the incurables, the insane, [and] the paupers,'' these ''ecological incompetents'' who ''deteriorate and destroy the grasses, expedite erosion, and contribute to flood peaks,'' and are in fact ''worse than paupers. They exist by destroying the means of national survival… In our national interest they must be liquidated, at least in part'' (Smith, 1985, pp. 74–76).

And so they are coetaneously gendered, hierarchized, and organized according to class, race, and ethnicity. Certainly the history of eugenics is one with deep connections to legislative policy, both past and present. Those states which most enthusiastically bought what eugenics was selling, like California, Virginia, and North Carolina (together comprising over half of all legally practiced sterilizations), must come to grips with not only the historical conditions which paved the way for such practices but the local memory of the individuals excised from America's gene pool in the name of progressive science. In reparations such as those authorized in 2013 in North Carolina there lay implicit acknowledgement that in fact the American experience is not equally free of state control in all places. Opening our eyes to space and place in the family studies and through them the larger environmental history of American eugenics recognizes the potency and pervasiveness of this biopolitics and how "[p]lace, the historical product of relationship, becomes a focal point, a nexus where the interrelationships between bodies and environments are constantly being made and remade" (Mitman, 2007, p. 253).

Though only one component product of the larger eugenics movement, the eugenic family studies proved to be, by far, its most potent ideological tool. *The Kallikak Family* went through twelve editions between 1912 and 1931, and was joined by dozens of others which took a similar focus. This valence which I have endeavored to describe here has been elided by the literature despite its clear presence in the studies above. Without it, we cannot claim to understand the full terms of the examinations by these researchers, and further we cannot understand these potent, early tools of American eugenics; only in so doing can we begin to explain with more fidelity what the penumbra of eugenics meant to those living in the United States during the first third of the twentieth century.

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